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IZGLĪTĪBA**

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2022.gada 27.maijs

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AUGSTĀKĀ IZGLĪTĪBA
Higher Education

THE NEED TO IMPROVE SOCIAL EMOTIONAL COMPETENCES IN THE TRAINING OF FUTURE TEACHERS: STUDENTS' ATTITUDES

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***Abstract.** Today, scholars raise the need for the development/self-development of social emotional competences in schools and emphasize the importance of its development for successful socialization of children. Scientific articles emphasize the importance of improving teachers' social emotional competences for social emotional education of children. The need to improve social emotional competences is underlined in Lithuanian and European Union documents that point to the importance of high-quality social emotional education and the need to improve teachers' competences. Recently, researches have been focusing mainly on the peculiarities of children's social emotional education, yet the problem of improving social emotional competences of pedagogues is left aside. The article reveals the attitude of students of the Childhood pedagogy study programme towards the existing social emotional competences and substantiates the need for its improvement in the education of future pedagogues. Findings of qualitative research (individual interview with the students) are presented. The results of the study have revealed that students do not always succeed in recognizing and managing the feelings that emerge, especially they lack knowledge and skills to control stressful situations. The analysis of students' perspective highlighted the need for the improvement of social emotional competences in the education of future pedagogues.*

***Keywords:** improvement, social emotional competences, students, training of future teachers.*

Introduction

Taking into consideration the context and conditions of students' education, scholars (Goleman, 2009; Frederickson & Cline, 2011; Slušnys & Šukytė, 2016) bring up the need for the development of social emotional competences (hereinafter referred to as SEC) and emphasize their importance for successful socialization of children. S. Neale, L. Spencer-Arnell, & L. Wilson (2009), I. Liubertienė, R. Kunickienė, & J. Kupriūnienė (2015), L. Slušnys & D. Šukytė (2016), note that more attention should be paid to the development of children's SEC, as researches prove the links between these competencies and children's academic achievements (Zins, Bloodworth, Weissberg, & Walberg, 2007;

Liubertienė et al., 2015; Weaver & Wilding, 2020). Students who had acquired good social emotional abilities demonstrated more positive behaviour in the classroom and better learning outcomes (Durlak, Weissberg, & Dymnicki, 2011). M. Mykolaiv, K. Clark & S.M. Reich (2016) emphasize that pedagogues play a very important role in developing SEC in students. The question of improving the SEC in both children and pedagogues is raised in national documents: in Lithuania's Progress Strategy "Lithuania 2030"; in the *State Education Strategy 2013-2022*, and in the *Law on Education of Lithuania, 2011*. The amendments to the Law on Education that came into force in 2017 put schools under obligation not only to implement at least one social emotional education programme, but also to ensure conditions for the development of pedagogues' SEC: "<< pedagogical staff must improve their qualifications in the development of students' social emotional competences >> (Amendment to the Article 4, Clause 23).

In order to achieve and implement the goals of students' social emotional education, it is necessary for the pedagogues to constantly improve their SEC. According to R. Čiužas (2013), for the pedagogue to be able to meet the expectations of the society for quality education of its citizens, it is no longer enough to acquire a qualification, it is necessary to constantly improve one's competencies to effectively master the role of a teacher (Čiužas, 2013). The education of prospective pedagogues in higher education (hereinafter referred to as the FP) does not place enough attention to the development of SEC, therefore the article raises questions: what social emotional skills, qualities and dispositions that prove the presence of SEC the students have acquired when starting pedagogical studies in higher education and what SEC are to be improved in the education of future pedagogues?

Recently carried out researches into students' SEC serve as the basis for the development of social emotional education programmes. However, little attention is paid to the analysis of SEC possessed by prospective teachers and there are no more detailed discussions on their development in the higher education process.

The object of the article is: social emotional competencies possessed by future pedagogues.

The aim of the article is to reveal the attitude of students of towards the existing social emotional competences and to substantiate the need for their improvement in the education of future pedagogues.

Research methods: analysis of scientific literature and documents, semi-structured interviews, qualitative content analysis.

Review of the Literature

Social emotional education is becoming priority both in foreign countries and in Lithuania, as a number of studies conducted prove the link between the

SEC and the students' achievements (Zakrewski, 2012; Raudienė, 2018). Social emotional education is a process in which knowledge, dispositions, abilities and skills are acquired and applied in identifying one's emotions, managing them, setting goals and achieving them, showing empathy, creating positive relationships with others and making responsible decisions (Venclovaitė & Danylienė, 2018). SEC is the ability to communicate and collaborate with others as a team, to learn productively, to perform the most important roles in the family, community and one's professional activities (Liubertienė et al., 2015).

Scholars agree that to improve the SEC, essential basic social and emotional abilities, skills and dispositions need to be developed in 5 areas: *self-awareness, self-control, social awareness, relationship skills and responsible decision-making* (Goleman, 2009; Lekavičienė & Antinienė, 2013; Slušnys & Šukytė, 2016; Bradberry & Greaves, 2020). The founders of the international organization *Collaborative for Academic, Social and Emotional Learning (CASEL)* distinguish the following essential social emotional abilities and qualities in each area: *self-awareness*, self-control (recognizing one's feelings and emotions, strengthening self-confidence; managing impulsivity and stress, maintaining discipline, self-motivation etc.); *social awareness* (ability to see situations through the eyes of others, empathy, respect for diversity, ability to properly use family, school and community resources etc.); *relationship skills* (ability to build and maintain relationships, work in a team, manage conflicts, seek help etc.); *responsible decision-making* (ability to make decisions based on ethical standards, social norms and expected consequences of actions; ability to contribute to the overall prosperity of the school and community etc. (CASEL website, 2022).

According to J.P. Kremenitzer & R. Miller (2008) before proceeding with social emotional education in schools, it must be ensured that pedagogues have acquired SEC (Liubertienė et al., 2015), which would enable to create suitable conditions for the social emotional development of children. Agliati et.al. (2020) emphasizes that the education of SEC in children justifies the need for professional development of pedagogues, because the skills of pedagogues are an important factor in the development of a child's SEC (Talvio, Berg, Litmanen, & Lonka, 2016). K. Rosenthal & L. Gatt (2010) have established that pedagogues who had participated in SEC improvement programmes were more effective in meeting a child's social emotional needs and more often provided socially emotional support compared to pedagogues who had not participated in such programmes. High-quality social emotional education of children will only be feasible when children and pedagogues work together to improve SEC (Slušnys & Šukytė, 2016). Thus, special attention in the preparation of the FP must be paid to the development of social emotional abilities, skills, relevant dispositions and qualities, which form the basis of SEC.

The research of A. Malinauskaitė (2011), L. Vaišvidienė & G. Gedvilienė (2017) revealed insufficient competencies of a pedagogue to carry out social

emotional education of children. R. Braslauskienė, I. Klanienė, & Budreikaitė (2021) researched the competencies of primary school teachers. The findings of the study revealed that teachers felt the greatest need for the improvement of social competences, especially those of communication and collaboration. In developing children's emotional intelligence, the pedagogues would most be willing to improve the competencies of cognition of differences and opportunities in students, as well as competencies in provision of assistance and motivation of students (Kudriavcevaitė & Lenkauskaitė, 2019). The research of V. Venclovaitė & L. Danylienė (2018) shows the constant need of pedagogues for the improve the competencies.

As pointed out by R. Nedzinskaitė (2013), the education programmes of future teachers must include the development of such social emotional skills as *problem solving, teamwork, critical thinking, assessment of different situations*, and so on. It is particularly important to pay attention to the level of empathy in FP, because in its absence it would be difficult to expect teachers' willingness to learn about the differences of the students, to provide assistance, to use positive tools to manage children's misconduct in the classroom, and so on. *Thus, social emotional education of children is integral to the development of teachers' SEC, because scientific researches show a close link between acquisition of SEC in students and the development of pedagogues' competencies. This way, it can be assumed that it is necessary to create favourable conditions for students to develop social emotional competencies in higher education institutions that prepare FP.*

Research Methodology

The chosen qualitative research strategy helped to obtain significant information about the experience of the research participants, revealing the attitude of students towards the SEC possessed. This strategy has been most instrumental in revealing the attitude towards and how the FP themselves feel about the SEC acquired and those that still need to be improved. According to I. Gaižauskaitė & N. Valavičienė (2016), a qualitative research is a systematic research of a situation, event or a case in a natural environment. By using interviews, the qualitative research allows to delve not only into the facts, but first of all into the feelings and thoughts of participants, to observe non-verbal language. Therefore, it is the most suitable tool for assessing the competencies possessed by FP, to find out which they think are the strongest one and which they would like to improve. An interpretive paradigm (Cohen, Manion, & Morrison, 2007) and a constructivist approach (Berger & Luckmann, 1999) were used to support the research. They are adapted to provide an interpretive and holistic picture of the analysed situation, "experiences" of the individuals involved and the explanation that originates from the analysis of the situation. A semi-

structured interview method was chosen. This method was chosen since it's known to provide detailed, systematically organised data, while the interview itself remains informal, takes place in the form of conversation (Bitinas, Rupšienė, & Žydžiūnaitė, 2008). During the preparation of the research, the topics and problems to be discussed with the informants during the research had been planned in advance.

The topics were planned taking into account the 5 areas of social emotional education identified by Lithuanian and foreign authors: *self-awareness*, *self-control*, *social awareness*, *relationship maintenance (relationship skills)* and *responsible decision-making*. Two topics were identified in the interviews: the strong SEC in students and the weak SEC in students. The study was conducted in October-November 2021. The interview was conducted in the form of direct communication with the research participants in the auditorium of University X. The interview lasted from 40 to 50 minutes.

The sample of research. The method of criteria selection was applied. Essential criteria of selection: first-year students in childhood pedagogy study at the University X, seeking to become pre-school and primary education pedagogues. 12 prospective teachers studying in the first year of the Childhood Pedagogy study programme agreed to participate in the research. All participants were girls in the age range of 19 to 23 years. Informants' responses are coded S-student (S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12).

The research data analysis methods. The research data were processed by the content analysis method. At the beginning of the collected data analysis, the data was coded and transcribed. This method includes repeated reading of the text, identification of manifest categories based on keywords, division of the content of categories into subcategories, interpretation and substantiation categories and subcategories with confirmation statements from the text (Bitinas, Rupšienė, & Žydžiūnaitė, 2008).

Validity and reliability of the research. Content analysis is a valid method that allows to draw reliable conclusions based on the text analyzed. According to B. Bitinas (2006), by using this method, the reliability and validity of data in the research is assessed based on examples, quoting excerpts from the informants' answers. Since the researcher themselves is the research instrument in the qualitative research, the reliability of the research was ensured by the authors' personal participation in the research and constant interaction with the informants. The aim was to ensure the validity of the research in the following ways: the informants' statements were recorded on a dictaphone, then copied to the *Microsoft Office Word* and submitted for review and approval. The research participants were presented with the final draft of the research report. The research was constantly monitored, the authors of the article consulted each other, providing remarks on how properly interpret the obtained research data and avoid

bias in the analysis of the research data. These methods allowed the researchers to draw substantiated conclusions from the research.

The ethics of the research. The informants were assured of the confidentiality and anonymity of the information received. The research was conducted in accordance with the principles of research ethics: respect for the dignity of the individual, the right to receive accurate information, and justice (Žydžiūnaitė, 2011).

Research Findings and their Discussion

As mentioned above, the chosen qualitative research strategy provided opportunities to reveal the attitude of the FP themselves towards the SEC they possessed. When analysing the SEC in students, they were asked to rate the SEC they possessed. The students identified which of their SEC were the strongest that they believed would help them as teachers to organise proper social emotional education of their children. In the category “The strongest SEC in students in the area of self-awareness”, the following subcategories have emerged: *recognition and naming of feelings, the feeling of self-confidence*.

When rating their strong SEC, the participants of the research mainly identified the ability to recognize and name feelings. The informants stated that “*they were doing great at recognizing feelings*” (S1); “*I try to express emotions, I know them, and I recognize them easily*” (S10). Several informants identified the sense of self-confidence as their strong ability: “*I have a sense of self-confidence*” (S4). The FP regard this as an essential skill for successful pedagogical work: “*the teacher must be self-confident in order to teach the child something*” (S6). Confidence, according to informants, facilitates communication with children: “*Confidence helps to communicate with children, because when they are self-confident, it is much easier to persuade the child to do the same*” (S11). Thus, in the areas of self-awareness, the FP most value the ability to recognize and name their feelings, and several students feel self-confident.

One of the areas of SEC that is important to teachers is self-control. Subcategories identified in this category: *management of feelings, impulsivity and stress, maintenance of discipline and order, proper expression of feelings, endurance*. FP described self-control, management of impulsivity, as their strong ability: “*try not to carry out impulsive, reckless actions that have been affected by my emotions*” (S1). Some informants are happy to be able to manage stress because they understand the benefits of this ability in their pedagogical work “*I can manage stress. Only when the teacher manages to control their stress, alleviate the anxiety, it will be possible to concentrate and start working in the class*” (S3). It is very important for a teacher to be able to maintain order and discipline in the class. Several informants have identified this ability as their strong side: “*I can encourage observe discipline. In the absence of discipline,*

work with children becomes inefficient” (S11); “Lessons require a smooth process for the children to know and learn as much as possible. I know how to maintain discipline and discipline, and I think it will help me in the future” (S6). According to FP, only the teacher that possesses these abilities will ensure a smooth learning process. Teachers who are able to maintain discipline and order in the class without losing self-control help children understand the boundaries, take responsibility for their actions (Weaver & Wilding, 2020).

Another important ability identified by the informants is the appropriate expression of feelings and this is associated with successful communication with children: *“The ability to express one's feelings openly is important, because students always sense sincere speaking, and then they open up to the teacher themselves” (S7); “I always speak directly without offending another person. It is useful when one is a pedagogue” (S10).* One informant said that endurance is her strong quality: *“I am enduring when faced with adversity. This is important for a teacher, because if children see an example of their teacher giving up, then so will the children” (S12).* Slightly fewer FP named their ability to manage feelings (S1, S7, S8, S9): *“I manage my emotions well enough” (S1), “feeling management has been a weak side so far, but now I’m trying to pay more attention to it and I am doing quite well” (S7).* To conclude it can be stated that in the area of self-management, the FP feel that they have the following abilities: *management of impulsivity and stress, maintenance of discipline and order, proper expression and management of feelings and endurance.*

In the category “The strongest SEC possessed by students in the field of social awareness”, the following subcategories were identified: *the ability to empathize with another person’s situation, empathy, respect and tolerance.* Scholars (Durlak & Weissberg et al., 2011, Mykolaiv et al., 2016) note that the more emotional and warm the pedagogue is with children, the more helpful and friendly the students are in the classroom. The informants first mentioned the ability to understand other people, the effort to empathize with another's situation, that is, most described themselves as empathetic: *“I always try to understand how the other person feels, I am empathetic and caring” (S1);* another informant evaluates the impact of empathy on the success of pedagogical work: *“I can empathize with the situation through the eyes of others. I think this competence will help in my work with children” (S5).* V. Zakrewski (2012) substantiates the importance of teachers demonstrating diligence and empathy for students' emotional intelligence, because where students feel the teacher as a caring adult, students' academic achievements are significantly better. The FP have singled out tolerance and respect for human diversity as one of their strengths: *“I recognize diversity, I clearly understand that all people are different, and everyone has their own view of the world” (S10).* Another participant sees respect as the basis for building inter-relationships: *“Respect for others is extremely important in all the situations of life. Relationships between the teacher and children cannot be*

established without respect” (S11). One informant has developed tolerance through her negative experience: “I will be a teacher who listens to another opinion. I have such a tolerant attitude because some teachers or lecturers try to impose their opinions or values on me, not allow to defend my own. It hurts, and demotivates from learning that subject” (S3). Thus, in the area of social awareness, the FP are able to empathize with another person’s situation, are empathetic, tolerant, and able to accept and value diversity.

The interviews analysed how informants value their competencies in the area of *relationship maintenance* (relationship skills). Several subcategories were identified in this category: *building relationships with others, constructive conflict resolution, and provision of assistance to others*. Students realize that collaboration with others is an integral part of pedagogical work: *“I know how to build relationships. Relationship building and communication are very important in pedagogical work” (S12); “I try to maintain the best possible relationships, this is a very important competence because at an educational institution one works in a team, not just for oneself” (S9); “I can work in a team” (S10). Also, some informants are able to constructively resolve conflicts: “it is fun to be able to help resolve conflicts” (S5). As the findings of the research show, the FP are able to provide assistance to others, but no one mentioned being able to seek for help, and the following example best illustrates this: “I really like helping others, but I solve my own problems by myself and do not ask for help although children need to be taught from an early age that it is necessary to seek for help” (S11). To conclude, the FP appreciate the ability to build and maintain positive relationships with others, to collaborate, to resolve conflicts constructively, and to provide assistance to others. According to R. Lekavičienė & D. Antinienė (2012), the pedagogues must be able to communicate and collaborate in order to effectively develop children's social competencies.*

During the analysis of the research data, the following subcategories have been identified in the area “The strongest SEC in students in the area of responsible decision-making”: *the ability to make decisions taking into consideration the consequences for others, contribution to the prosperity of others*. The fewest BP claimed to have acquired the ability of responsible decision-making. Two informants (S5, S8) have assessed that they are able to: *“I can make a decision based not on emotions, but on social norms, on respect for others” (S8), “I always think through the course of actions, the consequences of my decision, because I know that one or another the decision made may affect the child” (S5). One student names the ability to contribute to the prosperity of others: “Everyone should contribute to the prosperity of the school and the community; then not only will they feel good, but they will also receive feedback” (S11). To conclude it can be said that the FP feel able to make decisions with the consequences for the child and other members of society taken into consideration, to contribute to the prosperity of the school and the community.*

In order to justify the need for future pedagogues to improve the SEC in preparation for pedagogical work with children, it is important to determine what competencies they lack. Having summed up the data in the category “The SEC in students assessed as the weakest”, the following subcategories have been identified: *self-confidence, recognition of one's strengths, emotion management, self-motivation, stress management, endurance in the face of difficulties, impulsivity management, proper expression of emotions, seeking for assistance, conflict management in the team*. The studies by L. Vaišvidienė & G. Gedvilienė's (2017) have also revealed insufficient competencies to carry out social emotional education of children.

Most of FP mentioned that the weakest aspect in assessing the SEC is the sense of self-confidence. The students associate this primarily with self-criticism and sensitive response to criticism from others: *“the distrust because I am often afraid to express my thoughts, afraid to receive criticism or bad comments about my work”* (S10). This makes the FP doubt the success of pedagogical work: *“I often criticize myself. This will interfere with my work with children. I doubt that I will be able to motivate children properly if I carry a lot of negative thoughts in my mind and underestimate myself”* (S2). One informant stated that it was difficult for them to recognize their strengths: *“it is still very difficult for me to recognize my strengths”* (S4). Thus, in the area of self-awareness, students would most like to increase their self-confidence and be able to recognize their strengths in order to succeed in their professional activities. The statements of the FP brought to light the weak spots in the area of self-management. First of all, some students lack self-motivation: *“I find it difficult to motivate myself to perform certain tasks”* (S2). Another ability they would most like to develop in preparation for the teaching profession is stress management: *“it seems I have been struggling with this for many years, but it is not going away. I think I will have to get used to it”* (S4); *“I also have a hard time managing stress. I think that the lack of such competence may prevent me from working with children”* (S6).

Some students admit that they are not able to control their emotions, but in the study process they are willing to improve them: *“I have a hard time controlling my feelings, because I fire up quickly, I raise my voice”* (S2), *“sometimes I can not control my emotions properly. I understand that this is a negative quality in pedagogical work, I am working on this quality. The lectures of Social Emotional Education course helped me a lot. I think I will be able to reach the desired result”* (S6). Informants note that it is difficult for them to endure in the face of adversity/difficulties: *“I lose endurance when faced with adversity”* (S11). Others have difficulty managing their impulsivity: *“I am a very impulsive person, I can fire up quickly, I can get angry quickly, I succumb to impulses easily”* (S10); one informant is concerned that she would not be a good example to children: *“I am quite impulsive when I notice there is injustice, I raise*

my voice, I seek justice. If we do not learn to manage our impulsivity, children will learn the same” (S11).

The FP emphasize the importance of cultivating patience in pedagogical work: *“The lack of patience can be very damaging to me as a future teacher. To be honest, I don’t have it at all. However, I am practicing every day and try to cultivate it” (S9).* To conclude, it can be assumed that the competencies in the area of self-management that the FP need most improvement in include self-motivation for work, management of stress, impulsivity and emotions and maintenance of discipline. The students would also like to learn to overcome difficulties and cultivate patience in their work with children. The studies by Braslauskienė & Klanienė et al., (2021) prove that pedagogues lack the ability to employ positive tools in order to maintain discipline in the classroom to facilitate learning for all students. The ability to manage emotions, the ability to say „No“, to have a strong psychological resilience to negative phenomena is not only one of the conditions for successful socialization, but also for effective learning (Weaver & Wilding, 2020).

When the students were evaluating the SEC in the area of relationship maintenance (relationship skills), they identified the ability to reach out for help as one of the abilities in need for improvement: *“I am usually trying to solve problems myself without asking others for opinion” (S2).* One of the reasons why the FP are not seeking for help is the lack of trust in other people: *“It is difficult for me to trust others and not to have doubts that maybe the person wanted not to help, but rather to hurt or to mock. The teacher should not be like that, on the contrary, they could develop various activities and projects by trusting their students and colleagues” (S3), “I am often not willing to accept help immediately when doing some work, even though it is really needed. This feature will my pedagogical work” (S12).* One informant is concerned that she finds it difficult to work in a team because she understands its importance in pedagogical work: *“being able to work in a team is important for teachers because it facilitates their work, gives knowledge, strengthens interrelationships, and sets a good example for children. This is my weak competence” (S11).* One of the essential abilities that is very important, especially for the pre-school and primary education pedagogues, is conflict management. However, some informants rate their ability of conflict-management as weak: *“I have difficulty managing conflicts” (S10).* Thus, to sum up the statements of informants it shows that in the area of relationship maintenance (relationship skills), students should primarily learn how to reach out for help, to work in a team and to manage conflicts.

The interviews with the FP suggest that it is necessary to improve their social emotional competencies during their studies so that they could further engage in social emotional education of children in educational institutions. And the fact that all but one FP have not participated in social emotional education programmes because such programmes did not take place while they were at

school also supports this. The findings of the research allow making an assumption that, from the students' perspective, they feel the need for the improvement of SEC, so it is very important to enable this in the education of future pedagogues from their very first year.

Conclusions

1. The insights of scholars and strategic educational documents of the Republic of Lithuania put under obligation to ensure high-quality social emotional education of students. Scholars agree that students need to develop SEC in five areas of: self-awareness, self-control, social awareness, relationship maintenance (relationship skills) and responsible decision-making. The role of the teacher is essential in the development of SEC in these areas, as scholars bring up arguments that prove the link among the development of teachers' competencies and students' academic achievement and successful socialization. Therefore, it is necessary to develop conditions in the education of future pedagogues in higher education institutions for them to acquire SEC and to improve them during the entire period of their pedagogical studies.
2. In evaluating the SEC possessed, the FP singled out the main competencies and qualities they held in all 5 areas that, in their view, would contribute to successful social emotional development of their students. The findings of the research suggest that, in the areas of self-awareness and self-control the FP have acquired the ability to recognize feelings, feel confident, can manage impulsivity and stress, appropriately express feelings, maintain positive discipline etc. Meanwhile, in the field of social awareness, they are able to empathize with another person's situation, demonstrate empathy, tolerance and respect for different people. The FP appreciate the ability to maintain positive relationships with others, collaborate, constructively resolve conflicts and provide assistance to others. The students have also positively assessed the following abilities in the area of responsible decision-making: to make decisions taking into consideration possible consequences, and to contribute to the prosperity of society. All these abilities and qualities, from their perspective, form the core of pedagogical interaction and guarantee success in pedagogical work.
3. The data collected during the interviews reveal the following abilities and qualities that the FP need to improve: in the area of self-awareness (self-confidence, management of emotions and identification of strengths), in the area of, self-control (management of feelings and stress, maintenance of discipline and order, endurance and patience, self-motivation), in the area of relationship maintenance (relationship skills) (reaching out for help, teamwork, conflict management). The findings of the research allow

projecting the continuity of the research on the improvement of SEC in students in higher education, in the education of future pedagogues.

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PREPARING STUDENTS FOR THE USE OF THEATER ACTIVITIES FOR CHILDREN'S DEVELOPMENT SOFT SKILLS: EUROPEAN CONTEXT

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Abstract. *The article substantiates the importance of introducing European experience in the training of future teachers in Ukrainian higher education institutions. Features of preparation of future teachers for realization of theatrical activity in work with children are opened, attention is focused on social and educational value of theater for development of the general and special abilities of children. The functions realized by theatrical activity in the process of soft skills development of children of primary school age are singled out. The article emphasizes the various forms and types of theatrical activities and ways of organizing them with children (from creating a theatrical character or a specific image to its interpretation and display on the stage).*

The purpose of the publication is to present the experience of the higher education institution of Ukraine in preparing future primary school teachers for the use of theater activities for children`s development soft skills taking into account the European context.

In the research the results of diagnostics of primary school teachers on the use of theatrical activities in their own pedagogical practice are presented. The results of monitoring the awareness of future primary school teachers with the theoretical and methodological principles of using theatrical activities as a means of developing soft skills in primary school children and their level of readiness to organize theatrical activities with children are demonstrated. The experience of teachers of Ukrainian pedagogical universities in the implementation of European innovative technologies and practices in lectures and practical classes is demonstrated. The article reveals the content of preparing students for the use of

European experience in the organization of theatrical activities in the education of children, offers guidelines.

Keywords: *European experience, international project, junior schoolchildren, primary school teacher, readiness of future teachers, soft skills, students of higher education institution, theatrical activity.*

Introduction

Ukraine's rapid European integration progress raises a number of new social demands on the population. In modern European and Ukrainian psychological and pedagogical research and educational practice, the emphasis shifts from cognitive to social factors that provide different categories of children with conditions for successful self-realization and achieving high status in society.

Theatrical art is an effective means of raising children, it is based on game, which is the leading activity of primary school students, which is why it is close and understandable to students who are happy to immerse themselves in the interesting world of theater and try on different theatrical roles. The use of theatrical activities in the educational process of students allows them to develop a set of soft skills necessary for personal affirmation and successful adaptation in society.

In view of this, the issue of preparing future primary school teachers to use the European experience of organizing children's theater activities becomes relevant, as their professional activities are aimed at laying the foundation for dynamically and vector-growing social success. The achievements of European scholars in the field of theatrical activities are harmoniously combined with the concept and ideas of the New Ukrainian School, so modern teachers are open to a wide range of ideas for implementing the European experience of theatrical activities.

Forming the readiness of future teachers to organize children's theatrical activities involves expanding the pedagogical horizons of students, their style of thinking, views on social relations, enriching the pedagogical arsenal with new forms, methods and techniques, development and improvement of their soft skills, development of emotional intelligence, formation of European values and their popularization in pedagogical practice.

The purpose of the publication is to present the experience of the higher education institution of Ukraine in preparing future primary school teachers for the use of theater activities for children's development soft skills taking into account the European context.

Research methods: theoretical: analysis of domestic and foreign scientific sources on the preparation of future teachers for the use of theatrical activities in

the development of soft skills of children; empirical: observation, testing, analysis of student work and their practical experience.

Literature review

The study of educational policy at the global level in general and within the European Union in particular shows that there is a change in the vectors of education, its transition to a qualitatively new level in a dynamic globalization of socio-economic and cultural processes. Emphasis is placed on the implementation of a competency-based approach to the organization of the educational process, starting with preschool education, and, accordingly, updating approaches to training future teachers “EU Council Recommendations on Key Competences for Lifelong Learning” (2006; 2018). “Supporting pedagogical professions for better learning outcomes” (2012), “European Pedagogical Constitution” (2015), etc.).

In the context of globalization transformations of the XXI century, the Ukrainian education system faces challenges to revise conceptual approaches, improve technologies for teaching and educating children and youth, appropriate training of teachers for professional activities in the new socio-economic and cultural realities. It is an objective necessity to study the European experience in the organization of pedagogical systems, its implementation in the activities of educational institutions of Ukraine.

Prospects and directions of modernization of higher education in Ukraine in the European context are being developed by modern Ukrainian scientists (Hurevych & Kademiya, 2017; Kolomiiets & Lazarenko, 2016; Nychkalo, 2020). We share the position N. Lazarenko that it is necessary to study and analyze European integration processes in the education system, concepts and models of development of pedagogical education; to find out the specifics, characteristics of the functioning of pedagogical universities in the context of European integration, etc. The researcher argues for the need to «develop long-term strategic measures to improve teacher training in accordance with European standards». At the same time, she notes that “determining the possibilities of implementing foreign experience in education in Ukraine, it is important to take into account modern native methodology, spiritual and general culture of society” (Lazarenko, 2019, p.6).

We believe that the development of soft skills of preschool and primary school children corresponds to European trends and approaches to improving education in the XXI century, and is one of the important tasks of the modern New Ukrainian School. The problem of studying the peculiarities of soft skills formation in different contexts was covered in their works (Butulina & Radchenko, 2020; Demchenko, 2020; Savchenko, 2004; Gushka, 2008;

Kazmirchuk, Baranovska, Mozgalova, Shcholokova, & Podorozhnyi, 2021; Zhovnych & Stahova, 2020).

In own research O. Savchenko singled out soft skills that are necessary for younger students: organizational (preparation for the perception of the material, work at the right pace, organization of the workplace, etc.); general cognitive (clearly express their opinion, communicate during group and collective learning tasks); informational (ability to analyze educational material, compare it, highlight the main points, establish correlations, draw conclusions from the teacher's explanation); control and evaluation (to carry out cross-checks, to determine which judgments are correct and which are incorrect; to express evaluative judgments) (Savchenko, 2004, p.34).

Examining the problem of forming general learning competencies of primary school students N. Gushka emphasizes that younger students need to develop such soft skills as: the ability to organize their workplace, adhere to the daily routine, step by step plan their actions, prove work to a logical conclusion, be creative in solving all problems, defend your opinion (Gushka, 2008, p.91).

Summarizing the results of the analysis of scientific and methodological literature on the formation of soft skills of junior high school students O. Zhovnych, N. Kazmirchuk, I. Stakhova identified five key skills needed for junior high school students for successful comprehensive development, namely: creativity, emotional intelligence, ability to organize working hours, present yourself, manage information (Zhovnych, Kazmirchuk, & Stakhova, 2020, p.25).

Today, theatrical art occupies an important place in the variety of means of influencing the formation of the personality of junior schoolchildren. This special integrated art form organically combines artistic word, dramatic action, poetry, fine arts, musical art and choreography. It helps the child to know more about himself, his inner world, encourages self-improvement, evoking in the theatrical action aesthetic feelings and emotions, forming attitudes to moral actions, educating moral qualities (Kazmirchuk, Baranovska, Mozgalova, Shcholokova, & Podorozhnyi, 2021, p.238).

The use of theatrical activities in the process of working with children was studied (Baranovska, 2015; Demchenko, 2020; Demchenko, Stakhova, Davydova, Larina, Lymar, & Strilets, 2021; Derkach, 2013; Zhovnych, Kazmirchuk, & Stakhova, 2020; Oliynyk, 2017). Modern scholars in their research focus on the socio-educational and pedagogical value of theatrical art for the development of the younger generation. In particular O. Demchenko notes that «theater is a synthetic art form and a cultural phenomenon that combines drama, creativity of director and actor, music, painting, architecture, dance, singing and more. The importance of theatrical action for the development of children's soft skills is that it involves multi-vector

communication, emotional interaction, verbal and nonverbal communication. During the theatrical action there is not just a reproduction of various events, but the internalization of universal values, the demonstration of role models of behavior. The direct participation of children in the production of the play contributes to the formation of their communication and social skills, increase self-esteem, and establish new friendships» (Demchenko, 2020, p.265).

In own research I. Baranovska argues that theatrical activity is an artistic activity associated with the perception of theatrical works and reproduction in the form of games acquired ideas, impressions, feelings, and is one of the most effective means of pedagogical influence on the development of the child's personality (Baranovska, 2015, p.22).

Researchers O. Zhovnych, N. Kazmirchuk, I. Stakhova have identified a number of functions that perform theatrical activities in the development of soft skills of primary school children:

- socializing - stimulates students to master various social roles and accepted patterns of their behavior;
- educational - designed so that parents and teachers in the form of games have the opportunity to form the ideas of younger students about such moral qualities as 'good – bad', 'true – false' and others;
- developmental - allows elementary school students to immerse themselves in exciting events and adventures that promote not only the development of imagination and fantasy, but also the formation of ideas about moral qualities, behavior and cooperation in the children's team, rational organization of their working time, emotional development, helps to form skills of reflection and empathy; will promote the development of coherent speech;
- didactic - the use of theatrical activities is an effective means of enhancing educational and cognitive activities and contributes to the emotional arousal of the child, resulting in better learning, leaves deep «traces» in the child's mind, and therefore better remembered;
- leisure and entertainment - helps to organize appropriate and useful free time of primary school students;
- aesthetic - affects the formation of aesthetic taste of younger students;
- relaxation and recreation - participation in theatrical activities allows students to relax, unwind, regain strength, look at the world differently, overcome emotional stress, anxiety or fears (Zhovnych, Kazmirchuk, & Stakhova, 2020, p.26).

The experience of European educators who have worked on the use of theatrical art in working with children is valuable for our study. Progressive ideas regarding the use of the syncretic nature of theatrical activity are covered in the pedagogical concepts of R. Steiner (Waldorf pedagogy) (2012), S. Frenet

(“School of Joy”) (1968), K. Orff (Keller, 1973). The experience of educational institutions in the EU (Germany, Poland, etc.) uses different types of theatrical activities in leisure time. In the context of training future teachers, courses in theater, pedagogy and stage skills are taught, in particular at the Pedagogical University of Ludwigsburg (Germany).

Considering the implementation of theatrical activities in primary school and preschool education, Australian educator John O'Toole argued that teachers should confidently use the achievements of theater pedagogy in their own teaching activities, as well as understand its role in the context of school activities in general (O'Toole, 2011, p.26).

There is a large number of school and student studios in the UK called “Theater in Education”. O. Sednova states that the means of theater pedagogy are actively integrated into the curriculum of the British education system, as theater pedagogy is the theoretical foundation of theater and a practical tool in teaching and education, and the use of theater pedagogy in the educational space promotes creative thinking, improvisation; forms students' motivation to study, arouses interest in the subject of study, develops imagination (Sednova, 2014, p.112).

The International Drama / Theater and Education Association (IDEA) promotes European theatrical experience in working with children by organizing seminars, international projects, creating information resources, holding a World Congress and thus making a strong contribution to world drama forums. IDEA consists of national drama / theater associations, as well as individual theaters, teachers, educators, artists, theatergoers, and artists from approximately 90 countries. IDEA lobbies for the interests of children and youth at the international level in order to increase the interest of government officials, agencies, organizations in the important role of drama and theater for personal development.

The reform of school education depends first of all on the competence of teachers, their high-quality professional activity. Thus, today, the problem of training and forming the readiness of future primary school teachers has become a priority of social and educational policy in Ukraine.

The concept of «professional training of future teachers» requires a thorough analysis based on methodological approaches. Scientific and pedagogical research on the problem of training future primary school teachers revealed that it is a complex, long, multi-stage process of mastering subject and life competencies, mastering a set of general scientific, specific methodological knowledge, gaining professional experience. Professional training of future teachers is focused on public and state order. The purpose and result of professional training of future primary school teachers is to form a highly qualified, competent specialist, ready to perform their professional duties.

Substantiating the concept of "readiness", D. Pashchenko notes that the concept of "professional readiness" is a complex of personal and psychological innovations of the teacher, and defines his scientific and practical training, which is a general professional ability (Pashchenko, 2006, p.8). P. Luzan is convinced that the readiness for professional activity is evidenced by the following personality traits: a holistic understanding of pedagogical work and the correlations on which it is based; employment in educational forecasting; clear civic position; striving for self-development and self-improvement (Luzan, 2004, p.257). O. Akimova agrees with her predecessor, but notes that a modern student of the XXI century, a future teacher, needs developed creative thinking that will help him quickly acquire new knowledge, interesting to teach students, organize new projects, etc. (Akimova, 2013, p.76).

In addition, the student youth of the new 'Generation Z' will be interested in a teacher who has thorough scientific and theoretical training, rich methodological tools, including modern innovative methods, techniques of facilitative interaction, ways to organize quasi-professional activities in blended learning, and is a charismatic, creative person, innovator, leader, coach.

Methodology and organization of the research

In the course of the research we tried to determine the dominant level of readiness of future teachers to use theatrical activities for the development of soft skills in children of preschool and primary school age. The experiment involved 112 students of Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University, National University named after T. Shevchenko, "Chernihiv Collegium" and Kamianets-Podilskyi Ivan Ohienko National University, as well as 60 teachers of preschool education and primary school teachers and 84 first-graders of Vinnytsia region.

To study the state of readiness of future teachers to use theatrical activities, we have identified the following criteria and indicators:

- motivational (interest in theatrical activities (puppet theater); a strong desire to participate in various educational activities aimed at promoting theatrical art; the internal need for creative potential and self-development);
- cognitive (knowledge of the history and theory of theatrical art; knowledge of the process of organizing children's theatrical activities; pedagogical orientation in a variety of soft skills and ways of their formation);
- activity (ability to methodically organize and conduct theatrical activities of children; the ability to design the development of children's soft skills in the process of theatrical activities; the ability to

self-assess their readiness to organize theatrical activities for children to develop their soft skills).

Based on the criteria and indicators, the following levels of readiness were identified:

- low - no interest in performing theatrical tasks and developing their own soft skills; fragmentary awareness of the basics of theatrical art, ways of its realization, constant manifestations of passivity during the organization of theatrical activities of children;
- average - low activity in the process of performing various theatrical tasks, fragmentary manifestations of developed soft skills of future teachers at the same time; superficial knowledge of the basics of theatrical art and ways to organize theatrical activities in working with children; infrequent flashes of original ideas and creative thoughts; difficulties in organizing theatrical activities for children;
- sufficient - increased activity in theatrical games and creative tasks; thorough knowledge of theatrical art in general and the peculiarities of the organization of theatrical activities in working with children, in particular; constant work on the development of their own soft skills; interest in conducting theatrical forms of work with children;
- high - leading activity and initiative on classes, a broad knowledge of theatrical art, the peculiarities of the organization of theatrical activities in working with children, constant personal and professional self-improvement, work on the development of soft skills and hard skills; high initiative during various forms of children's theatrical performances; generating original ideas, creative approach to activities.

To diagnose the levels of readiness of future teachers to use theatrical activities to develop children's soft skills, we used the following diagnostic methods and techniques: questionnaires (<https://forms.gle/kby9KPhZ5meGgCGp9>), visual-associative test, emotional intelligence test A. Manoilov (<https://psytests.org/emotional/mei.html>), M. Snyder's test of social self-control (<https://psytests.org/emotional/snyder.html>), O. Tunik's test of personal creativity development (<https://psytests.org/cognitive/tunik-run.html>), test of communicative and organizational skills of V. Syniavskiy, B. Fedoryshyn (<https://psytests.org/profession/kos1.html>), observation of future teachers during the training in acting and directing skills and role-playing games «Colored Hats» (Edward de Bono's method), analysis of synveins and essays, analysis of theatrical games organized by future teachers during pedagogical practice.

In addition, a survey of primary school teachers in Vinnytsia region (<https://forms.gle/38jX2hW4ucytiKX29>) and junior high school students was conducted according to the developed questionnaire.

Results of the research

The research was conducted during October 2021. The results showed that future teachers are interested in organizing theatrical activities in working with younger students. They focus on the stages and process of theatrical games, holidays, sketches, try to be creative in working with children. Observation of students' pedagogical activities, analysis of their work, questionnaires and testing showed that the levels of readiness of future teachers to use theatrical activities to develop children's soft skills were divided as follows:

- motivational criterion: low level - 18 (16.1%) respondents, average level - 53 (47.4%) respondents, sufficient level – 25 (22.3%) respondents, high level - 16 (14.2%) respondents;
- cognitive criterion: low level - 22 (19.6%) respondents, average level - 52 (46.4%) respondents, sufficient level - 23 (20.6%) respondents, high level - 15 (13.4%) respondents;
- activity criterion: low level - 28 (25.0%) respondents, average level - 49 (43.6%) respondents, sufficient level - 24 (21.3%) respondents, high level - 12 (10.1%) respondents.

Analyzing the results obtained for each criterion, we found that in general the willingness of future teachers to use theatrical activities to develop children's soft skills is low in 22 (19.6%) respondents, at the average level - in 52 (46.4%) respondents, at a sufficient level - in 24 (21.3%) respondents and at a high level - in 14 (12.7%) respondents. Generalized results are presented on Figure 1.

The results indicate that about half of future teachers, in every second, is at the average level of readiness to use theatrical activities to develop children's soft skills. The low indicator of high and sufficient levels confirms the imperfection of the current curricula of higher pedagogical education institutions, traditional forms and methods of training future teachers. We are convinced of the need to update the curricula of the high educational institutions, in particular the inclusion of disciplines aimed at expanding students' knowledge of the basics of theatrical art, methods of organizing theatrical activities with students; introduction of innovative forms, methods, techniques and tools in working with future teachers to expand the panorama of their thinking, develop creativity, theatrical skills, improve communication, leadership and organizational skills. Summarizing the survey of future teachers, we can say that students have some doubts and elements of anxiety due to lack

of personal experience of participation and organization of theatrical activities with pupils.

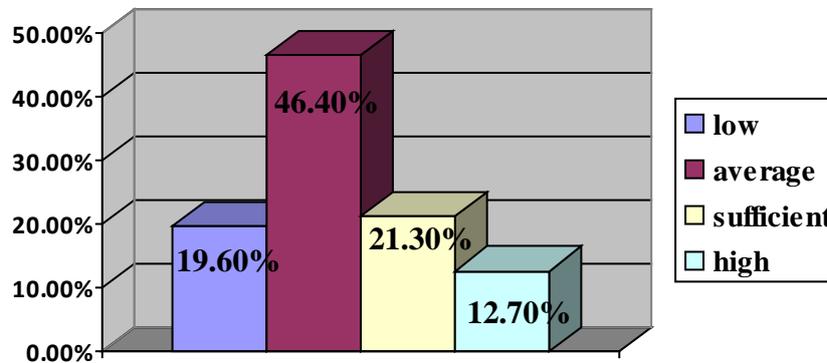


Figure 1 Levels of readiness of future teachers to use theatrical activities to develop children's soft skills (created by the authors)

In the course of the research we conducted a survey of primary school teachers in Vinnytsia region and determined that they all use theatrical activities in working with children, namely: 18 respondents (30.0%) play dramatization games and staging games after reading literary works; 13 respondents (21.6%) use theatrical greeting exercises during morning meetings («I am a princess», «I am a superhero»); 10 respondents (16.7%) use dolls as a didactic tool for conducting lessons; 9 respondents (15.0%) together with children create different types of theaters (finger, table) and use them during the educational process; 6 respondents (10.0%) engaged in staging theatrical performances; 4 (6.7%) promote non-verbal theatrical sketches in their activities. Teachers agree that theatrical activities contribute to the creative development of younger students, their communication and organizational skills, encourage teamwork, compromise, self-presentation, etc., it is the basis for the development of soft skills of children.

At the same time, primary school teachers identified the main obstacles to the systematic use of theatrical elements in school: lack of time, lack of methodological literature, unpreparedness of individual teachers, poor school facilities, it no decorations, masks, dolls, stage costumes; insufficient interest from parents, etc.

Instead, after analyzing the answers of younger students, we determined that theatrical activities are the most popular among 61 (72.6%) respondents. Students like to take part in theatrical games, stagings, independently come up with game scripts, imagine themselves as a specific literary hero and get used to his image, and so on. A survey of students showed that the most common elements of dramatization teachers use in lessons of literary reading, «I explore

the world», fine and musical arts. Participating in theatrical activities, students stated that it allowed them to experience a significant amount of positive emotions, improve relationships in the team, to form creative skills, to manage time rationally.

Discussion

Summarizing the results of the study, taking into account the existing advantages of the medium level of readiness of future teachers to use theatrical activities in their own practice, we consider it necessary to improve the preparation of future teachers to organize theatrical activities with children in accordance with current needs.

Vinnitsia Mykhailo Kotsiubynskyi State Pedagogical University prepares future teachers for the implementation of the European experience of forming children's soft skills through theatrical activities is carried out within the Erasmus + Jean Monnet project Module 620252-EPP-1-2020-1-UA-EPPJMO-MODULE "EU experience of soft skills development of preschool and primary school age children by theater activities in teacher training" <https://www.facebook.com/groups/754951105361978>. The aim of the project is to provide theoretical and practical training of future primary school teachers to use theatrical activities to develop soft skills of different categories of children and meaningful organization of their leisure activities based on the experience of Western European pedagogical concepts.

The authors of this article are the developers of the project and have been working on its implementation since November 2020. We are honored to present the intermediate results of the international project, which includes a number of areas to improve the preparation of students of higher education institutions of Ukraine to organize theatrical activities for the development of soft skills of children.

The first direction is teaching students participating in the project of the optional discipline "Preparation of future teachers for the development of soft skills of preschool children and primary school students by means of theatrical activities in the context of European educational traditions". This discipline consists of 4 modules: "Theatrical activities in social and educational work on the basis of inclusive approach: the experience of the European Union", "Organization of different types of theatrical performance of children in educational institutions: European context", "Fundamentals of directing and artistic design: European context", "Implementation of the European experience of involving representatives of social services and public organizations in the implementation of theatrical activities". Their content is integrated, combining theoretical and methodological knowledge of theater history, cultural studies, art

history, basics of performing and acting arts, pedagogy, psychology and social work.

During 2021, on the basis of 30 students, obtaining a bachelor's degree in the field of knowledge 01 Education/Pedagogy specialty 012 Preschool education, 013 Primary education, who expressed a desire to participate in the project, was taught this optional subject. Upon completion, students learned to describe and analyze: features of different types of theater in Western Europe, methods of theater pedagogy; educational, developmental, upbringing opportunities for the organization of children's theatrical activities; interdisciplinary bases of organization of different types of theatrical activities of children of preschool and primary school age for the development of soft skills in the context of improving the quality of leisure; foreign theories and experience in organizing theatrical activities for children; Western European experience in organizing various types of theatrical performances for the development of soft skills of different categories of children with special needs; progressive pedagogical concepts and experience of EU educational institutions on the use of theatrical activities for the development of children's soft skills in leisure time.

The optional discipline due to the coronavirus pandemic was taught online and offline. Teachers used interactive lectures and practical classes using philosophical dialogue, business games, reflective exercises and more. Students got acquainted with different types of theater: finger theater, shadow theater, nature theater, puppet theater, one-actor theater, flannel theater, puppet theater and more. Future teachers independently made the appropriate equipment for each type of theater.

The next direction of the project was the inclusion in educational and professional programs and curricula of the first (bachelor's) level of higher education in specialties 012 Preschool education, 013 Primary education in the field of knowledge 01 Education/Pedagogy Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University disciplines aimed at acquainting students with the basics of theater, study and analysis of European experience in organizing theatrical activities with children, improving their own skills of theatrical skills. These are such elective disciplines as: "Theatrical circles work in primary school"; "Organization of children's theatrical activities in the cultural and educational space of the EU"; "EU experience in the development of children's soft skills"; "Methods of organizing leisure activities of junior high school students"; "Socialization of primary school students in the educational space of primary school"; "EU experience in the development of children's soft skills".

The working team of the project is actively implementing innovative forms, methods and tools preparing students for the organization of theatrical activities with children of preschool and primary school age, including elements of

training sessions, scrum technology, workshops, web-quest, socio-game workshop, virtual tours, etc.

The next direction of the project is the creation of a student theater group on the basis of a higher education institution, as an effective means of forming the readiness of future primary school teachers to organize theatrical activities of junior students. Preparing students to use theatrical activities in working with children, we invited them to transform themselves into well-known images of classics of literature. They embodied the image of Cinderella by Charles Perrault, Juliet by William Shakespeare, Dulcinea by Miguel Cervantes, Esmeralda by Victor Hugo, Matilda de La Mole by Stendhal, Laura by Francesco Petrarca and others. The play “Peter Pan”, based on a fairy tale by Scottish writer Sir James Matthew Barry, was staged by the project team and students. Students enthusiastically worked on staging the play: creating a script, assigning roles, learning to get used to the hero. The heroes of the stage raised important instructive topics: love and respect for parents, appreciation of family warmth, protection of the family. During the rehearsals, the project participants gained practical skills in teamwork, learned to hear and respect the opinions of others, defend their own position, develop their emotional intelligence, creative thinking, by expanding the thesaurus of emotional concepts and acting exercises. Applicants gained useful experience in the process of working on the external design of the play. They expanded their knowledge as they became acquainted with such concepts as stage movement, stage space, laws of the stage, types of scenery. Students independently made stage costumes, scenery and props for the play. The creation of the musical accompaniment of the play revealed to amateur actors the power and depth of music. Successful choice of background music and musical design of the play allows the actors to better play the role and convey the ideological plan of the play.

During the implementation of the project, cooperation was established with the main director and actors of the Vinnytsia Academic Regional Puppet Theater “Golden Key”. The performances of the puppet theater «About this, about that» and the children's opera “Goat-Dereza” did not leave indifferent any spectator. Students noted the skill of acting, the brightness of the musical accompaniment, directing performances. Communication with the main director of the theater and actors of the theater, as well as the participation of future teachers in master classes and trainings conducted by puppet theater actors contributed to expanding knowledge and skills in stage monologue and dialogue speech, stage movement, the basics of «reviving» theatrical puppetry.

The performances “Kotyhoroshko”, “Twelve Months”, “St. Nicholas Day” prepared by students of secondary schools of Vinnytsia, who were visited by students, left vivid impressions in the memory of future teachers. Students, in addition to acting skills and talents, demonstrated a high stage culture, as well as

coordinated teamwork, discipline, responsibility. Students had the opportunity to note the coordinated cooperation of the entire creative team, as the success of the play is preceded by a large, complex, skillfully organized work that requires joint efforts. On the example of creating scenery for the play, in particular the design of the stage, future teachers experienced all the anthropomorphic properties of human thinking, which is the basis of perception and understanding of the symbolic language of theatrical art.

Thus, viewing and discussing performances of both professional and amateur children's theaters is an important area of training future teachers to form soft skills of students through theatrical art.

Within the project implementation an important direction is to involve students in writing term papers and dissertations, as well as to actively participate in scientific conferences. So for 2020-2021 students took part in 4 scientific conferences of the international and all-Ukrainian level. An indicator of the interest of applicants in this problem was the number of participants and the number of published theses (in the amount of 321) based on the results of conferences. During the conferences, sectional meetings, a series of master classes and trainings, meetings with practicing teachers, who shared their skills and experience in organizing theatrical activities for students.

Conclusions

In modern conditions of reforming higher pedagogical education there is an orientation to European standards, both in the education of children of different ages and in the training of future teachers. It is important to introduce a competency-based approach to the educational process of general secondary and higher education institutions. Teachers of Ukrainian higher education institutions systematically improve their professional level by participating in international projects and trainings. Implement the best European practices in their professional activities. Participation in the implementation of the EU Erasmus + Jean Monnet Module, teaching an optional course and organizing various areas of work helps to improve the training of future primary school teachers in accordance with European standards and traditions.

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IMPLEMENTATION OF THE EUROPEAN EXPERIENCE OF SOCIAL INCLUSION IN THE TRAINING OF SPECIALISTS OF A SOCIO-ECONOMIC PROFILE (UKRAINIAN CONTEXT)

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Abstract. *In the presented research we briefly outlined the issues of training specialists of socio-economic profile in higher educational institutions of Ukraine. We addressed certain aspects of social inclusion and the key indicators of social inclusion in accordance with the priorities of social policy development in Europe. In particular, the indicators and goals of social inclusion, such as inclusion and/or exclusion of some groups of population, the impact of the level of «poverty» on these processes. And also, the influence of these factors on the educational process in higher education institutions, the formation of empathy, stress resistance, social adaptation, professional and inclusive competence.*

As a part of our research, we diagnosed the level of empathy (Yusupov, 2002), stress resistance and social adaptation (Holmes & Rage, 2009), social frustration (Wasserman, 2009) of student youth who are included in project activities and studying in basic educational programs. Comparison of statistical data of EU countries and Ukraine on the indicators of inclusion of persons in need of inclusive education in active social processes has been carried out.

The analysis briefly presents pedagogical technologies with high efficiency in the formation of competencies of future specialists of socio-economic profile and presents the main trends in the formation of the environment of social inclusion, which are proposed and implemented in the framework of project activities and cooperation with EU countries on the territory of Ukraine.

Keywords: *EU experience, project activities, social inclusion, specialists of a socio-economic profile.*

Introduction

Trends in the modern world, dictated by the need for a competitive professional community in each area of human activity. In our state, this has led to the need to adjust to the trends of global socio-economic development, and also to adapt the available resources and human capital to the European integration processes by incorporating the concept of a competent approach into the basic areas of quality of life of the individual. This became possible due to the gradual reforming of the healthcare sector, education and, in fact, changes in legislation. Particularly due to the adoption of several laws and sub-legislative acts.

For example, today Ukraine has adopted a “Human Development Strategy”, (“Ukaz”, 2021), which comprehensively regulates the development of Ukrainian society. Among the items that according to this strategy should lead to the reorganization and improvement of the quality of life in Ukraine, to the competitiveness of Ukrainian citizens in the global and domestic labor markets and are designed to continue the process of European integration – the proper place belongs to the reform of the educational sector.

Changes in education began in 2010 (introduction of inclusive education, deinstitutionalization of special schools, etc.) and gradually continued, ensuring the implementation of European norms and standards in higher education in Ukraine (Pro vyshchu osvitu, 2014) and implemented in the main articles and paragraphs of the Education Law of Ukraine (Pro osvitu, 2017).

According to the latter, as Holiuk O. notes. “Universities must constantly work to improve the quality of education, based on the fundamental principles of European higher education: demonopolization of management, autonomy of universities, academic freedom of teacher and student, independent evaluation of the quality of higher education, development of science in universities, which corresponds to the desire of the state to create a competitive environment in the higher education market. The new law defines the conceptual principles of modernization of higher education, which meet the goals and objectives of the EU educational programs Tempus and Erasmus +: integration of Ukrainian higher education into the European Higher Education Area by implementing the provisions and principles of the Bologna Process; three-cycle structure of higher education; quality assurance of higher education and science by developing an independent system of quality assurance in higher education academic mobility; integration of education, science and innovation; academic, staff, organizational, financial and economic autonomy of higher education institutions; cooperation between universities and business” (Holiuk, 2015).

This comprehensive approach to updating the content of education to achieve relevant results has allowed educators and practitioners to reach a new level of training specialists, which is based on the competency-based approach

and involves mastering not only Hard Skills, but also the skills that will meet Soft Skills. According to recent research, Soft Skills «should take into account both personal traits (extraversion, friendliness, openness of experience, optimism, initiative, creativity, critical thinking, time management), interpersonal skills (communication skills, teamwork and leadership skills, fluency in languages), and problem solving and decision making skills» (Lazarenko, 2017; Lazarenko, 2020)

All this should create the prerequisites for the formation of a new quality not only of education itself, but also specialists in professions and areas on which the well-being of the nation and citizens, the socio-economic and socio-cultural well-being of all segments of the population of the state depend.

Methodology of Research

The purpose of our study was:

- to determine the theoretical basis for the introduction of the terminology «specialist of socio-economic profile» in the scientific and pedagogical literature and studies of Ukrainian scientists;
- to study and briefly present the existing practices of interaction with students, which are proposed and integrated from European countries into the practice of training future specialists during their studies at universities;
- to form a methodological proposal to determine the impact of the proposed pedagogical technologies on the formation of the experience of social inclusion in future specialists of socio-economic profile.

Results of the research

Thus, following the trends in the education and training of future specialists, we had an opportunity to trace the shift in emphasis that has occurred in recent years. For example, most of the higher education institutions, including classical pedagogical universities, have switched to competency-based training; the share of practice-oriented classes and the inclusion of student youth in the activities of organizations, institutions and institutions during internships as well as during classroom sessions has increased. In some cases, student youth are involved as part of independent work of volunteer and grant socially significant projects, learning to work in a team and lead a team during such activities.

But these changes are impossible without understanding the essence of training specialists socio-economic profile, gradually entering the terminological vocabulary of the scientific and pedagogical community. It should be noted that this term came to pedagogy by economic research, partly affecting psychological research related to the level of happiness and well-being of the

individual compared with the intellectual level and poverty. In this direction we also turned to the studies of social inclusion and its indicators, prescribed for the countries of Europe (Atkinson et al., 2002), which determine the direction of public policy and the functioning of the state to maintain the environment of inclusion and diversity.

Among these indicators, there are three areas that must be taken into account in our educational system in order to achieve the maximum possible effect of the goals set for the development of the citizen-professional and the state. These are «social context» (general indicators that are not direct policy goals, but are important for understanding the social landscape); «social status» (describing the social results of political influence); and «societal response» (Development, 2001). We do not turn to contemporary documents on this problem, for it was in 2001 that the foundations were laid for the European Community to continue to seek the implementation of policies aimed at improving the socio-economic situation through indicators of self-sufficiency, equality, health and social cohesion in each individual state.

In addition, it is important to remember that the value of the indicators lies in their focus and identification of social problems and subsequently these indicators become indicators of the social progress of each state, the goal of which is common to all members of the European Union to ensure social integration through the method of open coordination and further measurement and comparison of social results (Atkinson et al., 2002). At the same time, in order not to delve into all of the world and national indicators that affect important for our work processes of training specialists of socio-economic profile and relevant interaction in conditions of social inclusion, we propose to go to the Ukrainian scientific research, which will reveal the essence of this topic for our state and the policy aimed at European integration processes.

Thus, we have taken as a basis the scientific research that is offered to society and brought up for discussion since 2015, where it is assumed that every structure, state or non-state organization, enterprise must be socially responsible, so that in practice we will be able to use “an effective tool for responding to various socio-economic challenges” (Zvonar, 2017). After all, this approach to the formation of domestic policy to ensure the quality of life, addressing economic, social and other issues that the state cares about through a system of social responsibility, will help to establish the necessary social interactions (Zvonar, 2015). To continue the issue of social responsibility raised, in particular its importance in economic activity, we must understand that the subjects of such activity are the individuals and institutions involved in socio-economic relations. “Of the latter, three institutional communities are most clearly visible – public power (the state), market (business), civil society (society)» and cooperation between them «must be oriented to the formation and development of appropriate behavioral attitudes of individuals... and to the

formation of a system of partnerships between socio-economic institutions” (Zvonar, 2017).

So, we proceed from the fact that modern society is not only a part of a certain social, socio-economic or socio-cultural strategy, which is led by institutions and each citizen of the state, we must understand the value of each individual and his contribution to the development of the state. What is possible only with qualitative approach to revision of strategy of education of specialists of socio-economic profile (specialists in law, lawyers, managers, economists, administrative personnel and heads, actually scientific-pedagogical and pedagogical personnel) taking into account competences directed on socially responsible behavior, especially in the branches most influencing the standard of living of population.

Therefore, we must train specialists of socio-economic profile who will ensure quality cooperation of society, business and state, will form their activities taking into account social responsibility at all levels of interaction. Moreover, to define social responsibility as basic, in our opinion, can significantly influence the issues of social inclusion. As noted by European researchers (Atkinson et al., 2002), social inclusion must be based on understanding and acceptance of each individual, his/her individuality; acceptance of the influence of «social indicators» on his/her life activity and ability to be an active member of civil society, to influence politics and socio-economic changes in the state.

As the greatest value of the state is a person, the country that will use social responsibility as a basic strategy in the training of professionals will have the largest and most powerful capital to «manage crises» by using human resources. After all, the better the conditions for personal development, its opportunities for social realization and self-realization, the more effective is state and business management, the higher is the standard of living and the welfare of the nation. Therefore, the training of specialists of socio-economic profile in each of the branches of human life at the level of the state and with the support of business and civil society should gradually improve the life of society, reduce the pressure of the existing level of «poverty» on the daily choices of citizens, contribute to the formation of a new model of national identity, consciousness and behavior.

But the main question, which was and is part of the reform of the education system, certain provisions governing the labor market, remains – how exactly should we achieve a high level of social responsibility? What technologies should we implement at all levels of education in order to «output» a «maximally ideal» specialist who meets the needs of the state and other institutions of socio-economic profile?

In addition, we must not only form a socially responsible citizen in his professional activities, we must change the approach to the individual.

Following the world and European criteria of a «welfare» society, we should pay special attention to the issues of inclusion, in particular social inclusion. Without which it is impossible to consider social responsibility, because these are pieces of the same puzzle, as social inclusion is the root and basic concept of respect for the individual and social equality. And the interaction between these components is a prerequisite for achieving the goals of a national human capital strategy.

So, moving on to the second question of our study, we tried to outline the most effective pedagogical technologies, forms and methods of formation of social responsibility, which in the framework of European integration in education were borrowed, adapted to the needs of Ukrainian society, state and other institutions in training specialists of socio-economic profile. Among the proposed and implemented in practice during the study of future specialists were the following pedagogical technologies, forms, methods and techniques of work:

- discussion groups, group debates, discussion games and role-playing games with a discussion of a particular topic from the perspective of professionals, the public, children, parents and other stakeholders in a simulated situation, allowing the practical development of analytical and critical thinking skills, the ability to manage time, teamwork and leadership skills, problem-solving situations (Demchenko, 2010; Elina, 2013; Flynn & Klein, 2001; Kitzinger, 1994)
- the «philosophical dialogue» method, which supports the previous positions of discussion and debate, but at the same time allows you to go step by step into the problematic issue and teach you to «listen and hear» the other person. (Helskog, 2019; Lymar & Yu, 2019)
- «focus groups», «round tables» and «expert groups», allowing for in-depth elaboration of the issues raised, form the skills of presentation of the results worked out by the participants in the process both for those involved in the topic and the general public. In addition, they influence the development of creative thinking of the participants, who must work through existing material, develop new directions for its use and implementation in practice and present it qualitatively through printed and audiovisual media, infographics and/or social networks (Iliffe et al., 2008; Kitzinger, 1994);
- research tasks with competitive elements, where the group that finds the most effective and creative way to solve the posed question/problem wins (Elina, 2013);
- reviewing scientific articles examining two or more approaches to the same problem (Elina, 2013);
- a series of mini-reports and short interviews on a seminar/workshop/laboratory topic (Elina, 2013);

- summer schools as events to engage student youth in volunteer activities, aimed at building basic skills for working in an environment of inclusion and diversity, developing empathy and teamwork, in some cases facilitating the learning of languages, in particular sign language (Hartas et al., 2008);
- in the use of empowerment pedagogy (Hroshovenko, 2018);
- participation in the implementation of social projects (Sarancha & Khilya, 2020).

Each of the offered technologies had the purpose directed on development of competences necessary for the further professional formation of the expert of a socio-economic profile. Allowed to reveal potential of student youth and to direct work of each participant (individual and team) on the decision of the tasks offered in the final socially significant project of territorial community with which cooperated the university at realization of the program of selective disciplines.

It is worth noting that to experimentally test in practice the qualitative and quantitative indicators of the impact of the proposed technologies we involved students from three faculties, who joined the study of selected disciplines related to issues of inclusion and diversity, gender studios. At the same time, as we noted, in the process of work we developed a sequence of using and conducting diagnostics of students' inclusion, their motivation to study selected disciplines and awareness of their position in the issues of social inclusion.

We also had the opportunity to form a number of reflective interviews and diagnostic cards based on the entrance diagnostics, which allowed further to determine the effectiveness of the proposed program, the feasibility of the used proposed pedagogical technologies and adjust the pedagogical strategy within the selective disciplines to achieve the main goal – the training of a specialist of socio-economic profile.

Thus, if we consider the pre-diagnostic card, it consisted of a set of techniques that allowed us to identify the level of social inclusion of the students themselves, their «reaction» to «otherwise». Among them:

- diagnosis of the level of multicomunicative empathy (Iusupov, 2002);
- diagnostic technique for stress resistance and social adaptation of Holmes and Rahe's (Holmes, 2009);
- diagnostic technique for the level of social frustration L.Y. Vassermana (Vasserman, 2009).

During the survey at the end of the experiment we used the same techniques as we did during the first stage, supplemented by a reflexive interview on the results of participation in a socially significant project and an art-therapy technique with subsequent commentary by the respondent – «Intuitive Drawing». In this part of the experiment 5 teachers were involved,

who made up a multidisciplinary team, facilitated the relevant classroom and out-of-classroom lessons, provided supervision support to the participants of the experiment during the social projects and volunteer activities. On the part of the students we involved at the first stage 58 persons from three specialties: 231 Social work (15 respondents), 013 Primary education (26 respondents) and 081 Law (17 respondents).

As the experiment continues and we continue to collect and process data in accordance with the proposed program of sample disciplines, it is quite early to draw serious conclusions on the results of the first successful engagement of future socioeconomic specialists in socially responsible activities, although at the same time we have preliminary data on the effectiveness of the program, the need to make adjustments and quantitative data on the percentage of students who continued cooperation with state and public organizations.

Conclusions

So, in the process of presenting the results of the study we were able to characterize the root causes of the emergence in the scientific and pedagogical community of the need for training specialists of socio-economic profile. Briefly outlined the main indicators of social inclusion, which became a prerequisite for choosing social responsibility as a basic concept of training specialists and formation of professional and inclusive competencies to solve socio-economic, socio-cultural problems of the state and support for European integration processes in politics and education reforms.

We also briefly presented those practices of interaction with students that are proposed and integrated from European countries into the practice of training future specialists during their studies at higher educational institutions of Ukraine. We described a preliminary methodological proposal to determine the impact of the used pedagogical technologies on the formation of the experience of social inclusion in future specialists of socio-economic profile.

Of course, for qualitative analysis of the data in accordance with the diagnostic slices obtained during the first year of implementation of comprehensive inclusion of students during elective disciplines in socially significant activities for the formation of social responsibility, in our opinion, is not enough. After all, to verify the effectiveness we must conduct at least three or four cuts of future specialists' involvement and determine their level of professional and inclusive competence to fulfill the state order aimed at improving the standard of living in our state. What will be done during the next two years.

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AN ASSESSMENT OF TRANSPORT LOGISTICS STUDENTS' PERSONAL FINANCE AND THEIR PERSONAL FINANCE MANAGEMENT SKILLS

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Abstract. Knowledge about personal finance, economics' expression understanding, ability to manage own money are important nowadays. The main aim of this research is to compare the Transport Logistics students' personal finance management skills during the Covid-19 pandemic. The respondents were 197 Transport Logistics students of Vilnius College of Technologies and Design. They filled out an electronic demographic data form online and evaluated their personal financial management skills. Results of the research showed students earnings are to 440 EUR per month. Their amount per month was more than 440 EUR, the main groups of expenses, revealed skills of saving, view into the personal control of finance and sufficient rating of knowledge.

Keywords: personal finance, personal finance management, personal finance management skills.

Introduction

An asset in students' lives is money that plays an important role in their lives. Students need to know how to manage money because without them you can neither buy, spend nor save. It should be natural for each to plan, count and control, and make financial decisions thoughtfully and reasonably.

Financial education programs much attention has been placed on enhancing individuals' financial knowledge and literacy. Managing one's personal finances takes financial knowledge and literacy.

The principles of personal financial management are very simple costs must not exceed income (current and future); part of the income should be invested for a long time; insure possible in case of financial problems; not get stuck in debt. If each of us always adhered to these principles, financial difficulties are likely to be extremely rare (Čečkauskaitė & Kviklienė, 2014).

Financial literacy is an important factor through rational financial decisions affecting both the financial well-being of each individual and the overall quality of life in the country (Henager & Cude, 2016; Legenzova, Gaigalienė, & Leckė, 2019)

Personal finances and household decisions are important part of the financial system on which the level of the national economy as a whole depends (Taujanskaitė & Jurevičienė, 2010).

The aim of the paper is to compare the Transport Logistics students' personal finance management skills during the Covid-19 pandemic in 2021 and the results in 2016.

In order to achieve a purpose these objectives have been identified:

1. To define the importance of personal finance and their management skills.
2. To reveal the research methodology of students' personal finances and their management skills.
3. To present the main results of the studies in 2016 and 2021 of transport logistic students' personal finances and management skills.

Methods used in the paper: comparative analysis of the literature resources, questionnaires, empirical data grouping, comparison and analysis, the portrayal of the obtained results.

Personal finance management skills

Different financial literacy definitions incorporate one or more of the following categories (Legenzova et al., 2019):

- knowledge of financial concepts;
- ability to explain and apply financial concepts;
- ability to manage personal finances
- appropriate financial decision-making skills
- ability to plan future financial needs effectively.

In order to manage debt, spend within your means, build-up reserves it is essential that individuals, including students, manage and plan everyday life activities by developing skills in personal financial management (Falahati, Paim, Ismail, Haron, & Masud, 2011).

The Important personal finance management function is a financial planning which is required in order a person could have enough money for their most important life needs. Therefore, the management of personal finances is essential to control costs so that in order to have enough financial reserves. This requires them to invest properly, obtaining a sufficient return on investment for the selected risk of level (Deimantaite Gedmintiene & Visockaite, 2016).

Financial skills as an individual's capability to use their financial knowledge and understanding in practice to make well-informed financial decisions, assess financial information. As such, financial skills enable individuals to plan, monitor and manage both financial problems and opportunities (Van Deventer, 2019).

Financial skills and ability as the knowledge and understanding, that allows people to acquire the skills to deal with everyday financial matters and make the right choices (Falahati et al., 2011).

Financial literacy is a measurable level at which a person can comprehend basic financial concepts, has the ability and confidence to manage personal finances through short-term solutions and longterm financial planning evaluating changing economic environment and living conditions of a person (Remund, 2010).

The ability to manage financial resources is essential for everyday life activities. Well-informed and financially educated people are able to make better decisions for their families and, thus lead to higher financial security and well-being (Falahati et al., 2011).

Young people often do not know or do not understand simple financial concepts and terms, do not identify them in their own environment, and are unable to apply them in practice (Navickas, Gudaitis, & Krajnakova, 2014).

Typically, university students take little responsibility and accountability for managing their own personal finances, This is disconcerting, as many university students will likely have to face financial decisions that are unknown to them in a new environment and experience financial independence for the first time, without direct parental support and supervision (Van Deventer, 2019).

Many researchers have suggested that a lack of financial knowledge and skills results in students experiencing financial problems. Students' financial resources come from a number of sources. Parents, loans, credit cards and income from part time jobs are their basic financial sources (Falahati et al., 2011).

Parents are considered to be the main and most influential agent of financial socialization. Parents provide an informal environment for teaching skills and raise awareness of the proper behavior of children, and through this interaction children receive information about financial processes (Legenzova et al., 2019).

Estonia the younger individuals are on higher financial well-being level than the older cohort. It is that this cohort may still rely on their parents' financial support, therefore they are not yet responsible for their own financial well-being (Riitsalu & Murakas, 2019).

Furthermore, the consumer economy entices student spending, the Internet facilitates convenient shopping and credit cards provide students with a readily available and transparent means of borrowing money, all of which pose threats to financially incapable students' financial and economic well-being (Shim et al., 2009). This, coupled with limited financial skills and experience, make students particularly vulnerable As such, it is important to determine and assess students' personal financial management skills (Van Deventer, 2019).

Previous research has identified several important control variables to include when examining the relationship between financial literacy and financial

behaviors. These variables include gender, age, race, marital status, presence of children, employment status, education, and income (Henager & Cude, 2016).

Personal finance management principles are very simple: the expenses should not exceed the income (present and future); part of the revenues should be invested for a longer time; the person should insure himself/herself in case of financial problems; he/she should be aware not to plump into debt (Andriukaitis et al. 2009)

Budgeting, saving and demonstrating control over one's spending – are indicators of forward-thinking and responsible financial behaviour, which ultimately results in better financial outcomes for the individual (Farrell, Fry, & Risse, 2016).

One of the most important personal finance management steps are accumulation of savings for emergencies. The relationship between income and consumption is one of the most important economic events. For a person to be able to fulfill their financial purposes, it is necessary to carry out the daily cost accounting, to register not only the actual costs, but to plan and to distribute them so that the costs do not exceed income(current and future) (Deimantaite Gedmintiene, & Visockaite, 2016).

Research methodology of students' personal finances and their management skills

The study took place in 2016 and in 2021 during the practical training of Transport Logistics students of Vilnius Technology and Design College.

In order to investigate the Transport Logistics students' personal financial management and to assess whether they have a personal financial management knowledge needed, quantitative research using a questionnaire method was carried out.

The questionnaires were prepared to make the quantitative studies. The studies findings were systematized and analysed via MS Excel. The analysis of the results used descriptive statistics (percentage distribution).

Study sample - survey sampling bias is calculated according to the Paniott formula (Valackienė, 2004)

$$n = \frac{1}{\Delta^2 + \frac{1}{N}}; \quad (1)$$

where: n – sample size,

Δ^2 – bias probability,

N – target population, which ensures approximately a 5% probability of bias.

After the evaluation of the study sample bias, it was found that the minimum number of respondents was to be 197 students. The number of respondents in 2016 and 2021 were 280 students.

Data collection method - a questionnaire survey, which was carried out electronically, through www.apklausa.lt and sent to the students via their personal e-mails.

The studies were aimed to compare the Transport Logistic student's personal financial management skills in 2016 and 2021 and to assess whether they have a personal financial management knowledge needed.

The research was intended to compare research in 2016 and 2021 and to identify not only the transport logistics students' sources of income and their size, but also to define the average monthly expenses and their structure, naming the key areas that receive the most students' funds.

The main results of the comparison of research on Transport Logistics students' personal finances and their management skills in 2016 and 2021

Age group difference is important to personal financial management. There are 4 groups –single, a studying or recently employed person; married / married without children; married / married, having children; pre-retirement age. (Valickas et al., 2015).

Respondents in the study belong to the group who do not have a family, are a student or recently employed people.

The survey showed that the majority of respondents in 2016 only studied and accounted for 46.5 percent. This is 16.5 percent of respondents more than in 2021.

Irregularly employed in 2016 accounted for 32.6 percent of all respondents, and in 2021 4.9 percent. Respondents mostly worked on weekends. Studies were combined in 20.9 percent in 2016 and as much as 40 percent in 2021 (Figure 1).

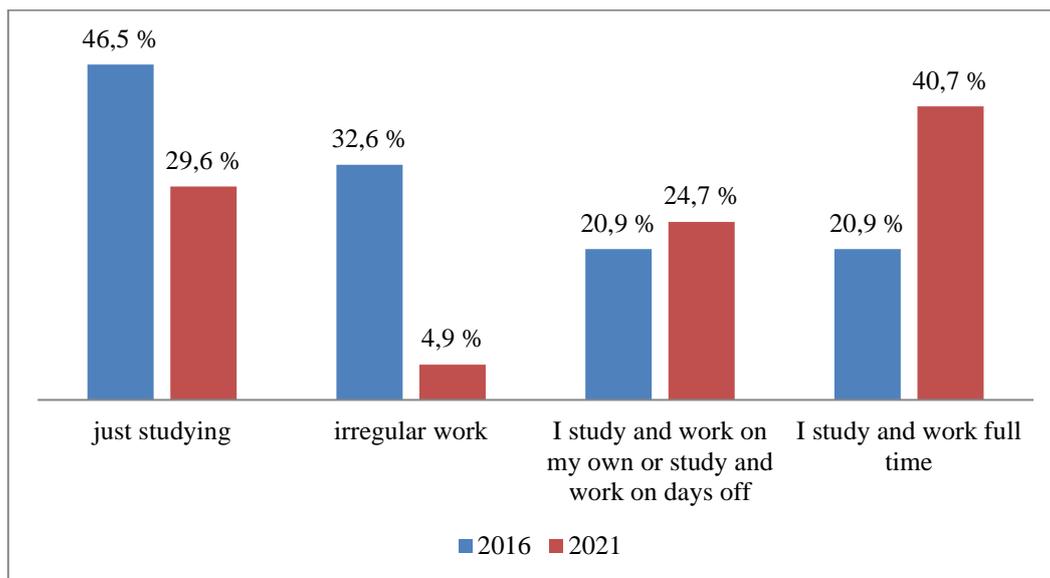


Figure1 *Employment during studies* (created by authors)

Thus, in 2016, the majority of respondents were those who only studied. In contrast, the survey of 2021 revealed the majority of respondents worked and studied, managed to reconcile with studies. This may have been due to the COVID-19 pandemic situation, where studies and work could take place remotely.

There are the theory stating that consumption depends on the current level of income. According to this theory, the financial behaviour of individuals is determined only by income (Drakopoulos, 2021). The respondents were grouped according to income as follows:

- Less than EUR 230 a month.

Comparing the research of 2016 and 2021, we can observe that in 2021, the income of Transport Logistics students in this group is 8 percent lower and amounted to 36 percent. In 2016 the income of the majority of students was in this group.

- From EUR 230 to EUR 440 a month.

The income of the majority of students was in this group and in 2021 accounted for 35.2 percent, while in 2016 the income of students in this group was only 30 percent.

- More than EUR 440 a month.

In this income group, the income of students in 2021 compared to the 2016 survey increased by 2.8 percent.

Thus, according to the theory, it was assessed whether it is true that more earners spend more income. In 2016, students received less income compared to 2021. As a result, in 2021, more students worked more regularly or irregularly than in 2016. This was also influenced by the increase in the minimum wage from EUR 380 to EUR 642 in 2016-2021

An integral part of personal financial management areas is saving (Jurevičienė & Gausienė, 2010; Andriukaitis et al., 2009; Čečkauskaitė & Kviklienė 2014; Barkauskaitė & Eglinskaitė, 2016; Murphy & Yetmar, 2010), because everyone, depending on his/her level of income, should set aside a certain portion of the funds on a monthly basis, thus forming a fund, whose resources are for unforeseen problems.

A survey conducted in 2021 revealed that 38.3 percent of respondents save, and in 2016, 70 percent. In 2021, 48.1 percent of respondents save irregularly, and in 2016, 30 percent. This may have been due to a lack of knowledge, "life today"

During the 2016 years and 2021 years researches there were analysed the costs and there was determined the average monthly expenditure, and they were grouped as follows:

- Less than EUR 230 a month.

Comparing the costs of Transport Logistics students in 2016 and 2021, we can see that the costs in this group decreased as much as 32 percent. The majority of students' expenditures were in this group in 2016.

- From EUR 231 to EUR 440 a month.

In 2021, student spending in this spending group increased by only 4 percent compared to 2016. In 2021 the expenditure was 36 percent, in 2016 – 32 percent.

- More than EUR 441 a month.

The expenditure of most students in 2021 belonged to this group. Expenditures increased by 28 percent between 2021 and 2016

The results revealed that the costs incurred in 2021 will exceed €440 by 28 % higher than in 2016. This was due to higher prices of goods, inflation, unstable economic situation due to the Covid-19 pandemic.

Personal financial management essence is the revenue and cost analysis. Regarding the analysis (Valickas et al., 2015; Čečkauskaitė & Kviklienė 2014), the recorded numbers can be measured in terms of key criteria such as exactly how much money is spent and where, what the cost trends are and what the categories of expenses are.

- Thus, according to the theory, table 1, grouping of expenses the evaluation of scientific findings: the table shows the expense areas according to which the respondents were given the grouping of the expenses in 2016 and 2021 researches data. The distribution is presented in Figure 2.

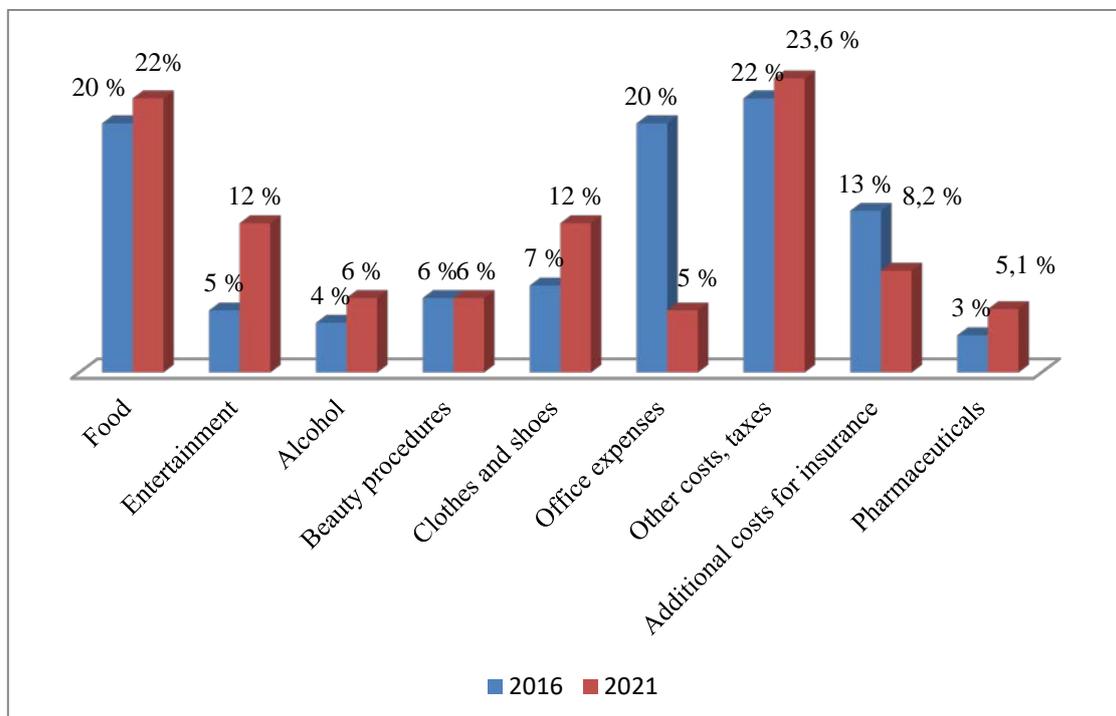


Figure 2 *Transport logistics students' costs grouping 2016 and 2021* (created by authors)

Figure 1 shows that in 2021, spending increased by 7 per cent on entertainment (may have been affected by Covid-vaccinated students or those with covid-19) and 5 per cent on clothing and footwear. A slight increase in 2021

for medicines (2.1 percent), food expenses (2 percent), alcohol (2 percent), and other taxes, expenses (1.6 percent). Expenditure groups such as office costs (15%) and additional insurance costs decreased (4.8%). This may have been influenced by the unstable economic situation Covid-19 pandemic, rising food prices, alcohol.

Financial planning is important to personal financial management (Gitman et al., 2013) A person must have a goal and a plan to assess all possible risks. (Barkauskaitė & Eglinskaitė, 2016.).

The analysis of the results showed that in 2021, respondents saved 31.7 percent less than in 2016. Also, in 2021, they save 18.1 percent more irregularly than in 2016. Since more than half of the respondents mentioned that they had a saving plan, they were asked to indicate the amounts which they managed to put aside every month:

- Less than EUR 50 – 2016 years 39 percent of the students, 2021 years more 14,1 percent
- EUR 51 to 100 – 2016 years 16 percent of the students, 2021 years more 7,5 percent

Summing up, it can be said that Transport logistics students know what personal finance management is and how it is important in their lives.

According to surveys, the majority of respondents control their personal finances and their expenses never exceed their income (46%) analyse their personal finances and draw up a monthly budget (28.4%).

Like the majority of Lithuanian residents, transport logistic students seek not a basic personal finance management goal - to accumulate as much money as possible for retirement, but they have short-term goals –at a profitable period to accumulate resources for periods when revenues are not sufficient.

According to the survey, it can be stated that in Lithuania there is a positive trend in the personal finance management sphere, transport logistic students assume personal responsibility for their financial situation.

Conclusions

The study of personal finance of Transport Logistics students in 2016 and 2021 revealed:

- During 2016, the student employment rate in 2016 was only 46.5 percent of students, and in 2021, 40.7 percent of students studied and worked full-time. It is obvious that in 2021 more students are employed than in 2016.
- In 2021, student income mainly belongs to the group from 230 to 440 EUR, while in 2016 student income in the group was less than 230 EUR.
- In 2016, 31.7 percent more respondents save regularly than in 2021. However, in 2021, they save 18.1 percent more than in 2016.

- In 2021, most students' expenses in the group were more than 441 euros, while in 2016 students' expenses in the group were less than 230 euros.
- In 2016 and 2021, respondents spend on food and beauty treatments.
- In 2021, more spent 7 percent on entertainment, 2 percent on alcohol, 5 percent on clothing and 1.6 percent on taxes, and 2.1 percent on office spending. Decreased office costs and increases affected by Covid-19 pandemic, telecommuting.

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PSYCHO-EMOTIONAL CLIMATE TO REDUCE THE RISK OF DROP OUT IN THE CONTEXT OF HIGHER EDUCATION

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Abstract. *The high number of students who have dropped out of higher education prompts to find out both the reasons for dropping out and the causes of dissatisfaction. The psycho-emotional climate of an educational institution is considered to be one of the indicators of the quality of the institution's organizational culture and performance, which determines its pedagogical effectiveness. Therefore, at the moment when the idea of institutional accreditation seriously marks its place in the accreditation process, there is a growing interest in research, the subject of which is the psycho-emotional climate of a higher education institution as a pedagogical resource. The aim of this publication is to identify the psycho-emotional risks of drop out among the students. The research methodology consists of a set of qualitative data obtained by surveying 50 students who have expressed an intention to drop out. The study data were analysed using the qualitative data processing program NVivo 12.0. The study analysed and described the theoretical framework of the psycho-emotional climate and identified the main risks of drop out. It is concluded that the psycho-emotional climate is an essential component of students' desire to continue their studies, as it promotes the institutional sense of belonging and learning achievements. The results of this study complement existing research with qualitative data, operationalizing psycho-emotional support in higher education settings.*
Keywords: *higher education, NVivo, psycho-emotional climate, students' drop out risk.*

Introduction

Higher education is an educational phase which, while implementing the training process, provides the training of highly qualified specialists in the labour market in the necessary sectors, the development and renewal of human capital of research, and the development of a knowledge base. It is at the level of higher education that these are seen as key factors in creating new knowledge, technology, and innovation and in creating a sustainable economic system. Sustainable higher education is not only the acquisition of specific competencies and qualifications, but also the process of human talent, emotional intelligence and personality development (Medne & Jansone-Ratinika, 2019). Therefore, early school leaving marks significant risks in both the individual development and the social sphere. In turn, the combination of both dimensions points to significant risks to economic development and its sustainability. Despite the urgency of this issue, it is emphasized that drop out at the tertiary level is a difficult issue to conceptualize (Kehm, Larsen, & Sommerse, 2019). This is because this

phenomenon is defined and formed by a subjective set of multidimensional aspects. Among the several reasons for dropping out in the student population, the relationship between a positive psychosocial environment, student academic satisfaction and completion of studies are a few mentioned (Grøtan, Sund, & Bjerkeset, 2019; Lipson & Eisenberg, 2018; Truta, Parv, & Topala, 2018). The psychosocial environment has two main dimensions: the first is related to individual failures in the study process and the level of perceived academic stress, and the second is related to both student-student relations and the social climate of the educational institution in general (Gustafsson, Allodi, Åkerman, Eriksson, Eriksson, Fischbein, Granlund, Gustafsson, Ljungdahl, Ogden, & Persson, 2010). It is possible that in the context of the Latvian pedagogical space, this finding has enabled the development of a modern, high-quality and competitive higher education that promotes the professional development of everyone, the healthy growth of development content, research and innovation capacity, and competitiveness in the labour market, that results in professional autonomy, a review of the content and form of learning is needed (Medne, Rubene, Bernande, Illiško, 2021). Although teacher-student relationships have been identified as an important prerequisite for learning achievement and student engagement at primary and general levels (Quin, 2017), the impact of such relationships in higher education is less frequently studied and often lacks a clear theoretical and conceptual framework (Hagenauer & Volet, 2014). On the other hand, the available research emphasizes that investing institutional resources in the quality of teaching and the improvement of pedagogical communication can reduce drop out rates (Larsen, Sommersel, & Larsen, 2013). This setting of the pedagogical process raises awareness of the need to strengthen the pedagogical, digital, and communicative capacity of the main drivers of this process (Guillén-Gámez, Mayorga-Fernández, Bravo-Agapito, & Escribano-Ortiz, 2020). A proactive approach to the promotion of the psycho-emotional environment ensures continuity, as the organizers and implementers of the study process have tried to anticipate the expected limitations and look to the future in order to develop a flexible future development strategy as much as possible. Thus, ensuring that solutions are not only based on *ad hoc* short-term responses, but also collectively develop a long-term vision at national level, as it challenges students to explore different perspectives, face the challenges of the 21st century and learn to work with people from different backgrounds and meanings (Iliško et al., 2020).

However, research on this topic is difficult for several reasons. Some of the leading reasons for the topic study are the lack of a common understanding of what constitutes drop out, the measurement of drop out is complex, based on context (Serra Hagedorn, 2012), and the need for an in-depth knowledge of measurable variables and access to accurate institutional data that are systematically accumulated (Gairín, Triado, Feiado, xas, Figuera, Aparicio-Chueca, & Torrado, 2014).

The described situation clearly highlights the research problem, according to which the research questions are determined:

- 1) Are the reasons for drop out a psycho-emotional nature?
- 2) Which reasons for drop out are most often exhibited in interviews with anxious respondents?

Context of the study: drop out and psycho-emotional climate in higher education

Analysing school drop out at higher education level, 44 empirical research analysis has identified nine groups of arguments that influence students' decision to discontinue studies: (1) Study conditions at university, (2) Academic integration at university, (3) Social integration at university, (4) Personal efforts and motivations for studying, (5) Information and admission requirements, (6) Prior academic achievement in school, (7) Personal characteristics of the student, (8) Socio-demographic background of the student, (9) External conditions (Kehm et al., 2019).

Describing the framework for each reason, in line with the author's study (Kehm et al., 2019), will assess the relevance of these causes to the purpose of this study and the feasibility of using them as codes for the coding of interviews. (1) The framework for study conditions at university is multifaceted, consisting of six aspects. The first aspect is the institutional resources, which include the number of students per lecture, the level of staff qualifications, the intensity of research, the general staff-student ratio, the academic expenditure per student, the library expenditure per student, etc. The second aspect is the curriculum, the study structure and the organization of the examinations. The third aspect includes the physical environment of learning and the quality of learning, which is characterized by student satisfaction and well-being. Contradictory results have been identified regarding the importance of this criterion, however, it is emphasized that the quality of the learning environment is the strongest argument for decision to drop out. The availability of support and counselling services (on various issues, including drop out issues) has been identified as a fourth aspect. Peer influence on decision is identified as the fifth aspect. The sixth aspect is related to the study conditions at the university, in this aspect the field that the student has chosen to study is determined to be important. (2) Academic integration at university is a dimension that includes two features: objective and subjective. Analysing objective features of academic integration, such as exam results, confirm that there is convincing (and predictable) evidence that the better the academic performance, the lower the risk of dropping out. On the other hand, the subjective features of academic integration (such as self-perceived progress, group inclusion, and interaction with academic staff) are supported by conclusive evidence that the better the subjective integration, the lower the risk of dropping

out. (3) Social integration at university is also to some extent linked to the quality of the learning environment, as it includes well-being aspects, which in turn is one of the most important factors influencing decision to drop out from school in general. This dimension is related to the sense of belonging to the group, the course and the university as a whole. (4) Personal efforts and motivations for studying include two aspects: first, the interest in the subject, which significantly reduces drop outs, while the interest in future work is to some extent important, but its relevance could not be statistically demonstrated. The second aspect: personal effort, time management, resource management, finding solutions, goal setting, i.e. the ability to learn independently. (5) Information and admission requirements depend on the degree of institutional or subject-related selectivity (e.g. admission quotas, entrance examinations, numerous clauses, etc.). It is concluded that the general trend is that admission to non-graded tests reduces the risk of dropping out. Admission analysis using graded tests suggests that the higher the score, the lower the risk of discontinuation. On the other hand, the evidence base on the impact of information and admission requirements on dropping out is weak and the evidence itself is mixed (Larsen et al., 2013). (6) Prior academic achievement in school - as a whole, this aspect is strong evidence that academic achievement at school is a powerful prerequisite for leaving university, but cannot be used to predict decisions about switching to another curriculum. (7) The personal characteristics of the student dimension consists of two dimensions. Age and gender, on the one hand, and personal traits and trends, such as learning approach and conscientiousness, on the other. (8) Socio-demographic background of the student includes the level of education and professional competence of parents. While some studies showed heterogeneous or even insignificant results, there is strong evidence that parents' high educational attainment reduces the risk of abandonment. (9) External conditions. This group is divided into two subgroups: the financial situation of students and part-time work during studies. Despite expecting financial difficulties to increase the risk of abandonment, the results of the studies examined in the meta-analysis are contradictory. It is therefore not possible to obtain clear evidence of this aspect in order to predict drop out (Larsen et al., 2013).

Expanding a deeper analysis of each cause, it can be concluded that four out of nine are related to the psycho-emotional climate: Study conditions at university, Academic integration at university, Social integration at university, Personal efforts and motivations for studying, because it includes academic stress, professional skills of teachers, the ability of educators to communicate. And two are partly related to it: Information and admission requirements and Personal characteristics, which include aspects of the educational environment and support for personal growth. These nine reasons are essential evidence dimensions to answer the formulated research questions and will therefore serve as a basis for coding interviews.

Methodology

Qualitative approach has been chosen to achieve the aim of the study. An interview was chosen as a method of data acquisition, as it reduces the likelihood of giving the respondent imaginary "correct" answers, and allows to mark the frame of understanding in the context of the subject under study (Cohen, Manion, & Morrison, 2007). Linguistic context analysis of interviews was carried out in the qualitative data processing program QSR NVivo 12. The choice of Nvivo data processing program in the study was determined by the fact that it increases the validity of the qualitative study (Siccama, & Penna, 2008). Interview processing and analysis was carried out in the following steps: (1) preparation of interview transcripts in Microsoft Word; (2) importing transcripts into an NVivo file; (3) open coding in the NVivo file (identification of topics, contexts, problems) by assigning a code to the relevant snippet of the interview transcript; (4) the reliability of the encoders was checked, the coincidence is assessed as high (80%); (5) based on the context structure developed in the context analysis, the interpretation of the content has been implemented.

Sample type for this study: purposive sample. The 'snowball' approach was used for sampling. The sample consisted of students who decided to drop out (n=50). Age of respondents – from 21 to 36 years. Students were interviewed over the period of three years (the last year of interview included the context of the Covid-19 pandemic (n=11). The study was conducted in accordance with the ethical aspects of the research, and informed consent was obtained from the study participants. The interviews did not ask for information that could allow the respondents to be identified, the study participants were informed that they have the right to terminate their participation in the study at any time.

Research results and analysis

In relation to the focus of the study, where age and level of education are important, a sample of the study will be described in detail. The sample of the study consisted of students (n=50) aged 21-36 who had dropped out of higher education institutions of various profiles. Distribution of respondents by age: 21 years (n=5); 23 years (n=5); 24 years (n=3); 25 years (n=4); 27 years (n=3); 28 years (n=2); 30 years (n=3); 31 years (n=2); 32 years (n=4); 33 years (n=3); 34 years (n=5); 35 years (n=6); 36 years (n=5). Distribution of respondents by education levels: bachelor's level (n=20), master's level (n=30).

In order to determine the reasons for students' drop out and their framework, the nine codes defined in theory were identified during the open coding in the NVivo program: (1) Study conditions at university, (2) Academic integration at university, (3) Social integration at university, (4) Personal efforts and

motivations for studying, (5) Information and admission requirements, (6) Prior academic achievement in school, (7) Personal characteristics of the student, (8) Socio-demographic background of the student, (9) External conditions.

Table 1 Code frequency table

Code numbers	1	2	3	4	5	6	7	8	9
Quantity	365	156	123	65	25	2	18	4	5

The frequency of use of the codes indicates how expanded, extensive or detailed respondents talk about each question, including, indirectly, what is current or important to the respondent. The results of the study show that the most frequently identified code is Study conditions at university (365), which is characterized by the following statements in the interviews: constant ignorance; change of requirements; use of unrepresentative materials for lesson content; provision of outdated information; ambiguity in requirements; ignorance of requirements; high demands on the student, but low on the quality of one's (lecturer's) nature; low quality of lessons; non-performing lessons; lecturers are not prepared; frontal lessons only. The fact that this code is identified is most often explained by the fact that it is the most comprehensive in its framework. Nevertheless, it can be concluded that the most common reason for this study is the second aspect - the structure of studies and the organization of examinations (236), and the third aspect - the physical environment of learning and the quality of learning (292). These codes are mentioned in interviews whose respondents are mostly over 27 years of age. These results outline the need to increase the pedagogical skills of university lecturers. The reason for the lack of support and information or the unavailability of lecturers is mentioned only in individual interviews (the total number of codes in the interviews - 25), and identified only in the interviews of bachelor's students. Perhaps these results reflect the fact that the transition from secondary education to higher is accepted as a simple or natural situation, but in reality it appears difficult and perhaps the emotional resilience needed in the new situation is underestimated because the social transition from education to the next is considered to be a natural process and easy to implement for students. However, this statement needs to be confirmed in further studies.

The second most frequently mentioned code is Academic integration at university (156). This code is characterized by the following statements in the interviews: assessment of progress was not encouraged during the training; lecturers are unkind and unresponsive; preferential special treatment to some students; lecturers behave arrogantly; public discussion of students' personalities; public comparison of students. It is important to emphasize that only one aspect of the subjective dimension of this code has been identified in this study:

communication with staff (academic, administrative, and general). In turn, these results outline the need for university lecturers to increase pedagogical communication skills and understanding of ethical issues. In this study, dropping out is not linked to academic achievement. This code was more often identified in master's level interviews (n=133), while in bachelor's level interviews (n=67) and in the age group over 27 (115). These results could be explained by the fact that students' expectations of university studies and the interpretation of their experience are shaped by their previous educational experience, so those who come from academia and have no previous university experience may lack healthy pedagogical communication and study organization experience. However, such an interpretation requires evidence in future studies.

The third most frequently mentioned code in interviews is Social integration at university (123). This code is mainly identified in the interviews for those who drop out of master's studies (98) and in the age group from 27 years (101). In interviews, this code is characterized by the following statements: I did not fit; I was asked to recreate the views of the teachers; I was not expected and welcome; I received regular emails that I do not meet the requirements; I don't know if I want to get a higher education ever again; There was no correspondence between the reality in the profession and what the teacher spoke in the lectures; I never thought I would feel it, but I really felt humiliated because of my experience - I am no longer 18...; I felt as if I can go away and never return; Management did not respond to our needs at all; All our suggestions were considered biased. Thus, it can be concluded that the respondents have chosen to discontinue their studies because they perceive the intellectual and social gap between the university's values, social regulations, the quality of communication, and the quality of studies. Lack of belonging to academic and social systems undermines a student's confidence in his / her institution and in social and academic systems in general, in fact contributing to isolation. Healthy pedagogical communication with teachers and others could encourage students to choose to continue their studies. However, the correctness of the generalization of this conclusion can also be tested in more extensive studies, possibly starting from the conceptualization of this concept.

The next code by frequency is Personal efforts and motivations for studying (65). This code is relatively less mentioned in the interviews in general and mainly at the bachelor's level (61) and in the context of the situation in Covid - 19 (11). This means that at the secondary school level already it is necessary to improve self-directed learning skills for prospective students. The situation during Covid-19 pandemic highlighted the urgency of the problem, as it confirmed the importance of self-directed learning skills for a meaningful, focused, and uncertain learning process.

The next code in frequency is Information and admission requirements (25). This code was identified mainly by bachelor's students (23), and two master's

students and indicated that the information about the program did not fully correspond to the content of the curriculum. At the master's level, this code is interpreted as a lack of information from lecturers and program managers. Thus, it can be concluded that at the master's level, one of the reasons for dropping out of studies is the information gap. And at the master's level, the flow of information is very important for students. An objective and reliable evaluation of this code requires further research to identify the content and form of entrance examinations. Respondents noted that the marks in the entrance examinations were 8 and higher, so it can be concluded that it would not be correct to include this criterion in the list of grounds for dropping out of school in the framework of this study.

Personal characteristics of the student (18) was the following code identified by frequency in the interviews. Age (in any interpretation of the concept of age) was not mentioned in any interview as a pretext for dropping out. However, the frequency of codes in relation to age indicates the following trend: the higher the biological age of the respondent, the higher the demand for respectful communication from academic and general staff.

External conditions are identified as the next code by frequency in the interviews (5). In general, this code is mentioned in the interviews only at the bachelor's level and in the context of the situation during Covid - 19 pandemic. Students emphasized the financial aspects.

Socio-demographic background of the student was identified as the next code in frequency interviews (4). This code is only mentioned at the bachelor's level. The interviews focused only on parental support and not on the parents' level of education. The students emphasized that the parents had not shown any interest in the students' intention to drop out.

The final code identified by frequency in interviews (2) is Prior academic achievement in school. This code is mentioned only at the bachelor's level, but the frequency of the code in the interviews shows that it is not identifiable as a reason for dropping out in this study.

Discussion and conclusions

Analysing the results of the research, it is possible to answer the research questions that all the dimensions of drop out updated in the theory outline the topics of the interview content, as well as the dominant pretexts that have motivated students to drop out at higher education level. Thus, within the framework of the research, the main problems that students have encountered in the daily pedagogical process have also been identified. Although the results of the research are not generalizable and it is possible to identify only trends, traditionally qualitative research is considered to be accurate to reflect the

subjective feelings of students. Because it is qualitative research that allows to find out subjective experiences, interpretations, feelings, and attitudes.

Analysing the results of the study, it can be concluded that drop out is the sum of subjective vectors that result in different scenarios. According to the design of this study, the scenarios for drop out were developed within the framework of education levels. At the bachelor's level, the sum of the main pretexts in the scenario is formed from the following dimensions: students lack motivation and self-discipline, especially within the remote learning process, as well as self-directed learning skills. Students need support and access to information that outlines insufficient acquisition of stress management and communication skills. It is these skills identified in the study as necessary to move from one level of education to the next. It can be concluded that the drop out from bachelor's level scenario outlines the significance of the student's subjective, lecturer's, as well as some what administrative dimension. Analysing the results of the study, it can be concluded that at the bachelor's level, the psycho-emotional climate is an important pretext for drop out, but not the only one. The master's level scenario consists of the sum of the following pretexts: the dimensions of the study process organization, pedagogical communication, and the attitudes of the staff of the educational institution. It can be concluded that the scenario of dropping out of studies at the master's level outlines the significance of the administrative, lecturer's dimension, emphasizing the subjective dimension of the student very little. Analysing the results of the research, it can be concluded that at the master's level, the psycho-emotional climate is an important pretext for drop out.

The results of this study probably outline the marginalized issue of healthy pedagogical communication at the higher education level as one of the key creators of the psycho-emotional climate in higher education institutions. Until now, it has been considered that pedagogical communication at the higher education level *a priori* is healthy or formal, however, the results of the study indicate a serious trend, namely that, by nature, pedagogical imitation is currently taking place (both remotely and on-site), this may be linked to a number of aspects. The first is the relationship with power, which is most often the basis of authoritarian relations. It is possible that it can still be considered a legacy of the Soviet period, as each time period develops a certain form of verbal communication and a set of behavioural clichés that are constantly maintained in practice, which is not easy to change because it is at the level of habits. The second aspect, this issue may be related to pedagogical narcissism (self-gratification of teachers), because it also distorts pedagogical communication. The obtained results cannot be considered as a generalizable reflection of students' authoritarian experience, because the sample of the study is small (n=50). Therefore, this dimension should be explored in further research, especially as this is a position

that the university itself can change. Also because 43 respondents out of 50 in the interviews emphasized that no one had asked them the reasons for dropping out. Therefore, the analysis of the research results encourages the formulation of ideas for further research of the topic and recommendations for practice. In the field of research, there was a need to conceptualize the concept of drop out and each of its content components. In order to improve practices, research would be useful, which would focus more on the factors that arise in higher education and which may be affected, as well as better use of innovative and efficient projects to explore intervention measures. Thus, using subject, process and time perspectives in the research of the topic.

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THE DIGITAL ARTISTIC CYCLE IN PERFORMANCE ART EDUCATION

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Abstract. *This research explores student performance art events in the current digital era. Public performance presentations by art students after the performance art course are intended to complete an artistic cycle. The artistic cycle in the digital era is divided into studio-based practice (when performance is planned, often in students' home studios) and presentation in the digital space. For audience members, the experience of the performance artwork is significantly different in live and digital spaces since there is no possibility of touching the performer or items in the digital space. As a result, audience feedback for students differs greatly depending on whether the performance works are experienced live or virtually. Therefore, the present study suggests a new term of digital artistic cycle, which was developed after analysing a performance art course at Vilnius Academy of Arts, Kaunas Faculty in 2021. The data collected are the author's notes from her observations and interviews with the facilitator of the performance art course. The data are analysed using keywords and categories. The results generated recommendations for performance art course facilitators regarding what tools should be used to complete a digital artistic cycle at universities and art academies.*

Keywords: *art academy education, digital artistic cycle, Lithuania, performance art, Vilnius Academy of Arts.*

Introduction

This study explores the impact of performance art events on education at an art academy and the shift to conducting these events digitally in line with COVID-19 restrictions. The case observed in this study is the performance art course at the Kaunas Faculty of Vilnius Academy of Arts for fourth-year BA painting department students, facilitated by artist Vaida Tamoševičiūtė. The facilitator needed to quickly reshape the format of the course into the digital format. The course contained an introduction to performance media, as well as development and presentation of the individual works by the students. This impacted both the content of the student's artwork and the contact with the audience and the feedback received. Regarding performance art as live media, the shift to digital art had a significant impact, which is also reflected in the ways the performance was approached by the students. The research question answered by this study was as follows: How does the artistic cycle developed for this performance art course at the art academy—during this specific time of COVID-19—differ from earlier variants of the course?

The aim of this study is to uncover the components of the artistic cycle and specify them within the context of performance art education at the Vilnius Academy of Arts, Kaunas Faculty (considering the restrictions imposed by the COVID-19 pandemic) by determining the main tools used within such a cycle, which differ from those used for the live course. This aim is achieved through the following objectives: (i) to conduct a thematic literature review regarding the main keywords ‘artistic cycle’ and ‘performance’ and specify these keywords in the context of digitality and art academy education; (ii) to analyse the interview with the facilitator of the performance art course (utilised as the case-study), along with the observation notes of the author in regards to the student performance art show as the result of the course; and (iii) to define and propose the meaning of the term *digital artistic cycle* based on the analysed literature and the collected data and describe the main tools within the cycle.

This article contains four parts. The first part is the thematic literature review, which presents an outline of the main terms within the researched area. The second part describes the method, including the research tools and the procedures for data collection and analysis. The third part presents the research results in the form of recommendations regarding which tools performance art course facilitators should utilise to complete the digital artistic cycle. The fourth part concludes the study.

Literature review

This term *artistic cycle* is defined by David Burton—an art critic and scholar working with the theme of art education—as the completion of the studio-based process and, during the presentation, the accumulation of ideas for new studio-based works (Burton, 2006). The artistic cycle has often been divided into two phases. Studio-based practice was the first phase; the showcasing of the artwork (with the specific aim of meeting with the audience) was the second phase. In this case the first phase was relegated to private homes and the second phase could not include direct meetings with the audience.

While developing an exhibition within the artistic cycle, the steps of preparation are similar whether the exhibition is presented in the digital space or a live exhibition space. In any event, the audience’s experience of the artwork is significantly different depending on whether the artwork is presented digitally or live—in the digital space, the spectators are bound to the two senses, as they can only see and hear the components of the artwork (Lepouras, Katifori, Vassilakis, & Charitos, 2004) while they are detached from their other senses, such as smell or touch. This leads to the remark that the feedback from viewers on the artwork may be quite different depending on whether a piece of art was encountered live or in the digital space. Therefore, the author suggests specifying a new narrower term of *artistic cycle*, namely the *digital artistic cycle*.

The artistic cycle is specified regarding the art academy education and performance in particular. Here, performance is explained as the art media containing the body, time, space, and audience (Schechner, 1977). Performance is described by Schechner (2013) as the restoration of behaviour, where each performance is unique and their differences emphasise the personal choices made by the performance artists, a variety of cultural patterns and pluralities of the perceptions. Therefore, performance artwork depends on the meeting point with the audience (Griniuk, 2021), as perception is the core carrier of performance artwork, which can also be interpreted as a performance loop (Fischer-Lichte, 2008) involving an artist and an audience.

Method

The research method here is arts-based research (ABR), as the performance art course dealt with performance art production and artefacts in the form of videos in the digital space for the students' performances. ABR takes a qualitative approach (Eisner, 1997), as data collection is centred around artistic production (Leavy, 2018). In this case the data contains the photo material of the images from the exhibition, the researcher's notes, and an interview with the facilitator of the performance art course. The analysis method is general inductive analysis, where the keywords, concepts and themes were identified from the photo and video material, the researcher's notes and the interview with the facilitator. "Inductive analysis refers to approaches that primarily use detailed readings of raw data to derive concepts, themes, or a model through interpretations made from the raw data by an evaluator or researcher." (Thomas, 2006, p.238). The following procedure was used for the data analysis: grouping the raw data into the two categories: text and narrative based data and visual data; extracting keywords and concepts from the text-based data and from the visual data, guided by the objectives of the research; analysing the keywords and developing a summary based on them. The research is conducted according to ethical research regulations. The images of the performances are included with the written permission of the authors.

Case

The case of this study is a performance art course developed by Vaida Tamoševičiūtė at the Vilnius Academy of Arts, Kaunas Faculty, (painting department). In fall 2020, the course started with theoretical introduction and exercises within performance art, which could be conducted live; however, the COVID-19 pandemic caused restrictions. Therefore, in November 2020, the course was moved completely online, where the students' performances, presentations, and evaluations happened completely digitally. The course

facilitator commented that it was important that the first part of the course was still possible to realise in a live space, as enrolment in the field of performance art depends on the dynamics of the group participants in a physical environment. Thus, if everything had been completely digital, it would have posed a greater challenge, both for the facilitator and the students.

“I have been preparing for each lecture specifically,” Vaida Tamoševičiūtė said, addressing how she prepared the material, although the course has been taught for the last five years in the painting department. This seems to have made it easier for the facilitator to shift to a digital teaching space, as, over the last several years, the facilitator had learned the routine of reshaping and adapting the lecture material to align it with the circumstances and interests of the group. Further, Tamoševičiūtė explains that in the digital environment, it was challenging to have all students have their cameras turned on due to a variety of technical and personal issues. Therefore, in these cases, the senses within the teaching and learning environment were restricted to listening and speaking only. The results of the course were defined by the facilitator to be in the video format.

The fourth-year BA students—the participants of the course—developed their individual works, which were filmed and delivered for evaluation as video- and sound-recorded performances. After the students’ performances were evaluated by the facilitator, they were presented at Gallery Meno Parkas in Kaunas, Lithuania, on 19-21 March, as a part of the large-scale event “Happiness=Creativity/The Day of Happiness 2021” (translated into English from Lithuanian), where the performances were showcased on TV screens mounted on the windows of the gallery. This made it possible for passers-by to encounter the students’ digital performance artworks. In the students’ event concept description, it is stated that the performances by the students were created without thinking about the viewer in the physical space but rather the viewer on the other side of the screen¹.

Tamoševičiūtė underlined that there was a noticeable difference in how the performances were developed compared to her previous years with other groups of students within the course. In the development of performances for the viewer through the screen, the domestic environment and items seemed to be dominant, even though the thematic scope of the works was broad. Also, the number of viewers was significantly larger than it had been in the live performance spaces, although it is impossible to know exactly how many viewers there were. The performances on the screens in the Gallery Meno Parkas windows exhibited during the three days were an encounter for invited viewers as well as random viewers who passed by without knowing the event was happening. The feedback from the viewers to the students was not immediately available; instead, the

¹ Description of the exhibition (<https://stayhappening.com/e/laim%C4%97--k%C5%ABryba-%7C-laim%C4%97s-diena-2021-E2ISTIBK56J>)

students would receive feedback on a durational basis from viewers via, for example, social media.

The examples of the students' artworks are as follows: the performance by Ieva Bartuškaitė "ART IS A DIRTY JOB..." (see Fig. 1 and 2), where she thematically comments on her relationship with the media of painting, which had been her artistic expression for the last fourteen years. She addresses how the movement, the way paint is applied, and the surface are of great importance, as they make the profession of the painter as an artist and the painter as a construction worker similar. Her choice of applying the colour pink during the performance communicates the condition of joy. The action takes place in a basement room, which she changes the mood of by applying the pink colour to comment on the current lockdown situation and the action of painting as a tool for generating happiness.

The other performance is Lilija Gotautaitė's "Life's a drag" (see Fig. 3), where she stresses the theme of LGBTQ+ and bodily expression through different colours. The performance embraces several key points, such as courage and the emotional state of comfort in being true to oneself. The domestic environment of the performance takes the key role and for the viewer unfolds the narrative, created by the performer, embodying the action of applying make-up. The site of this performance, containing a lamp and a sofa, together with the mild warm light in the room, comments on the comfortable space.

These two performances exemplify the connectedness of the students to the thematic frame of colours as signifiers of the statements expressed by their artwork. The tools and materials that they used were available at their homes. These two examples were chosen due to the reason that Tamoševičiūtė emphasised them as examples in the interview. This gave an opportunity for a brief discussion about these two artworks. Further, the author contacted Bartuškaitė and Gotautaitė with follow-up questions about their performances and a request for permission to use their images in the article.



Figure 1 and 2 Ieva Bartuškaitė's "ART IS A DIRTY JOB...". Photo 1. Photo by Vaida Tamoševičiūtė; Photo 2. Still image from the video by Ieva Bartuškaitė

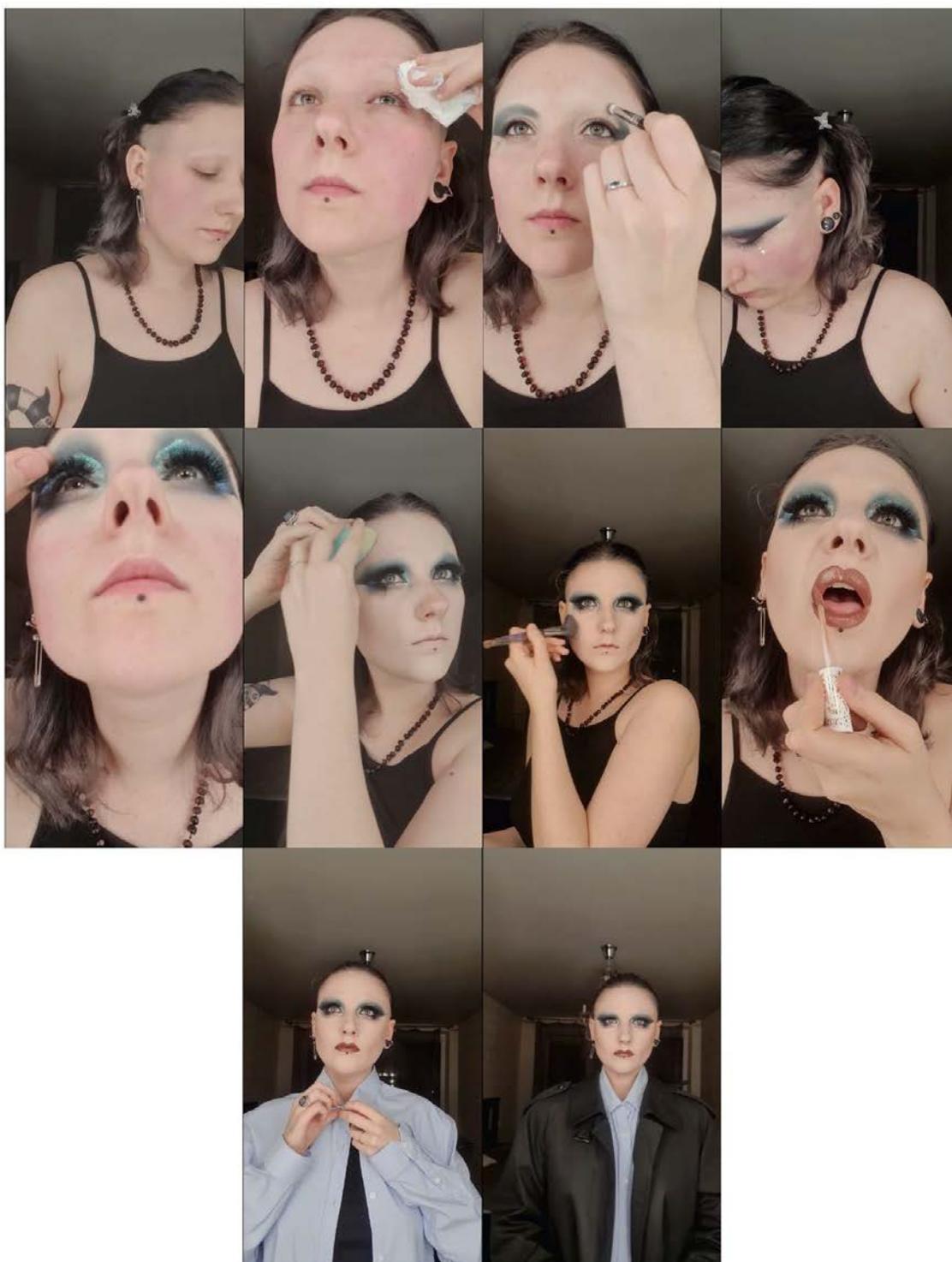


Image 3. Lilija Gotautaitė's "Life's a drag". Still images from the video by Lilija Gotautaitė

Research results

I suggest that the performance course was developed within the digital artistic cycle, during which the students developed their artistic ideas, realised the performances and provided them for evaluation by the course facilitator and later by the audience; all of these processes occurred online. Before the digital artistic cycle began, the students had live sessions where they did some performance exercises in a group. It is interpreted that the development of the individual works started after the students had completed the group exercises. Therefore, all the processes, from generating ideas to their realisation and feedback on the works, are discussed here as completed digitally. Within the digital artistic cycle, three main tools were extracted: connectedness of learning to the milieu, widening the audience, and the durational feedback loop.

The connectedness of learning to the milieu: Learning is bound to the milieu and the circumstances of the study situation (Falk & Dierking, 2000). As such, the students learned to dive into their domestic environment as a source of inspiration and as the site for their performances, which further expanded into the collaborative preparation for the exhibition and completion of the artistic cycle within the performance course. It is exemplified by each student's approach, through the individually chosen theme and the surroundings of the students' performances, that students were bound to their home-studios environments, which limited what materials and sites they could use. Also, performing for the viewer on the other side of the screen stresses how to present this site, body, and involved materials. So the aspect of presentation and framing becomes of great importance. The video of the performance can be interpreted as the story of the story, the translation of the media into another media, a video of the performance that is presented as a performance. So, the learning, bound to the circumstances, revolves around the perfection of the tools used to frame the live action as performed for the camera into the video.

Widening the audience: The previous performance art course, including a live event as the result of the student's work, happened over one day during which visitors were invited to the gallery space. This restricted the number of viewers, most of whom were likely familiar with the students' work. In the digital artistic cycle facilitated by Tamoševičiūtė, along with the course evaluation procedure containing a limited number of viewers, the performance artwork became part of the exhibition at the Gallery Meno Parkas, which expanded the number of (incidental) viewers significantly, as the artwork was available to all who passed by the gallery windows during the three days of the event.

Durational feedback loop: When the digital artistic cycle combines performance art students and the digital space, the performance loop gains a rather specific context, as feedback is gained over a long period during which the audience encounters the performance artwork, presented as a video. This feedback

cannot impact the performance in real time (as could happen in the live space) because the artwork itself is completed and presented digitally. This situation can impact only future performances by the students. Therefore, feedback in the digital artistic cycle is more segmented and oriented towards further artistic work.

These three main points make the digital artistic cycle different from the artistic cycle in the live version of the performance art course facilitated by Tamoševičiūtė. These points might also be interpreted as beneficial to the learning process, as the site and tools of performance artwork were restricted by the circumstances, thus enhancing the scope of students' creative takes on the themes they chose. Moreover, the encounter with a larger audience might generate broader feedback to the students, especially if the platform for such feedback can be incorporated into the exhibition—for example, in the format of an online questionnaire, digital interactions or a dialogue-based game—that the viewer could engage in using a link after seeing a performance. Although feedback from the audience cannot in the present case directly impact the current work, it can give students new ideas and perspectives for upcoming projects. In the digital artistic cycle, feedback is bound to the experience of the viewer; one cannot know how a similar live performance would have been experienced.

Conclusions

This study explored the key differences between the term *artistic cycle* and the proposed new term (*digital artistic cycle*) among BA students in the course of performance art at the Kaunas Faculty of Vilnius Academy of Arts by artist Vaida Tamoševičiūtė. The three main tools that relate specifically to the digital artistic cycle within the performance art course that served as the case for this study and that can be interpreted as beneficial to the learning outcomes are as follows: connectedness of learning to the milieu, widening the audience and the durational feedback loop. Students' learning outcomes are bound to the experience in the digital format of the performance production and presentation; the feedback given to students by the audience would have differed in a live performance context. The digital artistic cycle and the tools within it could be considered in further investigations and in the development of performance art courses in universities and art academies. The digital artistic cycle could also be applied to professional art, where the studio-based practice, be it digital art or physical art objects, are showcased virtually. Digital artistic cycle could be examined/researched with regards to the prevalence of video documentation in performance and mediatization theory.

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DAUGAVPILS MEDICĪNAS KOLEDŽAS STUDENTU ĀRSTA PALĪGA PROFESIJAS IZVĒLES MOTĪVU STARTA POTENCIĀLS

*Daugavpils Medical College Students' Start Potential of Motives for a Choice
of the Doctors's Assistant Profession*

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Abstract. *Analyses of the students' education results reveal their insufficient matching with the necessary skills. That serves as a clear evidence for the need of changes in the study process for designing an innovative education system which corresponds to the urgent demands of the modern health care systems. Modern approaches are focused on the development of cognitive and practical skills and attitudes. Covid-19 conditions highlighted the role of health care specialists' professional attitudes and importance of promoting them in the medical educational process. In addition, long-term pedagogical experience is a basis to claim that college level students also need an assistance for understanding and accepting learning process and taking an active part in it. One of the main aspects of learning is students' readiness to acquire knowledge, active learning and motivation. That is the main reason to define the students' motives to choose the medical profession.*

Keywords: *learning process, medical education, motivation, skill mismatch.*

Ievads

Introduction

Līdz šim vēl nepieredzētu ārkārtas apstākļu laikā visai sabiedrībai kopumā un it īpaši katram medicīnas darbiniekam atsevišķi ir jāuzņemas atbildība par Covid-19 seku mazināšanu. Pašreizējā situācijā sabiedrība pastiprināti apzinās medicīnas darbinieku lomu, izjūt medicīnas jomas speciālistu nepietiekamību, kā arī izprot medicīniskās izglītības kvalitātes svarīgumu.

Izglītības nozīmīgums tiek uzsvērts starptautiskajos un Latvijas izglītības sistēmu raksturojošos dokumentos. Izglītības rezultātu analīze uzrāda studentu teorētisko zināšanu nepietiekamo sasaisti ar dzīvei nozīmīgām prasmēm. Tas liecina, ka ir nepieciešamas izmaiņas studiju procesā inovatīvas izglītības sistēmas izveidei atbilstoši modernās sabiedrības aktuālajiem uzstādījumiem. Savukārt, ilggadējā pedagoģiskā darbība ļauj apgalvot, ka arī koledžas līmeņa studentiem ir nepieciešama palīdzība studiju procesa būtības un struktūras izpratnē, pieņemšanā un izmantošanā. Viens no mācīšanās darbības posmiem ietver gatavību mācīties, mērķa skaidrību un motivētību. Tas arī rosināja pētīt

koledžas izglītības programmas “Ārstniecības “studentu profesijas izvēles motīvus.

Dokumentā “Skola 2030” (UNESCO, 2020) aktualizēts, ka pasauli mūsdienās raksturo globalizācija, informācijas tehnoloģiju attīstība un vērtību daudzveidība, līdz ar to cilvēku darbība visdažādākajās jomās kļūst arvien plašāka un neparedzamāka, un mūsdienās ir jāiemācās dzīvot pasaulē, kas nepārtraukti mainās. Savukārt, mūsdienu jauniešiem jābūt gataviem pieņemt strauji mainīgās pasaules izaicinājumus un spēt darboties nepieredzētā ekonomiskā, sociālā, politiskā un kultūras vidē. Tas norāda, ka studiju procesa mērķis ir lietpratīgs students, kurš grib un spēj mācīties visu mūžu, prot risināt reālas dzīves izaicinājumus, radīt inovācijas savā darbavietā, prot iedziļināties un apstrādāt daudzveidīgus datus, darboties komandā, īstenot savas ieceres jaunos, arī neparedzētos apstākļos un nepārtraukti spēj attīstīt savu personību.

21. gadsimta izaicinošajā izglītības un darba vidē ir aktuāla attieksmes loma atvērtībai, izaugsmes domāšanai un pielāgošanās spējai, kam ir nepieciešama motivācija aktīvai intelektuālajai profesionālajai un digitālajai pilnveidei, izaicinājumu pieņemšanai, grūtību pārvarēšanai. Tiek uzsvērtas sociālās un emocionālās attieksmes, piemēram, iesaistīšanās, pašmotivācija, noturība un pielāgošanās spēja, lai veiksmīgi iekļautos un pilnveidotos strauji mainīgajos ekonomiskajos, sociālajos un profesionālajos apstākļos. Tā var ietekmēt studentu pieredzi un sasniegumus, uzlabojot akadēmiskos rezultātus un pilnveidojot emocionālo kompetenci (Mangels et al., 2006; Wilson & Carryer, 2008; UNESCO, 2020).

Latvijas veselības politikas stratēģija ir saistīta ar digitālo transformāciju veselības aprūpes sistēmā, kurai ir nepieciešamas inovatīvas attieksmes: atvērtība un motivācija apgūt arvien jaunākas IKT zināšanas un rīkus, tajā pašā laikā ir būtiska bioētikas un kultūrizpratnes principu ievērošana speciālistu un pacientu sadarbības procesā. Mūsdienās profesionālo, personīgo un sociālo izaugsmi ietekmē tehnoloģiju ienākšana visās dzīves, darba un izglītības jomās. Tāpēc ir nepieciešama izglītības transformācija, kas ir saistīta ar digitālās kompetences attīstību, digitālo risinājumu integrēšanu izglītības procesā, attīstot kognitīvās, individuālās un tehnoloģiskās spējas, rosinot tādas attieksmes kā studentu aktivitāte, patstāvība un atbildība (Žogla, 2019). Vispārzināms, ka mūsdienīgas, produktīvas, efektīvas augstskolas veidošana un augsta profesionālā līmeņa speciālistu sagatavošanās ir atkarīga no daudzu studiju procesa elementu maiņas.

Mūsdienu ārsta palīga profesija nosaka spēju pārvaldīt medicīniskās palīdzības, intensīvās terapijas, reanimācijas un katastrofu medicīnas teorijas, lietot izmantojamās diagnostiskās un ārstnieciskās metodes, darboties ārkārtas (piem. Covid-19, bēgļu medicīniskās aprūpes u.c.) medicīniskās, ķīmiskās, radiācijas un sabiedrības veselības situācijās, paust atbildību, augsta līmeņa profesionalitāti, analītiskumu, precizitāti, kreativitāti, patstāvību. Tātad, ārsta palīga profesionālā darbība ir sabiedrības vajadzību un personīgo priekšstatu par veselības aprūpi noteikta.

Pamatojoties uz zinātnisko teoriju atziņām, augstākās izglītības studiju programmu “Ārstniecība”, tās īstenošanas un pilnveides DU DMK daudzu gadu garumā analīzes datiem, respektējot mūsdienu sabiedrības vajadzību specifiku var apgalvot, ka profesijas izvēles motīvs ir studiju starta potenciāls. Tas rosināja noskaidrot, kāpēc mūsdienās jaunieši izvēlas ārsta palīga profesiju.

Raksta mērķis: noteikt ārsta palīga profesijas izvēles motīvu saturu un tā maiņu.

Teorētiskā bāze *Theoretical basis*

I. Maslo (1995) pedagoģisko procesu definē kā pašattīstošu un pašregulējošu visu tā subjektu mijiedarbība, kas virzīta uz katra mijiedarbības subjekta individualitātes pašattīstības un socializācijas iespēju un apstākļu radīšanu saskaņā ar humānajiem ideāliem un mācīšanās uzdevumiem. Saistoša ir P. Kaptereva doma par brīva pilsoņa personības vispusīgu pilnveidošanos. Tā iespējama īstā, nesamākslotā pedagoģiskajā procesā, kurš vienlaicīgi ir gan nepieciešams, gan savdabīgs, t.i. brīvs, jo pašattīstība tajā ir neizbēgama parādība. Nozīmīgi ir arī citi personības attīstības un audzināšanas rādītāji, t.i. vajadzības, vērtības, motīvi (Kapterev & Arsen'ev, 1982).

Students pilnveido savu mācīšanās pieredzi. Atļaušos aktualizēt, ka mācīšanās vienmēr ir individuāls process:

- griba, gatavība un piepūle ir obligāti personīgie nosacījumi;
- ārējā ietekme, ko rada personas, lietas un mācību apkārtnes noteikumi var šo procesu vai nu veicināt vai traucēt, pat padarīt neiespējamu;
- tos, kuri mācās, nevar piespiest, kaut ko iemācīties ar tādu rezultātu, kādu vēlamies. Ikvienu priekšstatu, ikvienu domāšanas operāciju un jebkuru sajūtu jāizveido tam, kurš mācās, pašam.

Ilggadēja pedagoģiskā darbība liecina, ka arī koledžas līmeņa studentiem ir nepieciešama palīdzība mācīšanās procesa būtības un struktūras izpratnē, pieņemšanā un reālā izmantošanā.

Zinātniece I. Žogla mācīšanās darbības struktūras skaidrojumā uzsver četrus posmus:

- izglītojamā gatavība mācīties (psiholoģiska, praktiska), mērķa skaidrība un motivētība;
- norise, operējot ar mācīšanas līdzekļiem konkrētos apstākļos labvēlīgā situācijā, orientējoties uz iegūto zināšanu un prasmju izmantošanu (skolotāja palīdzība);
- iegūto rezultātu pašnovērtēšana un novērtēšana;
- pārdzīvojums par jaunām zināšanām un prasmēm (Žogla, 1994).

Prasme mācīties un augsts motivācijas līmenis ir pamats nākamās profesijas apguvei un nepārtrauktai intelektuālajai, individuālajai un sociālajai attīstībai. Daudzi izglītības teorētiķi ir izstrādājuši aktīvas izziņas modeļus studentcentrētās

mācībās, kas palīdz izprast indivīda izziņas procesu darbību un veicina pedagogu izpratni par mācību un motivācijas veicināšanu: R.M. Gagnes (1956) mācību hierarhijas modelis, Ž.Ž. Piaže (1969) kognitīvās attīstības modelis, D. Kolba (*Kolb, 2014*) mācīšanās cikli un F. Reisa (1993) “viļņu” mācību metode.

Raksta kontekstā saistošs ir F. Reisa (1993) mācību modelis, kas balstās uz pieņēmumu, ka visefektīvākais mācību veids ir mācīties caur pieredzi, mācīties darot, ko F. Reiss saista ar iekšējo motivāciju, kas liek studentam gribēt un rada nepieciešamību mācīties. Zinātnieks uzskata, ka 4 pamatelementi veido sekmīgu mācīšanos:

- nepieciešamība/gribēšana - motivācija;
- darīšana - prakse, izmēģinājums un kļūda;
- atgriezeniskā saite - rezultātu novērtēšana;
- izpratne - apjēgšana, piederības iegūšana.

F. Reisa mācību modelis ir līdzīgs D. Kolba modelim, kas ir balstīts uz mācīšanos caur pieredzi un ir dinamisks pēc dabas, bet atšķiras ar izpratni par izziņas procesu, uzsverot tā holistisko, sistēmisko, integrēto un interaktīvo raksturu. Šī modeļa centrā ir nepieciešamība un interese mācīties, kas rosina aktivitāti un veido motivāciju.

Psihologs V. Vrūms (Vroom, 1964) motivāciju apraksta kā procesu, kurā no apzinātu darbību formām veidojas tīšas izvēles un to pārvaldīšanas procesi. Saistošs ir J. Harija un R. Vudgata dotais motivācijas definējums saistībā ar vārda “motivēt” skaidrojumu. Tas tiek aprakstīts kā parādība, lai nodrošinātu motīvu kaut kam. Savukārt “būt par motīvu” nozīmē izraisīt cilvēka darbošanos īpašā veidā, stimulēt cilvēka interesi, bet “motīvs” sekmē iekšējās kustības attīstību un “attiecas uz kustību, jeb pamudina cilvēku rīkoties”.

Cilvēks pēc savas dabas ir unikāls un neatkārtojams. Cilvēka darbības dominantes ir viņa vajadzības, intereses, vēlmes, vērtības. Katram cilvēkam raksturīgs individuāls viņu motivējošs faktoru kopums.

Vajadzība. Vispārināta īpašība - vajadzīgs, šīs īpašības konkrēta izpausme; stāvoklis, kad kas ir noteikti vajadzīgs, kad bez kā nevar iztikt. Personības attīstības pamatā ir vajadzības. Tās ir cilvēka aktivitātes galvenais avots. Tātad, bez vajadzības nav darbības. Pēc izcilā psihologa A. Maslova (Maslou, 2003), cilvēka vajadzības ir sakārtotas piecos līmeņos: fizioloģiskās, drošība, piederība un mīlestība, pašcieņa, pašaktualizēšanās.

Psihologi vērtības skaidro kā idejas vai objektus, kam sabiedrība vai tās daļa piešķir īpašu nozīmi, uzskata par ideālu un orientē savu darbību pēc tiem.

Pedagoģijā vērtības izpaužas vienībā ar principiem, normām, mērķiem un ideāliem un raksturo attieksmi pret kultūru, darbu, valsti.

Daudzu zinātnieku un psihologu darbos ir aktualizēts motivācijas jēdziens kā psihiska parādība, kas veicina pašizziņu, aktivitāti, mērķtiecību, pašaktualizāciju, intelektuālo, profesionālo un sociālo attīstību (A. Bakuradze un

A. Džamulajevs (Bakuradze & Dzhamulaev, 2007), K. Rodžers (Rogers, 1959); Komenskis, 1992; A. Maslovs (Maslou, 2003); Ļeontjevs (Leont'ev, 1975), u.c.).

Jēdziens “motivācija” ir plašs, tas ir hierarhizēts motīvu kopums - ierosme kādai psihiskai norisei, funkciju atvasinājums (“no kurienes” šī ierosme nāk un “kurp” tā ved) un uzvedības variabilitāte (“kādēļ viens reaģē tā, bet cits – citādi”).

Motivāciju apskata arī kā psihisku parādību, kura veidojas uz vajadzību pamata un virza cilvēku aktivitāti, padarot to par apzinātu rīcību. Izšķir iekšējo motivāciju un ārējos stimulus. Zinātnieki K. Rodžers, A. Maslovs iekšējo motivāciju, kas balstīta uz cilvēka tieksmi un iedzimtu tendenci pēc pašizziņas un pašnoteikšanās, uzskata par noteicošo personības attīstībā.

K. Rodžers aktualizē, ka cilvēks motivē sevi darbībā (Rogers, 1959), bet A. Ļeontjevs uzskata, ka cilvēka darbība jāaplūko saistībā ar vajadzību, kura dod virzienu nākamai darbībai (Leont'ev, 1975).

K. Rodžers un A. Maslovs iekšējo motivāciju, kas balstīta uz cilvēka iedzimtu tieksmi pēc pašizziņas un pašnoteikšanās, uzskata par dominējošo personības attīstībā.

Izcili pedagogi, analizējot savus sasniegumus, arī min motīvus. J.A. Komenskis “Lielajā didaktikā” raksta, ka viņu pētīt mācību un audzināšanas darbu rosināja “neatvairāma tieksme būt noderīgam citiem” (Komenskis, 1992). I. Pestalocijs apgalvo, ka pedagogijai pievērsies ar humānu mērķi - kalpot tautai (Pestalocijs, 1996).

A. Bakuradze un A. Džamulajevs (Bakuradze & Dzhamulaev, 2007) raksta, ka cilvēks strādās ar augstu atdevi un uzveiks šķēršļus ceļā uz nosprausto mērķi, ja darbs un atalgojums par to (ne obligāti tikai materiālais) ļaus apmierināt viņam nozīmīgās vajadzības. Savukārt, vadītājam, lai rosinātu līdzcilvēkus uz efektīvu darbu, pirmkārt, jāzina viņu vajadzības un, otrkārt, jānodrošina apstākļi to apmierināšanai. Tā ir veiksmīgas motivācijas atslēga.

A. Karpovs (2005) uzskata, ka motivācija var kompensēt daudzas citu funkciju nepilnības, piem., organizēšanā vai plānošanā, savukārt vāju motivāciju praktiski nav iespējams kādā veidā kompensēt. Tātad, motivācija ir būtisks attieksmju komponents, kuru nozīmīgums pieaug līdz ar sabiedrības, izglītības un darba tirgus dinamiskajām izmaiņām.

Eiropas stratēģiskie virzieni aktualizē medicīnas darbinieku kompetences, saistot tās ar tādu attieksmju attīstību kā: patstāvība, atbildība, gatavība sarežģītiem uzdevumiem un pienākumiem, vēlme palīdzēt, izglīt, pilnveidoties (World Health Organization, 2015). Latvijas profesionālās izglītības dokumentos attieksmju attīstība ir iekļauta kā zināšanu un prasmju līdzvērtīgs komponents, taču to īstenošana reālā studiju procesā ir nepilnīgi izstrādāta. Tāpēc ir būtiski ietvert attieksmju komponenti medicīniskās izglītības programmās, saturā un vērtējumos, lai veidotu studentiem motivāciju vadīt savu izziņas procesu, pieņemt atbildīgus lēmumus; veicināt pozitīvas attieksmes veidošanos, sekmēt izglītības, profesionālo un individuālo pilnveidi, reaģējot uz dinamiskām izmaiņām

sabiedrībā un darba tirgū, īpaši digitālo tehnoloģiju lietošanai studiju un profesionālajā darbībā.

Latvijas augstākās profesionālās medicīniskās izglītības reformas mērķi akcentē attieksmju lomu personīgajai izaugsmei, konkurētspējai un ilgtspējai: sagatavot darbībai profesijā, nodrošinot ar darba tirgum aktuālajām kompetencēm, kas ietver zināšanas, prasmes un attieksmes, kas veicina personu nodarbinātību, pielāgošanās spējas atbilstoši mainīgajiem ekonomiskajiem un sociālajiem apstākļiem mūža garumā, personisko attīstību un pilsonisko līdzdalību, sekmēt Latvijas un Eiropas uzņēmumu konkurētspēju, nodrošināt ilgtspējību un inovāciju attīstību;

Mūsdienu medicīniskās izglītības teorijās attieksmes ir profesionālās kompetences būtisks komponents, kas ietver personīgo īpašību, vērtību, emociju, ētikas, motivācijas un uzvedības dinamisku un elastīgu kombināciju konkrētu uzdevumu veikšanai), kas balstās efektīvas komunikācijas, kultūrizpratnes un refleksijas principos (Deklava, 2012; Epstein & Hundert, 2002; Goleman, 2001; Kirk & Shutte, 2002. Frank et al., 2010; Wilson & Carryer, 2008).

Attieksmes, sociālās un psihoemocionālās kompetences, kas ir nozīmīgas medicīnas jomas speciālistiem, Eiropas ekonomiskās sadarbības un attīstības organizācija (OECD, 2008) definē kā spēju atbilstību sarežģītām prasībām, mobilizējot psihosociālos resursus (prasmes un attieksmes) noteiktā kontekstā. Attieksmes ir nozīmīgas profesionālajai un personīgajai ilgtspējai un ietver tādas īpašības kā: intelektuālā zinātkāre, motivācija, pašvadība, paškontrolē, personīgā efektivitāte un pašvērtējums, kā arī adaptēšanās spēja un gatavība izaugsmei (UNESCO, 2020).

Medicīniskajā izglītībā attieksmes ir vienmēr bijušas uzmanības centrā, bet šobrīd tiek aktualizēta attieksmju dominante un caurviju prasmes. Medicīnas studentu attieksmes kompetence var sekmēt sasniegumus profesionālajā darbībā - palīdz indivīdam iesaistīties komandas darbā, atrast efektīvākus darba veidus un integrēties darba vidē, ietekmē uzvedību un darba rezultātus (Goleman, 2001; Kirk & Shutte, 2002).

D. Goulmens attieksmju kompetencē uzsver emocionālo inteliģenci, ko nepieciešams veidot un attīstīt izglītības un prakses procesā, lai veicinātu studiju un profesionālās darbības sasniegumus: "iemācīta spēja, kas bāzējas uz emocionālo intelektu un, kura izpaužas izcilos sasniegumos darbā" (Goleman, 2001). Emocionālo kompetenci raksturo savu emociju atpazīšana, vadīšana, sevis motivēšana, emociju atpazīšana citos un pieskaņošanās citu vajadzībām, attiecību vadīšana un mijiedarbība. Tādējādi, emocionālā inteliģence ir nepieciešama medicīnas darbinieka attieksme, lai veiktu efektīvu, pacientcentrētu, multidisciplināru un atbildīgu profesionālu darbību.

Fokusēšanās uz attieksmju attīstību medicīniskās izglītības studiju procesā var palīdzēt studentiem pabeigt studijas un palikt medicīniskās aprūpes jomā, ja tiek veicināta motivācija profesionālajai, individuālajai un sociālajai izaugsmei. Tādā veidā sniedzot iespējas atrisināt cilvēkresursu trūkumu veselības aprūpē.

Latvijā būtiskākās ar veselības jomas personāla pieejamību saistītās problēmas ir: ārstniecības personu hronisks trūkums: māsu un ārstu palīgu skaits uz 10 000 iedzīvotāju pēdējos gados Rīgā samazinās – 2013.gadā šis skaits bija 115,9, savukārt 2017.gadā jau tikai 109,9. Latvijā uz 10 000 iedzīvotājiem ir 45,7 praktizējošas māsas, kas ir 3.zemākais rādītājs ES.

Covid-19 apstākļos studiju straujā digitālā transformācija aktualizē pedagoģiski digitālo kompetenci, kas tiek definēta kā zināšanu, prasmju un attieksmes konsekventa pielietošana, kas nepieciešama, lai plānotu studiju procesu, izstrādātu studiju saturu un vadītu mācīšanās un mācīšanas procesu dažādās pieejās un veidos (tīmekļa bagātinātā, kombinētā, tostarp apvērstā, hibrīdā, hibrīdfleksiblā; attālinātā un tiešsaistes mācīšanās, tālmācība), lai veicinātu studējošo mācīšanās pieredzi mūsdienu darba tirgum atbilstošu studiju rezultātu apguvei. Docētājiem ir būtiska jēgpilna digitālo tehnoloģiju izmantošanas attieksme, lai sasniegtu augstus studiju rezultātus (Guillén-Gámez, Mayorga-Fernández, Bravo-Agapito, et al., 2020; Jansone-Ratinīka u.c. 2021).

Covid-19 ārkārtas apstākļos ir nepieciešamas paplašinātas prasmes un attieksmes, lai sekmīgi rīkotos kompleksās situācijās, mobilizētu kognitīvos, mentālos un emocionālos resursus un risinātu konkrētus uzdevumus atbilstoši strauji mainīgiem apstākļiem. Mūsdienu izaicinājumi palielina caurviju kompetenču un attieksmju – kā piemēram, elastības, mobilitātes un veiktības – nozīmīgumu. Medicīniskā personāla darbība ir kļuvusi sarežģītāka līdz ar kritiskām situācijām un to risināšanu, risku savai veselībai, pārslodzi, fiziskiem un emocionāliem izaicinājumiem. Medicīnas prakse liecina, ka pirmkārt, māsām un ārstu palīgiem dažreiz pietrūkst attieksmes kompetences, lai ātri pielāgotos, reaģētu un saglabātu psihoemocionālo līdzsvaru krīzes situācijās. Otrkārt, ārstniecības personu atbildīgas, līdzsvarotas, drošas un empātiskas uzvedības loma pieaug, kad smagi slimajiem pacientiem ir nepieciešama pastiprināta uzmanība, profesionāls un cilvēcisks atbalsts fizioloģiska, psiholoģiska un emocionāla stresa pārvarēšanai. Tātad, Covid-19 pandēmijas apstākļos ir pieaugusi attieksmju un psihoemocionālās kompetences nozīme līdz ar profesionālās darbības straujām izmaiņām un sarežģītāko raksturu, jo ir būtiski veicināt spēju darboties elastīgi, pielāgoties jaunām, neparedzētām profesionālās darbības situācijām, rīkoties atbildīgi, pieņemt pareizus lēmumus un būt gataviem apgūt jaunas zināšanas un prasmes Attieksmes dimensija ietver medicīnas darbinieka lielāku atbildību, ātru reakciju, veiktību, elastību, empātiju un ētisku attieksmi.

Latvijā veiktais pētījums par medicīnas darbinieku emocionālo spēju attīstību (Deklava, 2012) atklāj, ka attieksmju kompetencei ir būtiska loma medicīnas darbinieku prakses sagatavotībai, profesionālo uzdevumu veikšanai un efektīvai praksei, attiecībām ar pacientiem un kolēģiem. Citā ārzemju pētījumā tiek uzsvērts, ka izglītotājiem ir jāattīsta izpratne par emocionālās kompetences spēju attīstības nepieciešamību veselības aprūpē (Wilson & Carryer, 2008).

L. Deklavas (2012) empīriskā pētījuma "Profesionāli relevantā uzvedība, to raksturojošie parametri un to saistība ar personību raksturojošiem faktoriem" dati atklāj, ka emocionālās inteliģences rādītāji māsām ir samērā augsti, īpaši starppersoniskai kompetencei, kas liecina par to, ka izlases māsām ir raksturīga spēja labi saprasties, sadarboties un satikt ar cilvēkiem; dominējošās EI skalas māsu izlasē ir pašaktualizācija, sociālais atbildīgums un optimisms, taču elastīgums un neatkarība ir mazāk attīstīti. Svarīgi ir atzīmēt, ka starp PRU parametriem ar zemākajiem vidējiem rādītājiem ir tādi parametri kā „kreatīva pieeja darbam” un „empātija”, kas liecina par to, ka māsas to nozīmību vērtē zemāk nekā pārējo.

Iegūtie rezultāti korelē ar raksta autores pētījumu "Māsu profesionālās attieksmes ārkārtas apstākļos (Jankovska, 2021). Empīriskā pētījuma par attieksmēm darbībai neparedzētos apstākļos rezultāti liecina, ka attieksmei "atbildība" ir augstākais vērtējums (97%), bet "elastība" ir zemākais vērtējums (65%), kas liecina ka ir sarežģīti pielāgoties jaunām situācijām, pienākumiem, darba vides un sociālajām pārmaiņām. Psihoemocionālo līdzsvaru un emocionālo noturību apstiprinoši ("jā") ir novērtējuši 77%, noliedzoši "nē") - 19% un "nezinu" - 4% respondentu, kas parāda nepietiekamu vērtējumu, lai efektīvi veikt profesionālos pienākumus sarežģītos apstākļos. Tas nozīmē, ka ir būtiski aktualizēt paplašinātu attieksmju dominanti medicīniskajā izglītībā, kas atbilstu strauji mainīgām un neparedzētām veselības aprūpes vajadzībām. Studiju kursu programmās ir nepieciešamas iekļaut ārkārtējām situācijām, tādām kā Covid-19, atbilstošu personīgo, sadarbības, attieksmes, sociālo kompetenču attīstību, kas sagatavo ekstrēmiem profesionāliem, psihoemocionāliem, neierastiem, kritiskiem, komunikatīviem, saziņas un tehnoloģiskiem izaicinājumiem.

Tas, savukārt, norāda uz to, ka topošajiem speciālistiem nepieciešams veidot specifiskās prasmes un attieksmes, veicināt motivāciju, lai varētu veikt profesionālos pienākumus patstāvīgi, atbildīgi, ievērojot profesionālos, sadarbības, ētiskos un mūžizglītības principus.

Pētījuma metodoloģija un iegūto datu apkopojums *The research methodology and summary of the acquired data*

Lai noskaidrotu, kāpēc mūsdienās jaunieši izvēlas ārsta palīga profesiju, veicu profesijas izvēles motīvu pētījumu. Ir ļoti svarīgi zināt studentu profesijas izvēles motīvus, jo tas ir studiju starta potenciāls. 2016. un 2021.gada DMK veiktajā aptaujā piedalījās 63 dažādu tautību:(latvieši, krievi, poļi, baltkrievi, ukraiņi) 1., 2., 3. kursu studenti. Kā datu vākšanas metode tika izmantota anketēšana ar vienu atvērtu jautājumu: "Kāpēc Jūs izvēlējāties ārsta palīga profesiju?"

- ✓ Respondentu personīgā informācija (dzimums, tautība, vecums) netika vākta, jo pētījuma rezultātus nebija paredzēts korelēt ar personības parametriem. Pētījuma rezultāti atklāja respondentu priekšstatu par

profesionālajām kvalitātēm. Iegūtās atbildes bija iespējams sadalīt šādās grupās:

- ✓ Izglītības ieguve sabiedrībā nozīmīgas profesijas iegūšanai:
...gribu iegūt labus pamatus savai izglītībai, lai vēlāk turpinātu nostiprināties profesijā un iegūtu pilnu augstāko izglītību...; ...profesija sabiedrībā ir vērtējama kā nozīmīga..., ...lai strādātu ar pilnu atdevi..., ...turpmāk ir iespēja padziļināt savas zināšanas kursus..., ...būs iespēja vērot ārstu darbu un vēlāk arī pašam kļūt par ārstu.
- ✓ Saista darbs, jo ir iespēja palīdzēt cilvēkiem:
...patīk rūpēties par cilvēkiem, ja viņi uz kādu laiku ir kļuvuši nevarīgi, ...gandarījums, ka vari palīdzēt cilvēkiem ekstremālās situācijās, ...patīk vērot kā slimība atkāpjas.
- ✓ Profesionālās darbības sabiedriskā nozīme ir prioritārs jautājums mūsu valstī, visu noteica pieprasījums darba tirgū..., ...patīk sniegt informāciju sabiedrībai par veselības nozīmi cilvēka dzīves darbībā.
- ✓ Atbilstība prasībām profesijai, uzskatu, ka mana personība pilnībā atbilst pienākumu veikšanai, ...man ir visas dotības, lai es varētu strādāt par ārsta palīgu, ...daudzveidīga ir ārsta palīga profesija, kura nav garlaicīga un nekļūš par rutīnu..., spēšu novērst cilvēku bojāeju, tādā veidā palīdzēt viņiem dzīvot.
- ✓ Ekonomisks raksturs:
...iespēja iegūt bezmaksas izglītību..., ...izglītība, kura noder ģimenē, ...darba apstākļi apmierina un ir iespēja rūpēties arī par savu veselību.
- ✓ Tuvu cilvēku ietekme:
...mana tante ir ārsta palīgs..., mana draudzene iestājās ārstu palīgu grupā, es arī..., ...mācījās draugs..., ...vecāki pierunāja..., ...kaimiņiene pārlicināja, tagad mācamies kopā.
- ✓ Ģimenes tradīcijas:
...mūsu ģimenē vienmēr ir bijuši mediķi..., ...mūsu ģimenē jau trīs paaudzēs ir medmāsas, es būšu ārsta palīdze.
- ✓ Plašsaziņas līdzekļu ietekme:
...televīzijā pastāvīgi izskan informācija par mediķu trūkumu slimnīcās, poliklīnikās, ārstu praksēs, bērnudārzos..., ...DMK sabiedriskās aktivitātes pilsētā tiek plaši atspoguļotas presē, radio..., ...bieži dzird par studentu konkursiem, konferencēm, ekskursijām..., ...studenti prot dzīvot interesanti, piemēram, muzeju nakts bija DU DMK..., ..kad gāju no skolas, pilsētā svinēja Varšavas ielas svētkus pie DU DMK. Studentes bija tērpušās baltajos, mediķiem tik ierastajos tērpos, ar ziediem un transparentiem rokās demonstrēja lepnumu par savu izglītības iestādi. Es klusiņām pievienojos viņām un sapratu, ka stāšos tikai mūsu medicīnas koledžā.

- ✓ Nejauša izvēle:
...mūsu pilsētā mācībām nav liela izvēle..., ...zaudēts darbs, tā nokļuvu DU DMK studiju solā..., ...nolēmu pamēģināt arī medicīnisku profesiju (viena izglītība jau ir)

1.tabula. Daugavpils medicīnas koledžas ārsta palīga programmā studējošo atbildes par motīviem uzsākt studijas šajā profesijā, pozitīvo atbilžu īpatsvars (%), 2016.g un 2021.g. (autores veidots)

Table 1 Responses of Daugavpils Medical college students enrolled in Doctor's assistant programme regarding motivation to begin studies in this profession, proportion of positive answers (%), 2016 and 2021 (created by the author)

Motīvu grupa	2016.g	2021.g
Profesionālās darbības sabiedriskā nozīme	21%	26%
Atbilstība profesijas prasībām	11%	14%
Gandarījums par iespēju palīdzēt cilvēkiem	13%	22%
Profesionālās karjeras veidošanas iespējas	3%	9%
Ekonomiskais raksturs	8%	14%
Tuvu cilvēku ietekme	13%	4%
Ģimenes tradīcijas	11%	2%
Nejauša izvēle	12%	4%
Plašsaziņas līdzekļu ietekme	8%	5%

2016. gadā un 2021. gadā iegūto datu salīdzinošā analīze ļauj apgalvot, ka koledžas studentu profesijas “ārsta palīgs” izvēli nosaka dinamiski personīgie, profesionālie, ekonomiskie un sabiedriskie motīvi. Ir nozīmīgi mainījies stereotips par ārsta palīga profesionālo darbību, piem., motīvi par iespēju palīdzēt cilvēkiem 2021.gadā tiek pausti gandrīz divas reizes biežāk salīdzinājumā ar 2016. gadu. Savas profesijas nozīmi līdzcilvēku dzīves darbībā apzinās tikai 21 % (2016.g.) un 26% (2021.g.) aptaujāto speciālistu. Aptaujas dalībnieku atbildes liecina, ka ne visi nākamie speciālisti nākotni saista ar savu izvēlēto un apgūstamo profesionālo darbību. Personības atbilstības nākamajai profesijai rādītāji ir pieauguši no 11% līdz 14%, kas ir nozīmīgi, lai studenti atbildīgi izvēlētos izglītības profilu un paliktu profesijā. Būtiski ir samazinājies respondentu skaits (4%), kas profesijas izvēli veic nejauši. Pozitīva dinamika ir saskatāma atbildēs par profesionālās karjeras veidošanas iespējām (no 3% uz 9%). Aptaujas rezultāti parāda, ka ir pieaudzis ekonomiskais izvēles faktors no 8% līdz 14%, kas apstiprina profesijai atbilstīgas darba samaksas nozīmi. Ārsta palīga profesijas izvēlē vairākkārt ir samazinājusies tuvu cilvēku ietekme un ģimenes tradīcijas, kas ir skaidrojams ar to, ka Covid-19 apstākļos profesija tiek ierindota riskanto profesiju sarakstā, un bailēs par savu ģimenes locekļu veselību un dzīvību tuvinieki neiesaka izvēlēties ārsta palīga profesiju. Plašsaziņas līdzekļu ietekme uz profesijas izvēli ir samazinājusies gandrīz uz pusi (no 8% līdz 5%), ko varētu izskaidrot ar pandēmijas apstākļos pieejamo neviennozīmīgo informāciju.

Kopumā var secināt, ka motivāciju apgūt medicīnisko profesiju ietekmē personīgās īpašības, profesionālās izaugsmes iespējas, medicīnas darbinieka sabiedriskā nozīmība un atbilstīgs atalgojums.

Secinājumi **Conclusions**

Pētījumā iegūtie dati rosina studiju procesā aktualizēt ārsta palīga profesionālo kompetenču attieksmju komponenti, kas ir saistīta ar motivāciju, pašvadību un atbildību.

Motivācija, kas balstās vēlmē palīdzēt cilvēkiem, sniegt aprūpi un atbalstu ir nozīmīga medicīniskā darbinieka profesijas izvēlei, bet šie aspekti aptaujas rezultātos ir saņēmuši samērā zemu vērtējumu un uzrāda negatīvu dinamiku.

Pašvadības prasmes ir noteicošas, lai izprastu atbilstību izvēlētajai profesijai, mērķtiecīgai profesionālajai pilnveidei un tālākizglītībai, kas aptaujas rezultātos parāda nepietiekami augstus vērtējumus.

Atbildība ir būtiska attieksmes komponente medicīniskajā aprūpē, lai nodrošinātu sabiedrības un pacientu vajadzībām atbilstošus veselības pakalpojumus. Ārsta palīga profesijas sabiedriskās nozīmības rādītāji vērtējumos liecina par pozitīvu dinamiku, pieaugot no 21% līdz 26%.

Par karjeras veidošanu aizdomājas 2021.g. trīs reizes vairāk respondentu nekā 2016.gadā, tāpēc ir būtiski sakārtot ārsta palīga izglītības un profesijas attīstības procesu, samazinot sadrumstalotību un nodrošinot pēctecību.

Plašsaziņas līdzekļu ietekme ir sarukusi no 8% uz 5%, nejauša izvēle ir samazinājusies trīskārtēji. Šāds kritums, iespējams, izskaidrojams arī ar to, ka ne visi respondenti savu nākotni saista ar izvēlēto un apgūstamo profesiju.

Šāda motīvu izvēle rosina izstrādāt mērķtiecīgu un reāli īstenojamo profesionālās motivācijas mobilo rīcības plānu atbilstoši mūsdienu mainīgajiem apstākļiem, sadarbībā ar skolām, plašsaziņas līdzekļiem un veselības organizācijām.

Summary

The research data shows that the college students' choice of profession (nurse, doctor's assistant, social career) is determined by different motives. Stereotypes about middle medical personnel have significantly changed, for example, motivation to help people has in five years almost doubled in significance and as of 2021 stands second in importance for students just behind the societal importance of the profession (which has also increased in importance). Other motives that have risen in importance are correspondence for the professional demands, possibility to make a career and earn for living; decline in relative importance, on the other hand, has been observed for such motives as

influence of peers, family traditions, random choice and influence of the mass media. The research data analysis provides evidence that motivational aspect is closely connected to attitudes. Consequently, development of attitudes is an essential factor for promoting medical education and profession.

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FIRST-YEAR UNIVERSITY STUDENTS' EDUCATIONAL/COGNITIVE MOTIVES FOR STUDYING IN RIGA AND SMOLENSK SAMPLES

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Abstract. *For a successful pedagogical process, university teachers need to know the learning motivation of students, monitor it, and take into account its peculiarities while developing learning materials and choosing educational strategies. Especially great attention should be paid to the motivation of first-year students, as in the first months of studies freshmen face increasing difficulties sometimes negatively affecting their motivation. The paper presents some results of an international study of students' motivation and focuses on one group of learning motives of first-year students, namely, on their Educational/cognitive motives. The aim of the study is to analyse and compare the Educational/cognitive motives of the first-year students at the universities of Riga and Smolensk, as well as to study the interrelationship between this kind of learning motives and the psychological atmosphere in the student group. In the survey carried out in December 2019, 129 students from EKA University of Applied Sciences (Riga, Latvia) and Smolensk State University (Russia) participated. The technique of diagnostics of learning motivation by 7 content scales was used for data collection. For studying the psychological atmosphere in the student group, the technique of 10 bipolar scales was chosen. Table method, descriptive statistics, analysis of statistical indicators, method of comparison, correlation analysis were used in the data processing. The data analysis shows that a few months after the start of studying, the learning motivation of the first-year students is at an average level. However, for successful training, it could and should be improved. In the Latvian sample, indicators for both the general learning motivation and Educational/cognitive motivation are slightly higher than in the Russian one. The correlation analysis reveals statistically significant correlations between the psychological atmosphere and motivation of students. The results of the study are useful for further investigation of students' motivation and search of the ways to increase it.*

Keywords: *first-year university students, group of Educational/cognitive motives, learning motivation, psychological atmosphere in student group.*

Introduction

There are many types of classification of motivation. In relation to the individual it can be classified as intrinsic (aimed at achieving the individual goal) and extrinsic (influenced by other people or other sources); by direction, it can be positive or negative; by the level – strong, weak or average; by the area of

activity – professional, educational, creative, communicative, etc. (Richard, 2019; Il'in, 2002; Cofer & Appley, 1964). Motivation is of a dynamic character, it can be stable, it can increase or decrease as well. The importance of having an intrinsic (deeper) motivation is emphasized by E. Deci and R. Ryan (1985; 2000). However, extrinsic motivation can also be important. In the case students do not see the subjective value of learning at the beginning of their study, it can keep them working and eventually, if they experience success, the intrinsic motivation is being developing in students (Peklaj & Levpušček, 2006).

The student's learning motivation is expressed in their involvement in educational activities and is aimed at achieving a certain result which may be different for each student (McClelland, 2015). This result depends on the prevailing motivation of the student. For example, for some students it is important to engage in scientific activities, for others the creative component of motivation is most important, while some others are primarily focused on communication.

Many authors indicate the importance of motivation for the outcome of learning process and argue the necessity of improving learning motivation (Boekaerts, 2010; Lamb, 2017; Safronova & Klyukina, 2019). Working on student motivation increase is essential for the well-being of both students and the academic staff, as well as the society as a whole (Korb, 2014).

Especially great attention should be paid to the motivation of first-year students, as in the first months of studies freshmen face increasing difficulties sometimes negatively affecting their motivation. In recent decades, an increase in the number of freshmen who are psychologically, socially and academically unprepared for higher school has been noticed: they show inappropriate behaviour such as being late for classes, alienation attitude to teachers and administration of the university, unrealistic expectation of high grades, and others (Howey, 2008). In this case, the only thing that can keep a student at the university is increasing their motivation. According to D. Kelly (1988), "When students have both a lack of academic skills and lack motivation, the greater problem is motivation". Moreover, even the students who are well prepared to study at the university do not sometimes reach a high level of knowledge and competence in case of lack of motivation.

The development of students' motivation is a process that is influenced by many factors: the personality of the student, the personality of the teacher, the organisation of training, the content of individual subjects, the psychological atmosphere in the student group and at the university as a whole, and others. The task of a teacher-researcher is to identify such factors, analyse their relationship with motivation and, based on this analysis, suggest ways to improve the situation.

It is good if a first-year student has come to the university with an initial internal motivation to learn and master the profession. But if this does not happen, then teachers, the university administration, and even – despite the fact that usually a student comes to the university as an adult – parents should be involved

in the development of motivation. It is important for parents that their children develop intellectually, gain knowledge and become professionally successful people in the future. Teachers want the student to be an interested participant in the educational process, to show a high level of mastery of educational material at exams, to participate in scientific events. The administration of the educational institution is interested in ensuring that the first-year student does not leave the university, but successfully continues their studies and receives a diploma, and they increase the prestige of the university and participate in various forms of university life (educational, scientific, volunteer, sports, cultural and others). Thus, the issue of increasing educational motivation is relevant for all participants in the educational process of the university: for students, their parents, teachers and administration. For teachers and the university administration, working to increase the motivation of students is an important professional task.

A comprehensive study of learning motivation is a prerequisite for the effectiveness of this work. The diagnostics of motivation is one of the main directions in its study. Diagnostics includes three consecutive stages: 1) the choice of diagnostic tools that correspond to the specific task set by the researcher, 2) the diagnostic procedure itself, 3) the interpretation and analysis of the results obtained. It is especially important to diagnose the motivation of first-year students; the results of the diagnostics allow teachers and university administration to achieve a better understanding of how to work more effectively with students, what forms and methods of conducting classes to choose, what extracurricular activities can contribute to increasing the learning motivation of students. Such factors as the psychological sense of university membership and positive perception of the psychological climate in the student group may be important for students' involvement into studying, their motivation and learning success (Ofoghi, Sadeghi, & Babaei, 2016, Chaikovska & Onufrieva, 2019; Ferreira, Cardoso, & Abrantes, 2011; Dişlen-Dağgöl, 2019).

This study presents some results of the Latvian-Russian research project on the learning motivation of university students and its relationship with psychological atmosphere in student groups. The project is carried out by researchers from two universities: Riga EKA University of Applied Sciences (EKA) and Smolensk State University (SmolSU). The project started in 2018; at the first stage, the learning motivation of graduate students has been studied. At the present stage, the learning motivation of the first-year students is in the centre of research.

This article focuses on one group of learning motives of first-year students, namely, on their Educational/cognitive motives. These motives are a fundamental incentive for becoming a highly qualified specialist with a broad theoretical and practical outlook. *The aim of the study* is to analyse and compare the Educational/cognitive motives of the first-year students at the universities of Riga and Smolensk, as well as to study the interrelationship between this kind of learning motives and the psychological atmosphere in the student group.

In the survey carried out in December 2019, 129 freshmen from EKA University of Applied Sciences (Latvia) and Smolensk State University (Russia) participated.

Methodology

For collecting the data, the two techniques were used.

1) The method of diagnosing the learning motivation of students by N. Badmayeva (Badmayeva, 2004) adapted by the authors for Latvia (Jermolajeva, Silchenkova, & Turusheva, 2020). The respondents received a questionnaire with 34 statements (implicitly for the students, the statements represented 7 motivation groups/scales) and were asked to rate them from 1 point (the minimum importance of the motive) to 5 (the maximum). The motivation scales are listed in Fig. 1.

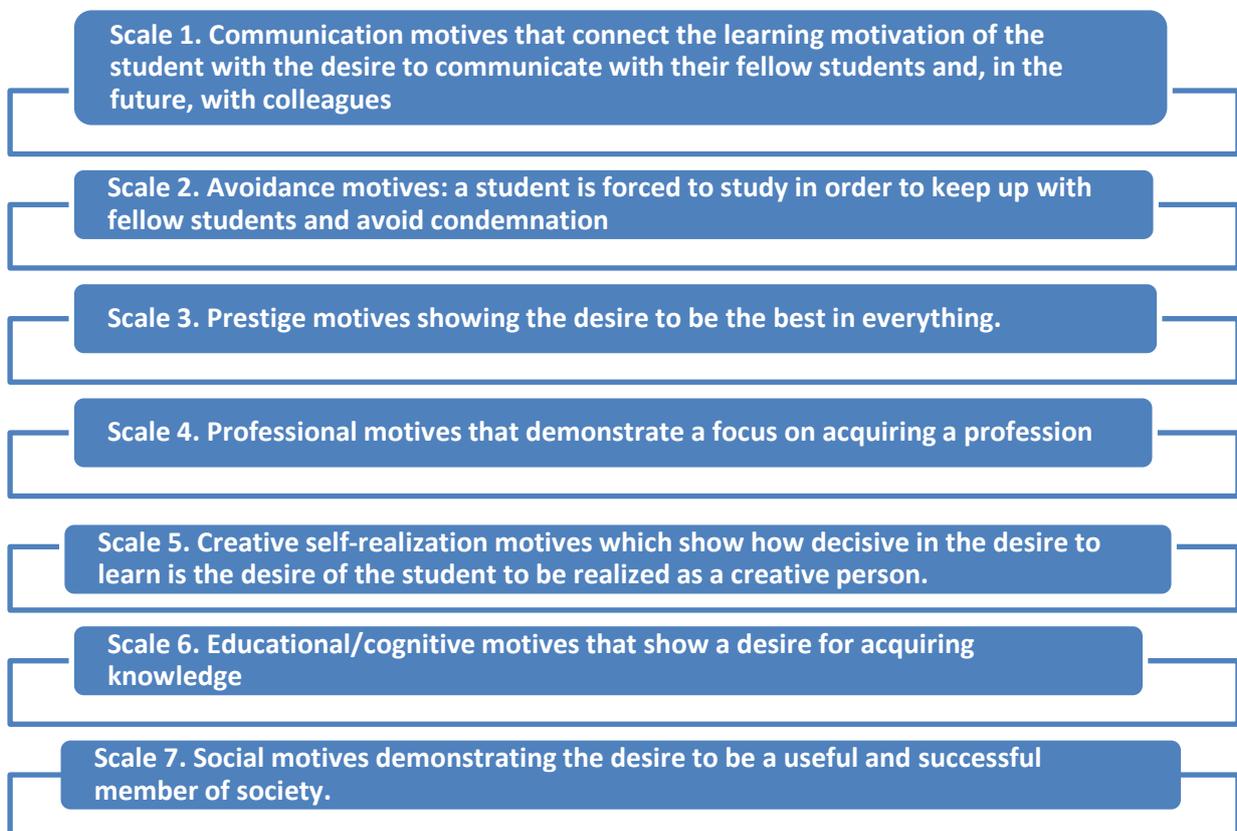


Figure 1 The scales of learning motivation by N. Badmayeva

Analysing the data, the following motivation levels were determined: the low level of motivation is from 1 to 2.3 points, the average one – from 2.4 to 3.6 points, the high level from 3.7 to 5 points.

2) The “Diagnosing of the psychological atmosphere in the team by A.F. Fidler” based on the method of semantic differential (Fetiskin, Kozlov, & Manujlov, 2002) adapted by the authors for Latvia (Jermolajeva, Silchenkova, & Turusheva, 2021). The corresponding questionnaire contains 10 bipolar scales

representing different aspects of the psychological atmosphere: Friendliness – Hostility; Consent – Dissent; Satisfaction – Dissatisfaction; Fascination – Indifference; Productivity – Unproductivity; Warmth – Coldness; Cooperation – Lack of cooperation; Mutual support – Unkindness; Attraction – Boredom; Success – Failure. According to respondents' internal perception of the psychological climate in the group, they rated each bipolar scale from 1 (the most positive score) to 8 (the most negative one). Scores 1 - 4 show a positive perception of the psychological atmosphere, 5 - 8 indicate a negative perception.

129 students of the first year of study took part in the international survey. They represented EKA University of Applied Sciences (Riga, Latvia) and Smolensk State University (Russia). The survey was conducted in parallel in the two countries in December 2019. 62 students of SmolSU were studying in economics and management areas of training, 67 freshmen of EKA – in the areas of economics, management, culture management, information technology, and design.

The procedure of sampling was carried out in accordance with the principle of randomness of getting people into the samples that prevents systematic errors (Bashina & Spirin, 2018). The representativeness of the general population (first-year students of the EKA and SmolSU) by the two random repetition-free national samples was ensured by fulfilment of the following requirements: A) each member of the general population had approximately equal probability of getting into the sample. The questionnaires were randomly distributed between students; it was not known in advance who would receive the questionnaire. B) The respondents were selected from the general population independently of the analyzed features. The researchers could not know in advance the specific survey indicators; moreover, the survey was carried out by other people (assistants). C) The selection was carried out from homogeneous students groups. In the Smolensk and Latvian samples, there are freshmen of different ages and gender.

The Alpha Cronbach coefficient was calculated for the received data. For the first-year students of the Riga sample it is 0.974, for Smolensk – 0.968. The high value of this indicator shows the reliability of the samples and high internal consistency of the data.

In the data processing, table method, descriptive statistics, analysis of statistical indicators, method of comparison, correlation analysis (the *Statistica* program) were used.

Results and Discussion

Before proceeding to the group of Educational/cognitive motives, it is necessary to mention general results. Table 1 shows the statistics on the learning motivation of the first-year students of Riga and Smolensk by all the 7 motive scales and in general on the questionnaire. The following indicators of descriptive

statistics are shown: the average value, the mode, the dispersion, and the coefficient of variation (CoV).

Table 1 The learning motivation of the first-year students of Riga and Smolensk by groups of motives and in general on the questionnaire

Scale of learning motivation	EKA				SmolSU			
	Mean	Mode	Dispersion	CoV (%)	Mean	Mode	Dispersion	CoV (%)
Communication motives	3.46	3	1.51	35.52	3.51	4	1.35	33.10
Avoidance motives	2.40	1	1.64	53.36	2.47	1	1.57	50.73
Prestige motives	2.93	1	2.02	48.51	3.1	4	1.56	40.29
Professional motives	4.30	5	0.76	20.27	3.70	4	1.48	32.88
Creative self-realisation motives	3.66	5	1.48	33.24	3.25	4	1.34	35.62
Educational/cognitive motives	3.65	5	1.25	30.63	3.38	4	1.24	32.95
Social motives	3.13	3	1.54	39.65	3.52	5	1.31	32.52
General motivation	3.38	5	2	41.84	3.3	4	1.77	40.32

Source: Jermolajeva et al., 2021.

The level of the general learning motivation among the first-year students is average. The freshmen of EKA score it by 3.38 points; this indicator for the Smolensk sample is 3.3. The most common assessment in Riga and Smolensk is 5 and 4, relatively. But the high value of CoV in both samples (more than 33%) indicates a high variability of the answers and an atypicality of average values. The verification of the data by the Wilcoxon-Mann-Whitney criterion did not reveal any significant difference between the two samples in the averages on all 34 items (the significance level $p < 0,05$). However, there are some differences between the samples. The most striking difference concerns the students' assessment of the Educational/cognitive motives.

Table 2 shows the students' ranking of the motivation scales importance.

In both samples the highest rates are obtained for the scale of Professional motives. As for the scale of the Educational/cognitive motives, its importance has been differently assessed by the Latvian and Russian respondents. While for the freshmen in Riga it is in the 2nd most important place (at once after Professional motivation), the students of Smolensk put it in the 4th place (after Professional, Communication and Social motives). The detailed consideration of the respondents' answers on this motivation scale follows.

Table 2 Ranking of motive groups in the samples of the first-year students of Riga and Smolensk

Rank	EKA	SmolSU
1	Professional motives	Professional motives
2	Educational/cognitive & Creative self-realisation motives	Social & Communication motives
3	Communication motives	Educational/cognitive motives
4	Social motives	Creative self-realisation motives
5	Prestige motives	Prestige motives
6	Avoidance motives	Avoidance motives

Source: Jermolajeva et al., 2021.

The scale of the Educational/ cognitive motives consists of 7 statements. Table 3 shows statistics on all the statements and on the group as a whole.

Table 3 Statistical indicators of the Educational/cognitive motives (first year students of Riga and Smolensk) (created by the authors)

Motives of the Educational/cognitive scale	University	Mean	Mode	Dispersion	CoV (%)
I want to study successfully to pass exams for “4” and “5” (SmolSU), “8” – “10” (EKA)	EKA	3.28	3	1.48	37.04
	SmolSU	3.83	5	1.4	30.82
Just like to learn	EKA	3.24	3	1.34	35.69
	SmolSU	3.02	3	1.34	38.35
Be constantly ready for the next classes	EKA	3.72	3	1.09	28.03
	SmolSU	3.05	3	1.17	35.42
To continue further studies in subsequent courses, to provide answers to specific learning questions	EKA	3.75	5	1.19	29.15
	SmolSU	3.42	4	1.47	35.46
To gain deep and solid knowledge and competencies	EKA	4.15	5	0.89	22.69
	SmolSU	3.93	4	0.94	24.71
Because I have an ambition to do some scientific activity in the specialty	EKA	3.10	3	1.85	43.84
	SmolSU	2.37	2	1.42	50.40
Any knowledge will be useful in the future profession	EKA	4.31	5	0.89	21.81
	SmolSU	4.07	5	0.98	24.32
<i>Indicators on the scale as a whole</i>	<i>EKA</i>	<i>3.65</i>	<i>5</i>	<i>1.25</i>	<i>34.2</i>
	<i>SmolSU</i>	<i>3.38</i>	<i>4</i>	<i>1.25</i>	<i>36.9</i>

In this group of motives, the respondents of both samples give the first place to the statement “Any knowledge will be useful in a future profession” (4.31 points in Riga, 4.07 in Smolensk). The corresponding CoVs are less than 33%, which indicates the typicality of the average values and a small fluctuation of students’ answers. Both samples give the second place to the motive “I am studying to acquire deep and solid knowledge” (4.15 in the Riga sample and 3.94 in the Smolensk one). The CoVs say also that the students are generally unanimous on this statement.

Compared with these two motives, there is a higher variation in responses to other statements. Most freshmen in Smolensk are motivated to study successfully, to pass exams for "4" and "5". This statement is highly rated (4 and 5 points) by 66% of the respondents. In the Riga sample the proportion of similar answers is 42%. Although this motive is quite important, the desire to gain knowledge, rather than grades, seems to be a more adequate disposition in educational/cognitive activity.

The students of Riga are more motivated to prepare for classes than the students of Smolensk: 55% of the first-year students in Riga give high scores (4 and 5) to this statement, while in Smolensk the most often scores are 3 (39%) and 2 (23%).

Riga first-year students are slightly more motivated to continue their studies than Smolensk ones: 60% assess the statement "I want to continue further studies in subsequent courses, to provide answers to specific learning questions" at 4 and 5 (50% in the Smolensk sample).

There are quite many students who do not like to study. 33.9% of SmolSU respondents rate the statement "I just like to learn" by 1-2 points. At the same time, the Smolensk sample has about the same number of people who like the learning process (35.5%). In the Riga sample, this ratio is 25.4% (though, it is also quite a lot) versus 40.3%.

Perhaps those who do not like to learn initially had no motivation as they entered the university at the insistence of their parents. There is a high probability that in the future they will be expelled from the university at their own request or according to the results of exams. Nevertheless, they are not hopeless university losers, but only the teachers should make every effort to change their negative perception of the learning process and increase their motivation.

In both samples, the highest *CoV* was obtained for the statement "I learn because I have an ambition to do some scientific activity in the specialty". In the Smolensk sample, only 22.6% of the first-year students rate it 4 or 5; in the Riga sample, 38.8% plan to do research in the chosen profession. Of course, first-year students do not yet know how their life, including their studies, may turn out in a few years. Many plan to get a job as soon as possible, while others are unsure of their abilities in research. Some may have the opinion that doing research is not very profitable in material terms; it is a too long path to success.

In general, it can be noted that compared with the Smolensk freshmen, the students of Riga show slightly higher average scores both in the assessment of the motive group as a whole (3.65 versus 3.38) and in the rates for separate statements. This indicates a more conscious and responsible attitude to their studies. In part, this difference in motivation may be due to the fact that the average age of students in the Riga sample is higher than that of the Smolensk one. Usually, older students approach their studies more consciously, understand their significance better, and study harder than their younger classmates. Perhaps in the Smolensk sample there are more freshmen who did not choose their

university consciously, but rather did it randomly, or on the advice of friends or parents. In addition, there might be suggested some other factors responsible for the SmolSU students' lag in motivation, for example, the compulsory military service in Russia, or less elaborated system of professional orientation at Russian schools. The issue requires an additional research.

For studying the interrelationship between motivation and the psychological atmosphere in the student group, the A. Fidler's questionnaire with 10 bipolar scales was used. Fig. 2 shows the average scores for 10 aspects of the psychological climate in the groups of first-year students in Riga and Smolensk (the lower the score, the more positive the respondents' assessment of the psychological atmosphere).

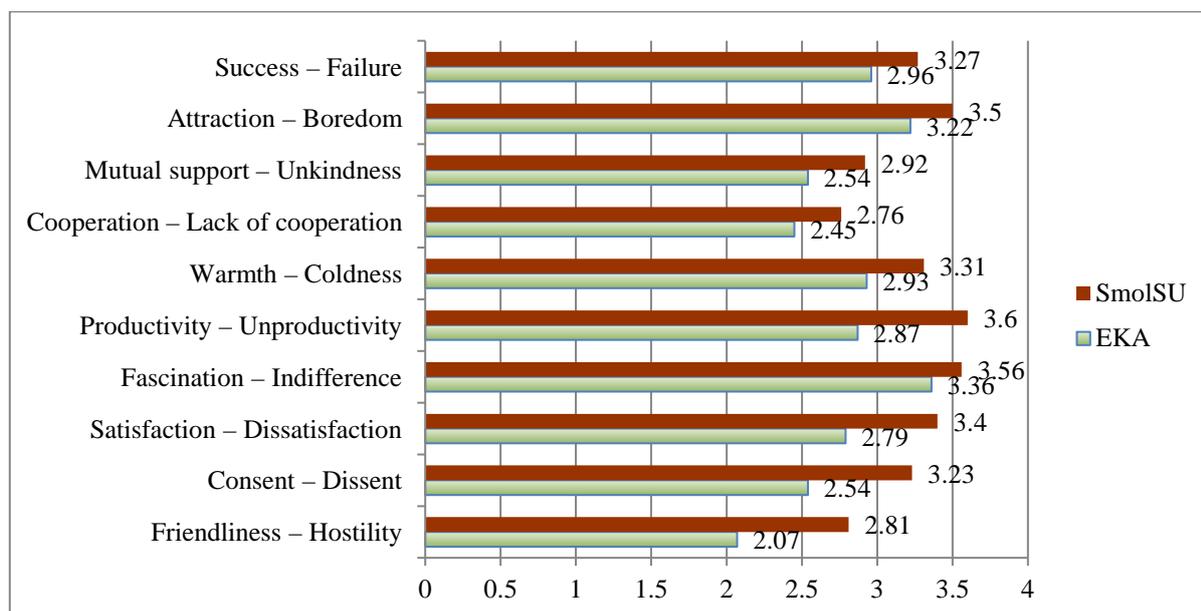


Figure 2 The average rates of the aspects of the psychological atmosphere in the student group (first-year students of Riga and Smolensk) (created by the authors)

The average scores on all 10 scales are below 4, which indicates both university freshmen's positive perception of the psychological atmosphere in their group. The students of Riga are somewhat more positive about it (the average on 10 scales is 2.77, mode 2) than those of Smolensk (3.24 and 3, relatively). In both samples, the top three most positive assessments relate to Friendliness, Cooperation, and Mutual support. That is, from the beginning of their studies students collaborate, friendly communicate, and create a positive atmosphere for learning.

To check the correlations between the learning motivation of students and the psychological atmosphere in the student group, the Spearman correlation coefficient was used, with $p < 0.05$.

For the Smolensk students, statistically significant dependence of general motivation on the general atmosphere in the group was revealed. At the same time,

no statistically significant correlations were found between the Educational/cognitive motives and the psychological climate in the group or its individual aspects. This partly explains the third place of the Educational/cognitive motives in the Smolensk sample ranking: the lack of correlations indicates these motives' relatively less importance for students, compared, for example, to Social and Communicative motives.

In the Riga sample, a moderate correlation was found between Educational/cognitive motives and the Fascination aspect ($R = -0.36$). In general, the atmosphere of fascination is the most frequent aspect that affects the various learning motives of the first-year students in Riga compared to other aspects of the psychological climate. Probably this is due to the specifics of the EKA University: many students of this university are studying in the programmes connected with culture.

A more detailed description of the results of the correlation analysis can be seen in another paper (Jermolajeva, Silchenkova, & Turusheva, 2021a). It should be noted that the number of statistically significant correlations between the general learning motivation and separate motive groups, on one hand, and general psychological atmosphere and its separate aspects, on the other, turned out to be not as large as the authors initially believed. However, in both samples certain results were obtained. The revealed dependencies make it possible to suggest that improving the psychological climate in the student group may be a tool to influence motivation. The correlations found (as well as their absence) offer material for further research and reflections on how to increase learning motivation.

Conclusions

- The level of general learning motivation of the first-year students in Riga and Smolensk is average; students of Riga are slightly more motivated than students of Smolensk. Riga freshmen are more purposefully focused on Educational/cognitive development; the respective group of motives occupies the second place by importance (immediately after Professional motives). The Smolensk first-year students are more motivated to communicate and socialize than to gain knowledge. When ranking motivational groups, their Educational/cognitive motives are in the fourth place
- Students of both countries believe that any knowledge will be useful in their future profession, while deep and solid knowledge is less important for them, which indicates their somewhat cool attitude to studying. Some students are not in the mood to fully immerse themselves in their studies and devote a lot of time and effort to it.

- A negative phenomenon is the presence of freshmen who do not like to learn in principle; there are more such students in the Smolensk sample. Perhaps they initially had no motivation to study, because they entered the university at the insistence of their parents or for other external reasons. The teachers should make every effort to increase the motivation of such students.
- The analysis of the correlations between the psychological atmosphere in the group and the learning motivation of students shows the presence of a statistically significant dependence of the general motivation on the atmosphere in the group for Smolensk students and the dependence of the Educational/cognitive motives of Riga students on the fascination of the educational process. Thus, improving the psychological atmosphere of the pedagogical process and in the student group can be an additional tool of increasing student motivation. Teachers should strive to ensure that the training is interesting, modern, productive, and full of positive emotions.
- The research has the following limitations: the experimental base is limited to two universities from two countries (further research could include at least one more country); the correlation analysis is limited to one method (in future other methods of multivariate analysis will be included).

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MOST INTEGRATED VIRTUAL IMAGES OF THE BONES IN THE TEACHING OF HUMAN ANATOMY: ARE THERE ANY DIFFERENCES BETWEEN ONLINE AND ON-SITE TUTOR?

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Abstract. *Covid-19 situation has seriously disrupted regular traditional methods and tools for Human Anatomy teaching. In order to replace limited access to the real human bones, anatomy educators increased integration and use of virtual images in comparison with the past study processes. The present study was conducted to review 15 Human Anatomy tutors' responses regarding the most used virtual images of the bones for online teaching from March 2020 to the end of October 2021 vs usual on-site teaching at the Department of Morphology. The interview was designed and feedback was taken from the tutors. The majority of the tutors added to their online practical classes a lot of virtual images from anatomical applications and different available resources, related directly to the isolated bones of the skull. For several tutors the searching, preparation and use of virtual images for online teaching was a novelty with advantages and disadvantages. Some tutors have used the possibilities presented by the pandemic to innovate their teaching of skull bones. Virtual images of the bones are an adequate resource for the early stages of undergraduate teaching, but the learning experience may be further enhanced by providing options for the studies with the use of real specimens.*

Keywords: *bones, Covid-19, online, on-site, tutors, virtual images.*

Introduction

Medical education is based on general study courses, including anatomy, (Azimi Khatibani & Tabatabai, 2021), where traditional teaching methods and study materials were widely used and accepted before the period of Covid-19. The unexpected and fast move from regular practical classes to online and remote teaching has changed the way of teaching in most of the Universities, including Rīga Stradiņš University (RSU).

Even before Covid-19, there was already adoption of the digital technologies in anatomy education but the pandemic period resulted in a challenge and an opportunity to use and assess remote teaching and e-studies, including all areas of distant communication and accelerated learning. In the world a lot of anatomists

have responded by necessarily forcing the students to remotely study, challenging their teaching methods and resources (Cortese & Frascio, 2021).

The increase in technological possibilities and resources for educational purposes allows the use of virtual images for improving anatomical knowledge in the field of medicine (Bartoletti-Stella et al., 2021). The use of different virtual images in various forms has always been intrinsically associated with Human Anatomy. Among the virtual tools, the images of the human bones could represent a valid resource that allows, through an online platform, to teach anatomy on-site and during a pandemic period.

During the last years, virtual images of human bones have undergone massive advances in anatomy and simulation-based training for clinical areas. Deep knowledge of skull bones is also essential for students in the medical and dentistry fields. Digital images of the skull bones may allow the opportunity to present detailed, high-quality details, classical and rare anatomical variants in different cross-sections. In this scenario, different images of the bones have been proposed for anatomical teaching, but they show several limitations in the education of human anatomy since their use is limited to specific anatomical topics.

The present study aimed to review Human Anatomy tutors' responses regarding the most used virtual images of the bones for online teaching and compare the use of these images in traditional on-site learning at the Department of Morphology of Rīga Stradiņš University (RSU).

Material and methods

The current study took place from March 2020 to the end of October 2021 at the Department of Morphology. The participants were 15 Human anatomy tutors who taught the study course of Skeletal System Anatomy for the first-year (1st semester) students from the Faculty of Medicine and Faculty of Dentistry. The selection of tutors was based on an open and voluntary invitation. The inclusion criteria were being a tutor in Human Anatomy, experience dealing with online and on-site studies, digital technologies and tools, and willingness to be interviewed.

In the pre-Covid-19 period and the first part of the 1st semester weekly the practical class consisted of three hours, including presentations and demonstrations of the anatomical structures on dried human bones and/or plastic models from materials of the Laboratory of Anatomy.

From March 2020, according to the transition to remotely teaching, the practical classes were changed to format for two-hours online weekly. The practical classes were performed by our tutors using the official e-studies platform of RSU, including prepared links for the online communication platform Zoom (Zoom Video Communications, Inc., San Jose, CA). In this format, tutors

presented the topics of the Skeletal System Anatomy for students online, including virtual images and PowerPoint slides. The anatomical structures were indicated on specially prepared, created and/or selected virtual images of the human bones together with plastic models when appropriate. There were also presented some difficult anatomical structures, including virtual images of the skull bones. Several virtual images were added from: “Complete Anatomy”, a three-dimensional (3D) e-anatomy software (created by “3D4Medical”) as a visual aid, DVD “Acland’s Atlas of Human Anatomy” (Acland, 2003) and an interactive anatomy learning platform “Anatomy Next” (RSU Anatomy app, 2020-2021).

This study was designed to get answers to the following questions:

- 1) What types of virtual images of the bones were used by tutors in the pre-Covid-19 or on-site teaching process of Human Anatomy?
- 2) What types of virtual images of the bones were used by tutors in the Covid-19 pandemic period or online teaching process of Human Anatomy?
- 3) What are the general differences between online and on-site anatomy tutors, using virtual images of the bones in traditional and remote practical classes?

An open-ended interview was the instrument used to collect data for the study. This procedure was conducted in a one-on-one event and this process took approximately 10 to 15 minutes. The structure of the interview was developed concerning the questions formulated for the study. The contents were made up of the experience characteristics of the Human Anatomy tutors based on on-site and online practical classes. Most of the asked questions were multiple choice type questions, where tutors were asked to choose the most appropriate option. Some questions were simple “yes/no” questions. There were also included options to give the tutors’ points of view. The interview continued until saturation, meaning no further data were obtained on the topics of interest.

All interviews were transcribed, and the answers of the tutors to questions were analyzed qualitatively, recoded depending on the thematic item and analyzed concerning the other answers.

The data resulting from the tutors’ interviews were analyzed by using thematic analysis of content as the most common technique for data analysis (Elo & Kyngäs, 2008), based on six steps model (Braun & Clarke, 2006). Differences between on-site and online tutors were detected when formulating the questions in five thematic items: the preferred way of teaching; characteristics of the used virtual images in the pre-Covid-19 period; characteristics of the used virtual images in the Covid-19 period; satisfaction with the effectiveness of the onsite practical classes in the pre-Covid-19 period; satisfaction with the effectiveness of the online practical classes in the Covid-19 period. According to the reflection of

the tutors' experiences, every item was formulated into five categories ranging from 1 (the lowest) to 5 (the highest).

The assessment of the similarities and differences was related to tutors' self-concept and several recommendations were formed for the future teaching process.

Results

Based on the results of the analysis, five thematic items represent a specific teaching experience that is important to online and on-site tutors, including their direct interaction with most integrated images of the bones. Five categories were extracted by the authors to display the thematic items discovered through analysis of tutors' responses. Their distributions are shown in Tables 1 – 3.

The thematic item of “the preferred way of teaching” comprised tutors' responses towards their experience using images of the bones in the Human Anatomy course (Table 1).

Table 1 Characteristics of tutors' responses on the 1st thematic item (created by the authors)

	Category				
Thematic item	1	2	3	4	5
Preferred way of teaching	textbooks	anatomical videos and free online resources, DVD “Acland’s Atlas of Human Anatomy”, the app “Anatomy Next”	virtual images available free online, demonstrations, PowerPoint presentations	software “Complete Anatomy”	materials provided by Laboratory of Anatomy

The 1st category included tutors' responses about the use of the textbooks: from the oldest in which there were only texts to be read, to more recent books containing different illustrations of the bones. Only some tutors used textbooks as an effective way of instructing and consulting students about bones, or for instructing and providing resources for students.

The 2nd category refers to the answers of the tutors who also indicated that different available anatomical videos and free online resources would be the other alternative for the teaching of the bones and their structures. Virtual images of the bones and videos were used by tutors from the DVD “Acland’s Atlas of Human Anatomy” and from virtual models with options for navigation through the images that were included in the app “Anatomy Next”. Several tutors indicated that there the characteristics and details of the corresponding anatomical structures of the bones were explained very well but they had a limited virtual experience in using these tools for teaching.

The 3rd category included answers where tutors agreed that virtual images of the bones available free online had helped them teach better. The images that were selected and used included bones of the following parts of the body: head, neck, thorax, back, upper and lower limbs. Responses showed that during the pandemic, demonstrations of the virtual images and PowerPoint presentations were more preferred by tutors as the best alternative option to teach Human Anatomy for students effectively. The most important was the fact that the tutors found sharing their selected and prepared virtual images and PowerPoint presentations between each other before the practical classes.

The 4th category refers to the answers of the tutors who found virtual images of the bones offered by software “Complete Anatomy” extremely useful for teaching. Tutors selected this platform for students to help them understand the anatomical structures of the bones because it was a convenient and modern tool that supplemented traditional educational delivery methods.

When asked to mention the preferred way of teaching the bones in practical classes, the answers included in the 5th category showed that most tutors reported materials provided by the Laboratory of Anatomy first. Tutors indicated that through the teaching process with real specimens, they could teach the best about the structures of the bones and made a real understanding of the 3D anatomy.

The 2nd and 3rd thematic items included five categories that were focused on “characteristics of the used virtual images in the pre-Covid-19 and in the Covid-19 periods” (Table 2).

Table 2 Characteristics of tutors’ responses on the 2nd and 3rd thematic items (created by the authors)

	Category				
Thematic item	1	2	3	4	5
Characteristics of the used virtual images in the pre-Covid-19 period	shoulder girdle	pelvic girdle	hand and foot	upper and lower limbs	skull, vertebral column, ribs
Characteristics of the used virtual images in the Covid-19 period	vertebral column, ribs	shoulder and pelvic girdle	upper and lower limbs	hand and foot	skull

Following the analysis of the tutors’ responses, the use of the virtual images related to the bones of the shoulder and pelvic girdles, hand and foot were the 1st, 2nd and 3rd categories that represented these types of the virtual images used for teaching in the pre-Covid-19 period. Only some tutors stated that they used these virtual images of the human bones because dried human bones were used in the practical classes.

When the tutors were asked about the types of the other virtual images that they intensively used and adopted for traditional teaching in the pre-Covid-19 period, these answers were included in the 4th and 5th categories. The majority of tutors used virtual images for topics about bones of the upper and lower limbs, skull, vertebral column and ribs. All tutors mentioned that the human skull was the most difficult topic to learn on-site. The majority of the used virtual images were related directly to the topics of the skull, including different cross-sections, isolated bones or most complicated bones (e.g., temporal bone with canals, ethmoid and sphenoid bones) and topographical places.

The use of virtual images in online practical classes increased during the Covid-19 period. This also included some changes in tutors' responses. The use of the virtual images related to the bones of the vertebral column, ribs, shoulder and pelvic girdles, upper and lower limbs were the 1st, 2nd and 3rd categories that represented these types of virtual images used for teaching in the Covid-19 period. These pictures were used by tutors for the detection of the parts, isolated bones, anatomical details, specific signs, identification and recognition between parts or right/left ribs' sides. The minority of our tutors used virtual images directly related to vertebral column and ribs.

The answers that were included in the 4th and 5th categories, showed that the majority of the tutors used virtual images related to the bones of the hand, foot and skull. The images of the hand and foot were helpful in the detection of small bones and details, locations, and relationships between bones.

The images of the skull were very important and useful for explanation and visualization of the isolated bones with parts and details, small openings and apertures, canals of the temporal bone, paranasal sinuses, topography, optic and nasal cavities, and cross-sections.

The 4th and 5th thematic items were related to tutors' responses on the satisfaction with the effectiveness of the on-site practical classes in the pre-Covid-19 period and online practical classes in the Covid-19 period (Table 3).

Table 3 Characteristics of tutors' responses on the 4th and 5th thematic items (created by the authors)

Thematic item	Category				
	1	2	3	4	5
Satisfaction with the effectiveness of the on-site practical classes in the pre-Covid-19 period	the app "Anatomy Next", videos from DVD "Acland's Atlas of Human Anatomy"	software "Complete Anatomy"	3D printed anatomical models of the bones	virtual dissection table "Anatamage"	real bones, cadavers, real dissections, combinations with digital possibilities

Satisfaction with the effectiveness of the online practical classes in the Covid-19 period	videos from DVD “Acland’s Atlas of Human Anatomy”	the app “Anatomy Next”	software “Complete Anatomy”	3D printed anatomical models of the bones	virtual images of the bones PowerPoint presentations
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The answers about the use of the virtual images of the bones from the app “Anatomy Next” and videos from DVD “Acland’s Atlas of Human Anatomy”, digital materials from software “Complete Anatomy” and 3D printed anatomical models of the bones were included in the 1st, 2nd and 3rd categories in the pre-Covid-19 period.

The next category was related to the use of the new and innovative technologies by our tutors. The majority noted, that they included in the practical classes the use of the virtual dissection table “Anatomage” (Table Application software (Table EDU 6.0) from Anatomage, Inc., USA) with different digital tools and virtual dissections.

When the tutors were asked about the satisfaction of the effectiveness of on-site practical classes, most of them underlined that the use of real anatomical bones, cadavers and real dissections is without a doubt the gold standard for teaching anatomy. Throughout the on-site teaching period, all tutors had access to the osteological, cadaveric materials, mentioned in digital tools and platforms. The incorporation of virtual images, different animations and videos made the teaching of Human Anatomy more informative and interesting. All tutors noted that real materials with included digital possibilities made the students better prepared for the practical classes and stimulated the development of the touch and sight. The students were able to interact more with the tutors. In the pre-Covid-19 practical classes, tutors created a stronger and deeper explanation of the skeletal system, individual bones, differences in sizes, shapes, surfaces and other details for the students.

When assessing tutors’ responses about satisfaction with the effectiveness of online practical classes in the Covid-19 period, in Table 3 the 1st, the 2nd and 3rd categories were related to the use of videos from DVD “Acland’s Atlas of Human Anatomy”, virtual images of the bones from the app “Anatomy Next” and from software “Complete Anatomy”. The lack of visualization of the complex anatomical details made different skeletal materials more complicated for explanation and teaching of them in Human Anatomy. All tutors commented that they had to invest more time and effort into the searching, selection and preparing of the virtual images of the bones for the teaching during that time. According to this, conducting the online anatomy practical classes was a serious and challenging task. In addition, the majority of tutors stated that teaching Human

Anatomy without and/or limited cadaveric and bones demonstrations would lead to limited understanding of the general structures and their interconnections in the human body. After analysis of answers about tutors' views on the replacement of the traditional anatomical materials only with these virtual materials, the majority of tutors replied "no". However, part of the tutors declared that there could be a combination of the on-site and online materials for teaching.

Moreover, materials of the human bones used in routine practice were replaced by 3D printed anatomical models of the bones, virtual images and PowerPoint presentations (categories 4 and 5). Also, in the Covid-19 period, the majority of tutors declared that they began to use virtual images of the bones more often than before. The online classes were made more interactive by including the virtual images. As a part of the practical teaching, there were incorporated osteological visualizations and demonstrations of different anatomical structures and their locations. The images were used during the online sessions, and afterward, anatomical structures were explained step-by-step and discussed by tutors, including better and clear visualization of the bony landmarks and/or important muscular attachments.

Discussion

The Coronavirus disease 2019 (Covid-19) pandemic period impacted all aspects of the quantity and quality of medical education and resulted in a lot of challenges in different fields (Dedeilia et al., 2020). Institutions of higher education were found to utilize alternative methods of teaching effectively in this period time shifting away from the traditional ways (Nordmann et al., 2020). It is clear, that courses with components of the practical classes, including Human Anatomy, were especially burdened with providing online activities to replace traditional teaching and learning (McWatt, 2021). In practice tutors continued education process with the impact of the restrictions and limits due to Covid-19 (Kooloos, Bergman, Scheffers, Schepens-Franke, & Vorstenbosch, 2020). This period has also affected all medical professionals in their academic and/or professional development and training from the undergraduate level to postgraduate (Hau, Weitz, & Bork, 2020).

The findings of the different studies lead to the information and situation that the impact of the pandemic effects was limited by development, intensive support and use of digital technologies (Alhasan & Hasaneen, 2021). Different types of online tools should incorporate as much interactive technology as possible, to provide active, attractive and engaging teaching. The successful use of digital sources, platforms, apps and images can compensate for the pandemic effects and implement several new solutions. The special type of knowledge and skills could be used by educators to inform decisions about which supplemental resources are

effective for various teaching and learning purposes (Baptiste, Abramovich, & Browne, 2021).

There is a growing interest in online teaching in higher education but this has been more challenging in Human Anatomy. We know that anatomy is the oldest scientific discipline of medicine that has been always very close to other medical study courses. The accurate knowledge of anatomy is still cardinal in clinical courses. It is a complex 3D study course with a variety of specific and contextual challenges that depends primarily on the use of face-to-face classes, human cadaveric tissues for teaching and learning face-to-face during practical sessions (Jones, 2021). Direct or on-site studies of Human Anatomy via face-to-face with the use of cadaveric tissues have historically been an expectation for medical and health science students. The Covid-19 pandemic period has moved to self-isolation and social distancing that has made the teaching and learning of face-to-face anatomy difficult (Diaz, Linden, & Solyali, 2021).

During the time between the pre-pandemic and pandemic periods, the teaching and learning process was changed by the combination of different methods and types of technologies (Natsis et al., 2021). The challenges performed by Covid-19 can be interpreted as unique possibilities to test new materials, resources and methods against traditional teaching (Byrnes, Kiely, Dunne, McDermott, & Coffey, 2021). Several authors noted that tutors were trained in new online methodologies, and they showed interest in learning new teaching tools for teaching in the new reality and detected challenges (Verde & Valero, 2021). Tutor performance in the remote study process was influenced by several factors, including the time-consuming creation of materials for online teaching, the availability of technical support during the implementation of them in the e-studies and the wide range of strategies to facilitate distance education (Bani Hani et al., 2021). Many factors can also affect the efficiency of online learning (Hanafy, Jumaa, & Arafa, 2021), including in these studies a comparison of the difference in teaching and learning effectiveness between physical practical classes and online education in the past (Yu-Fong Chang, Wang, Lin, Cheng, & Chiang, 2021).

Until the pre-Covid-19 period, our anatomy tutors relied on face-to-face interactions for teaching and research activities, cadaveric prosections and virtual anatomy platforms. Despite challenges, the Covid-19 limitations present new opportunities to develop new anatomical educational resources, upskilling of tutors in new technologies and collaboration between each other and students. In the current crisis, mixed methods of teaching and learning anatomy are needed for different reasons (Franchi, 2020). In the field of anatomy, the art, drawing and images are interconnected together and form the cornerstone of education. Perhaps, because of the history that is related to gross anatomy and art, the necessity to display images transformed anatomy and moved to the early adoption of the Internet. Creating and developing content that fits in the curriculum of the

study course as well as engaging students through the virtual environment for tutors might appear to be complicated. Several visual learning resources and images being closely associated with text continued in the anatomy textbooks containing collections of images that show the human form and proportions. Despite this, how anatomy tutors and students create, access, view and interact with images has changed dramatically over the last 20 years (Hennessy & Smith, 2020). Different active learning strategies are increasingly utilized in the new and updated digital formats (Chen, Ayoob, Dessler, & Khurana, 2021). Medical students appreciate the opportunity to use new interactive models (Wu et al., 2020) or 3D-printed models (Kazoka, Pilmane, & Edelmers, 2021).

Human Anatomy is a study course with Latin terminology that students traditionally find complicated and labor-intensive. Even with such reduced time, medical students still have to identify and memorize a lot of anatomical structures (Chung et al., 2020). According to the complexity of several skull bones, increased and accelerated adoption of current images and rapid creation of new materials are now required. We should underline that the number and appearance of annotated anatomical structures must be identified and assessed on the created materials relative to the real specimens by experienced anatomy tutors (Li et al., 2020). This model can aid students in understanding complex anatomical structures better (Chen et al., 2020).

Our medical educators have rapidly changed their teaching methods and materials by moving as much online as possible in a digitalized format. There are studies, where authors underline that their approach consisted of not just making available other materials for students to use online during the Covid-19 period (Klein et al., 2019). Although in a remote model of the practical classes tutors should understand that the preparation of the students is important in the dynamic development of the study course (Reguera & Lopez, 2021). Tutors should consider students as the main persons in the practical classes while the tutors themselves play the leading role in the process of “teach by learning and research by teaching” (Liu et al., 2021). In face of the necessity to undertake online teaching, our tutors at all levels have had to undertake novel work for the use and creation of the digital images of the skull bones. Besides this, tutors are ready to teach online practical classes, and online teaching has opened anatomy tutors’ eyes to the possibilities offered by Zoom. Although it is clear that the effectiveness of remote teaching with the use of the digital images varies amongst tutors in different age groups. This fact highlights that some tutors without digital images, access to them and/or technologies can struggle to participate in the remote teaching process. We agree that medical educators, including anatomy tutors, should use what has been learned from the experience of this pandemic period and to perform positive educational changes for the future (Thom, Kimble, Qua, & Wish-Baratz, 2021).

This study was limited by its sample size but the five produced thematic items and five categories after analysis of tutors' responses were useful for the generation of some ideas, discussions of the topics, conclusions and recommendations.

Conclusions

While regular on-site classes with different anatomical materials were the norm in pre-Covid time, then the pandemic period for anatomy tutors was an opportunity to remind themselves about the knowledge, skills, materials and necessities such as adaptability, decision making and creative problem solving.

The findings of this study are useful for understanding different virtual images, including the skull bones, and their use and type that may suit us best depending on the anatomical topics, situations and/or needs of our students. It is clear that virtual images of the bones are an adequate resource for the early stages of undergraduate teaching but the learning experience may be further enhanced by providing options for the studies with the use of real specimens.

Besides this, in online practical classes tutors can not replace traditional teaching but the remote type of study process can be implemented in the Human Anatomy course like an additional tool.

Furthermore, future investigations can validate the conclusions of this study.

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TOLERANT ATTITUDES TOWARDS PERSONS WITH SPECIAL EDUCATIONAL NEEDS AS A COMPONENT OF PROFESSIONAL TRAINING FOR TEACHERS IN HIGHER EDUCATION INSTITUTIONS

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Abstract. *One of the priorities of the modern educational process is the formation and creation of an inclusive space, which includes all components of universal design and, in particular, issues of staff preparedness. Thus, the basic training of specialists in this sphere includes not only the competence of teachers and professionals of helping professions in inclusion, but also the development of established personal attitudes and judgments in accordance with the values of the modern world. Of particular importance is the development of tolerance in future teachers in all aspects of its manifestation - both in the process of learning in higher educational institutions, during the internship, and in the process of professional activity itself, in particular during communication and interaction with persons with special educational needs.*

The importance of this aspect in a teacher's professional profile prompted us to study this quality and determine the level of tolerant attitude of future specialists to children with special educational needs. To solve this problem, we used a number of methods that allowed us to comprehensively study the personal qualities of students in academic groups where students with special educational needs or who received experience in communicating with children with special educational needs during internship in specialized educational institutions or social welfare institutions. Thus, to analyze the qualitative aspects of tolerance (ethnic, social, personal), we used the express questionnaire "Tolerance Index" (Soldatova, Kravtsova, Khukhlaev, Shaigerova, 2002); In order to study the value and semantic component of students' tolerant attitudes we used the "Tolerance Diagnostics. Incomplete sentences" (Kuhareva, 2013); in research of the emotional-volitional component - the method "The Balanced Emotional Empathy Scale. BEES" (Mehrabian, Epstein, 2000); for the analysis of the communicative component – the test of communicative tolerance (Boyko, 2009).

Besides, the listed methods and test were supplemented with the inclusive education questionnaire and the author's art-therapy techniques on the perception of persons with

special educational needs and understanding of the importance of tolerant communication within professional activities.

This approach in the research has allowed us to review essentially the basic educational components for the formation of professional and inclusive competences on the basis of tolerant attitude, to form and briefly outline in this scientific review our own methodological proposal for the introduction of training and other innovative forms of building interaction in academic groups.

Keywords: *inclusion, methodology of inclusive competence formation, teachers' training, tolerance, tolerant attitude.*

Introduction

As the scientists note, “the system of higher education requires continuous updating of the theoretical and methodological basis, development of applied aspects of the educational process... inclusion of special training and rehabilitation technologies, the latest techniques for students with disabilities into the pedagogical system of higher education... because a young person with poor health, but who has received a higher education has a better chance to be employed and integrated into society” (Maliienko, 2021). This format of inclusion, as a strategy that includes and at the same time excludes the “differences” of each individual, is the basic contradiction of the Ukrainian realities of perception, understanding and technology of implementation of inclusive education from the “broad” understanding of the term adopted in Europe and the world.

Since international scholars, practitioners and lawmakers consider the following categories of persons with special educational needs: children with learning problems; children from families in crisis or from families in difficult circumstances; children from families of a different faith, nationality, ethnicity, with other cultural values and traditions, different from the traditions and culture of the territorial community; children of migrants, internally displaced persons; gifted children; children with disabilities, etc. Which is very different from our education system and accepted norms of inclusive education.

Thus, if we take as a basis the “International classification of functioning, disability and health: children & youth version: ICF-CY”, we have a significant expansion of the possibilities of organizing an inclusive educational environment. For which we can use “a conceptual framework and a common language and terminology for recording problems manifested in infancy, childhood and adolescence involving functions and structures of the body, activity limitations and participation restrictions, and environmental factors important for children and youth ... that we can use in different disciplines, government sectors and national boundaries to define and document the health, functioning and development of children and youth”, proposed by the World Health Organization (Nakaz, 2018; Organization, 2007).

Therefore, this document has been declared at the international level as one that can be used for “clinicians, educators, policy-makers, family members, consumers and researchers to document characteristics of health and functioning in children and youth” (Nakaz, 2018; Organization, 2007) and through the proposed classification to improve educational services and the concept of interaction between professionals who can support children at different educational levels and taking into account their differences (Organization, 2007).

This means that specialists in the “helping” professions, which we can include educators, social workers, representatives of psychological services and specialists in special education, are faced with a difficult set of questions:

- willingness to accept the “diversity” and special educational needs of the child with whom they are working;
- the need to understand the root causes of the child's special educational needs, interests, hobbies, passions, family traditions and motives for their behavior;
- a constant search for approaches, pedagogical technologies, technologies of psycho-pedagogical and socio-pedagogical support for the child in accordance with his or her needs and abilities;
- a high level of motivation of the specialist himself and the ability to “pass on” his personal motivation to the children with whom he works to achieve educational goals, promote socialization and adaptation of each participant in the educational process for further self-realization;
- and, probably, the main thing is the established system of values of the specialist, which is based on a tolerant attitude to each participant of the educational process and is manifested in a “careful” attitude to the person with whom he/she interacts.

The theoretical background

So, if we take the issues of values as the basis for training specialists in the “helping” professions, and put “tolerance” on the first step, then we should clearly understand that the issue of tolerant attitudes is considered in various aspects of interaction. If we take the proposed concept of “tolerant consciousness” as the basis, we should focus on its structural components such as (Dmitrieva et al., 2018):

- Perceptual component, which is expressed in a positive perception of the surrounding people, representatives of the socio-cultural environment, regardless of nationality, religion, education, age, attitudes, individual differences;
- The cognitive component is a kind of information “field” that determines the level of awareness of the uniqueness of cultural codes,

traditions, individual-psychological and ethnic features of people's behavior;

- The emotional component implies awareness of the emotional state of other people, empathy, the ability to objectively assess people around;
- Behavioral component means common behavioral attitude to the peculiarities of different ethnic groups and cultures, aimed at establishing trust and equal communication.

The proposed components of tolerance allowed us to formulate our own vision and structure of a tolerant attitude, which formed the basis of our research. For example, we have to do next steps:

- we need to understand the scale of values and value orientations of student youth, which represent them as part of society, allow us to project patterns of behavior (models of automatic reactions to “stimuli” of the surrounding world). What we have noted in previous studies in view of the relevance of this topic for the formation of an active civic and professional position of a specialist, ensuring the implementation of the principles of inclusive education (Sarancha et al., 2021).
- The next step, in our opinion, is the need to determine the level of “emotional response”, i.e. the level of empathy and the ability to manage one's emotional state, because both the mental health of the specialist and his mentees will depend on it. Besides, by determining the level of “emotional response” we can foresee and understand those behavioral manifestations that may arise in students and future specialists when interacting under conditions of the educational process, specially created situations and prevent “emotional outbursts” during practical acquisition of experience in teaching and interaction in the team of supporting a child with special educational needs.
- It is also important at this stage to determine the level of students' tolerant attitude, which will confirm the information already available about the patterns of behavior, interaction, emotional reactions to situations of success or stress while working in an environment of diversity. That, in turn, will allow the teacher to find those pedagogical technologies that will reduce the psychological load on the future specialists, will promote the correction of emotional and behavioral reactions, will allow to cope with stress and atypical reactions of children with whom students will work as specialists of the “helping” professions. And also it will help in the further work with relatives and family members of children with special educational needs, team members accompanying this child in the environment of diversity and inclusion, while “not losing themselves”.

Methodology of Research

The aim of our research is to study the level of tolerant attitudes in communication and behavior of students in academic groups where students with special educational needs learn and the influence of the obtained data on further professional self-realization of young professionals in conditions of inclusion and diversity. In particular, the search for the most effective technologies of forming relevant competences of future professionals of “helping” professions, which will promote emotional and psychological stability, stress resistance and highly skilled actions of a specialist in the situation of choosing the strategy for interaction with a child with SEN based on the formed tolerant attitude to each participant of interaction.

The intended audience for our research was students in three academic groups in 012 Preschool Education (20 respondents), 013 Primary Education (23 respondents), and 231 Social Work (15 respondents). Each of the selected groups after training will work in the areas most often in contact with the environment of diversity and inclusion. It is worth noting that one of the groups has an officially confirmed status of a person with special educational needs, the other two groups have “invisible inclusion” (the presence of a disability that is not documented).

We used a number of techniques to study the level of tolerant attitudes. In particular:

- Express questionnaire “Tolerance index” by G. Soldatova, O. Kravtsova, O. Khukhlaeva, L. Shaigerova (Bugueva, 2012);
- Diagnostic of Tolerance. Incomplete sentences (Kuhareva, 2013);
- Emotional Response Scale (Mehrabian, 1996);
- Communicative tolerance test (Bojko, 1998).

Each of which complemented and revealed the details of personal attitudes, manifestations of tolerance and a set of values that have already been formed and are the basis in the formation of the future specialist of “helping” professions.

Results of the research

Thus, examining the level of each student from the groups allocated within the experiment, we could observe the changes that took place in the academic groups. These changes were caused by several specially created situations of interaction and alternated by factors of high stress and emotional discharge.

So, to work with the groups, we conducted a survey and testing in accordance with the previously stated methods, as well as an interview with each group member who showed a high level of tolerant attitude and communication. In this way, combining and comparing the data of our

respondents, we distinguished among them three groups: with a high, intermediate, and low level of tolerant attitude, taking into account all the suggested components to be considered (emotional response, tolerance index). Besides, during the interview we had an opportunity to make an additional division in these groups into those who had already worked with children with special educational needs, engaged in volunteering or participated in charitable actions (“direct interaction”) and those who had no such experience. Further it has allowed us to define the essential difference in readiness to accompany and work in a team for improvement of rendering of educational services to the child with special educational needs.

Thus, at the beginning of the experiment we had 17 respondents (29%) with a high level of tolerant attitude (three of them from the “direct interaction” group and fourteen who had no such experience), and 41 members of the experimental group (71%) showed an intermediate level of tolerant attitude (of them eight respondents from the “direct interaction” group). There was no low level in the academic groups, which we attributed to students' high motivation for mastering this group of professions, which they reported during the interviews.

But our aim was not just to investigate the qualities and capabilities of each of the participants in the experiment. We had to understand whether they had the competencies needed to work in an inclusive educational environment, the necessary skills for creative thinking, pedagogical transformation, and stress-resistance.

Thus, in order to explore the full range of reactions to information, stressful situations and the actual interaction with children with special educational needs, as well as to form relevant competencies, we developed a step-by-step program within the disciplines of the inclusive cycle, which included a number of activities:

- using video clips from the YouTube database, some of which are collected in a video collection of cartoons for children and parents in order to develop a tolerant attitude towards children with special educational needs and their challenges (Subashkevych et al., 2020);
- online or extramural journeys by specially created museums for understanding people with disabilities, as well as for remote acquaintance with the features of socio-psychological support for children with disabilities in social protection institutions. (Khyliya, 2018; Maliienko, 2021). During the offline training such journeys were not virtual, they were real, where students had the opportunity to engage in communication with specialists from social protection institutions, or public organizations, to interact directly with children;
- especially for students who had the most motivation, we offered participation in activities within the framework of social projects,

during which students had the opportunity to go through all stages of communication with children with special educational needs and learn to interact with the child's family, members of society, activists, as well as specialists who organized and provided socio-pedagogical support for children. (Sarancha & Khilya, 2020);

- and also, the organization of the educational process in the format of interactive learning, which provides for “the involvement of training participants in the educational process, which allows them to see, hear and apply their knowledge in practice. Students are actively involved in the learning process, and the trainer's tasks are to plan and facilitate the educational process (Naida, 2018).

Considering the peculiarities of each group, we had an opportunity to adjust the level of stress for the student youth and the sequence of activities. Besides, our goal was not just to check their level of tolerant attitude, emotional response, but in the process of step-by-step training work, discussions and dialogues concerning their participation in direct work with children with special educational needs, watching a video sequence, to form skills and competencies which future specialists lacked to solve problems related to the offered interaction situations. Therefore, we obligatorily addressed such element of pedagogical interaction as pedagogical cooperation provided and achieved in the following way (Perminova, 2019):

- emotional support, especially at the stages when it is necessary to show persistence, purposefulness and creativity;
- Introduction of elements of mutual aid into the system of students' independent activity (between the participants of the group as well as between the participants of other groups);
- creation of a communication system oriented to a polylogue with a high level of consciousness and self-esteem of the student (Perminova, 2019).

All the above was provided with the help of elements of art-therapy (“minutes of creativity”) which helped to remove the psychoemotional and psychophysical tension arising while watching videos, during absentee trips and meetings with children with special educational needs. Group interaction took place during joint interdisciplinary meetings - supervisions, as a result of volunteer activities and socially significant projects and actions. In rare cases it was replaced by competitions on the results of the received experience, practical recommendations on use of theoretical knowledge in work.

Such “fluctuations” during the organization of classes with students in this experimental group showed that the initial level of tolerant attitude is not “stable” and depending on the situation experienced by each of the participants in this or that event influenced their further choice. Although, at the same time,

it fluctuated insufficiently, which can confirm our previous research related to motivation.

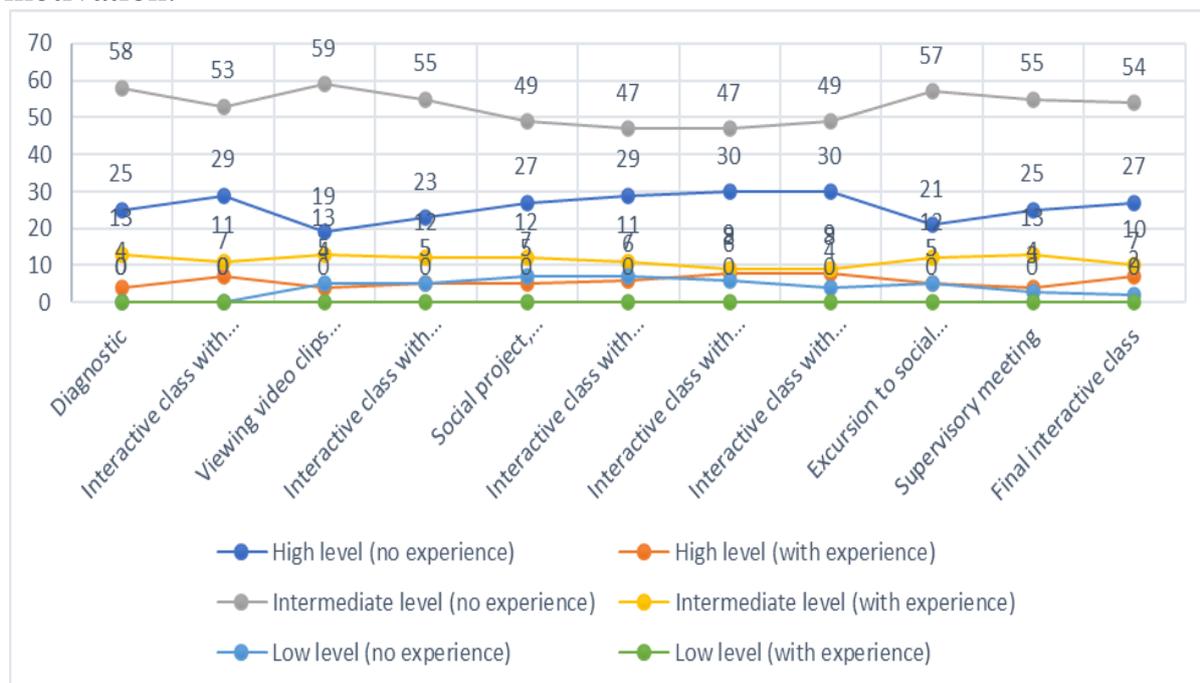


Figure 1. *Quantitative changes in the level of tolerance in the academic groups as a result of participation in the ten events (created by the authors)*

If we look at the “variations” presented in Figure 1, first, we can see the results of the first diagnostics by means of a complex questionnaire and the results of the cross-section after ten classes held in the following sequence: 1. an interactive class with emotional inclusion; 2. watching video clips from the life of children with SEN; 3. an interactive class with emotional inclusion; 4. a social project, volunteering with non-complex categories of children with SEN; 5-7. an interactive class with emotional inclusion; 8. excursion to social care institutions, meeting with difficult categories of children with SEN; 9. supervisory meeting of three groups; 10. final interactive session. Thus, we will have a rather qualitative picture, which is the most stressful and brings “serious” changes in the initial level of tolerance attitudes in all groups. Among such activities we can note first of all those which are connected with mediated (extramural journeys, videos) or direct (when participating in excursions to special institutions / organizations, social projects) acquaintance with children with special educational needs. And the decrease in the level of tolerant attitude among students occurs in the absence of pedagogical support by the teacher of the relevant event. Namely, if there was no step-by-step discussion of the event or video in the process of watching / getting acquainted, and it was delayed for several hours or days.

Also, on the basis of the curves of the diagram we can observe that “variations” in the level of tolerant attitudes among student youth who already had experience of “direct interaction”, i.e. communicated and engaged in

accompanying difficult categories of children with SEN, are much smaller and, they never equaled a low level of tolerant attitudes.

Discussion

Of course, the small number of involved students did not allow us to conduct a large-scale experiment. In addition, the peculiarities of the territorial community, within which the interaction of students and children with SEN, their families and partners took place, which in some cases gave “an impulse” to a positive change in attitudes, values and relationships of future professionals, had an impact. After all, it is the state and public organizations, working with the community well enough, involving everyone in communication or at least in accepting the “diversity”, teaching and showing an example of how to respond adequately, how to properly provide assistance, etc. But at the same time, the data we obtained have a rather specific picture of “fluctuations” in the process of preparation through the inclusion of our own emotional personal experience. Therefore, we will be able to observe the “real image of a “ready” specialist” in two or three years, when the student youth who participated in the proposed courses and volunteer socially significant projects reach the professional level and begin to realize their potential as a specialist in education or in the social sphere.

Consequently, we achieved the goal of this scientific review of the conducted research. As we were able to study the level of tolerant attitude of the involved academic groups as well as traced some aspects of the influence on the formation of the future specialist's personality, his/her motivation for professional self-realization in the conditions of inclusion and diversity. But at the same time we were convinced that there is no single standardized mechanism in selecting the most effective technologies for forming relevant competencies of future professionals of “helping” professions, because each student, each personality is a unique participant of the educational process and these very features require a constant creative search of technologies that will fit exactly this academic group, which creates the need for further search of universal solutions in this direction.

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EXECUTIVE PROFESSIONAL DEVELOPMENT PLATFORM 'MOTHERSHIP' IN HEA AND PUBLIC NGO RESEARCH SYNERGY

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Abstract. *As academics, we cannot influence our students' social and economic early conditions easily. Family roots and social-economic parents' position of upcoming students to HEA institution is given. Education purposes are not just a degree. Pathway to those achievements in HEA is crooked and theoretical content transferred by lectures' good faith in systematic preparation leads to curricula fulfilment only. The HEA level is dealing with various challenges daily. Those hidden challenges may be invisible insurances of bright future for students in the non-ideal institutional world, balancing on the curricular theoretical framework without functional connectivity. A starting position of our PhD students is poorly supported, especially in the EU context policy for humanities in an early carrier trajectories of research skills development. The endeavour to transfer an excellent practical outputs, developed by students in institutional conditions, research and practice go hand in hand. This analytical study introduces mixed methodological design Interpreting the results of content analysis of interviews conducted with students in PhD programmes and proposes strategies for the best practice transfer to a legal NGO entity. Firstly, monitoring questionnaire analysis helps to create essential structure of the interviews with PhD students' according to their needs. Outputs of this analysis reinforced the transfer of non-governmental professional support for early carrier academics already since 2018. Moreover, it identifies factors of early academics' identity belonging under institutional support curricula. Secondly, National policy content analysis points in 2022 to fundamental improvements in early carrier academics institutional policy, based on practice connection in scientific research HUB. Although, presented outputs are new outcomes of pilot cooperation with NGOs' association Máma studuje z.s., they already represent an applied output for further scientific students' development and suggest how to enrich entrepreneurship with research and teaching excellence to make an impact on other societies out of academia.*

Keywords: *early academic carrier, HEA development, Máma studuje NGO association, Mothership platform, PhD identity, PhD students' development, scientific HUB,*

Introduction

Social divergency is a publicly known factor of successful professional life. Those general topics about social wealth are chasing us on each step in the news worldwide. The traditional Czech university insight changes under the circumstances connected with increasing demands in post-covid daily situations, reflecting them in global Higher Education Area (hereinafter the "HEA") policies. Internal and national levels of the educational policy of HEA fields in Czechia are

under the force of National strategic plans and The Research, Development and Innovation Council (R&D&I Council) (Výzkum.cz, 2022a), which results in *the National Research, Development and Innovation Policy of the Czech Republic 2021* (hereinafter the "National Policy") for upcoming years up to 2030, mainly with broad set up content which aims to lower levels of the education system and up to 2027 plans for HEA. Presented and applied Strategy for the Education Policy of the Czech Republic up to 2030 (hereinafter the "Strategy 2030+"; older one "Strategy 2020+") (MEYS, 2022) for lower education levels is a standardly written scheme of balanced ideas conceptions and brings curricula challenges for teachers and schools for the next post-covid era with nicely situated recommendations of urgent changes for the 21st Century. Thus, a very utopistic vision concerning a reasonably transferred education framework would be discussed with the most important 'player' in a successfully defined plan for future – universities. The state strategies, and globally the EU visions (European Commission, 2022) are usually secured by frontier lines of teachers, educators, non-educational workers, pupils, students and other society, *ipso facto* parents and experts.

However, a critical sovereignty point bouncing on the glassy wall of these papered ideas shred into small pieces. Future teachers' preparation is in the hands of universities, i.d., faculties of education with accredited programme offers. Those produce high yearly numbers of students who 'saddle up' into school practice. Questionable is a fact, if universities in connection with their institutional bodies and facilities in the HEA level in the Czech Republic are fully independent or all need some unified strategic plan for upcoming years as a template vision which is connecting all curricula state visions with 21st-century demands for graduates' completed professional identities. All of those curricula unclear variety of indicators bring expectations unlinked to 21st-century skills (Kropáč, 2021a). Open opportunities and lots of space for entrepreneurship and volunteer enthusiasm are missing in curricula implementations, mostly at humanities-oriented faculties. These policy changes may lead to developing the desperate identity of future academics and hostility ethos among them where victims will be future teachers in preparation and other professional communities. A key idea of universities that has to be accepted in society is linked to high amount of students who are predicted to participate in the giant blind experiment with their lives. Those brave and involuntary participants have to achieve an ideal professional, and social role and purpose and university lecturers/teachers are expected to guide and form them on their way.

Society may easily understand and label their identities roles in social justice leaders where students are lurking for roulette results, after all, satisfaction full of acceptance or rejection in the eyes of society. Albeit that is philosophical demand of consistently practical example for an existential way of daily life identity limits,

based on the thesis predisposition Is and Ought problems by David Hume (Hume in Cohon, 2018).

PhD gap of future lecturers and institutional sovereignty

In the consent of social equality where the scientific field and community are unwanted, and lack of cooperation leads to misunderstanding from the sight of population, which do not accept continuity between theoretical conclusions and practical engagement synergies from both worlds and public interests of universities and NGOs. These strategic inventions are going from uncertain expectations pervaded from universities boards and longitudinal conceptions from the Ministry of Education Youth and Sport in the Czech Republic (hereinafter the "MEYS"), supported by legal *32005H0251* Recommendation (EUR-LEX, 2005). The PhD identity definition of European Economic Area (hereinafter the "EEA") is quite vague, and the meaning is highlighted by trying to narrow crooked situations in the HEA sphere. The definition in Section 3; *32005H0251* Recommendation *for forming socio-professional identities* to separate researchers who completed their PhD into two categories. Firstly, the definition pointing to the Early-stage researcher with less than four years of practice, including a period for training. Secondly, pointing to more skilled researchers who are defined by the EUR-LEX *32005H0251* Recommendation as "Experienced researchers [...] at least for or already in possession of a doctoral degree."

Current trends in PhD-support implementations lies in Czechia in entities of virtual platforms of PhD university schools which started in early 2021. The boom of PhD virtual schools' bodies and scholars' entities are going hand in hand with public universities' business models, enriching science. Some PhD programmes are the flagship of many proud universities. Traditional academia *faux pas* is when mentoring professors use students as 'shovels' to cover their representative social roles impotence, e.g. lack of students' support due to academic writing, teaching management, empowerment of profitable posts and deployment of selected puppets for the purpose of having control. This traditional unspoken taboo about exploitation is unethical and overruling domination in natural scientific cooperation between diverse and open Humbolts' universities and affects students' identity dignity. Virtual PhD schools try to protect unbalanced principles and lead students' knowledge improvement, such as in principles of cooperation. However, there is a non-institutional way to systematically involve all PhD students under one institutional umbrella. We can do so by developing an utilitarian PhD identity consisting of their interdisciplinary skills and connecting all majors of various faculties by the chained research HUB (Kropáč, 2020).

The authors from the last decade are trying to autopsy the identity and role of academic PhD students, contra universities' HEA policy. Analysis of the actual outcomes presented in the literature below should include response to questionable findings in various fragmented areas from economic independency

of PhD students, institutional support or everyday life problems connected with the founding of families of single mothers who have to face a difficult decision between professional carrier on the PhD level or family issues. These markers of social justice must be closely investigated in continual research and implemented to standardised curricula. For purposes of article complexity, we are presenting reduced research commission by those selected authors, i.d. Barnett (2017), Chudý & Kropáč (2019), Krouglov (2018), Van Lankvald (2017), Pokorny & Warren (2016), Wiegerová et al. (2013). The PhD identity constructivism at universities is vital for its economic, and social and scientific importance. However, lack of institutional care determines some of the excellent and enthusiastic early carrier academics to fail.

Especially in Czechia universities, there are many of humanities models of education doomed. Measured by drop-out policy and curricula, warning finger monitor outputs point to mentors' intolerance to students' needs during the second or third year of PhD study, when most students were leaving their dreamed carriers due to the family issues. This stage of exodus brings the most measurable and significant reported drop-out data (MEYS, 2022) until COVID-19 started in 2020 to influence early academic workers in PhD preparation in all PhD studies statistics in the Czech Republic.

Institutional responsibility to develop entrepreneurship opportunities with social justice impacts

Entrepreneurship synergy is taken by Krouglov's (2018) vision of HEA environment, connecting universities with society effectively. Although different knowledge fields locked behind universities' walls have to be taken outside for *pro bono*, there is critical to count with transfer variability of shared responsibility to third parties like entrepreneur units and NGO associations or other stakeholders. Whereas Warren (2020) points to the need for social responsibility transfer based on the common values, people are entities who enhance social justice conditions in further context. The role of academia with rightly selected macro and micro values may fix a situation in a capitalist vision of separated society indoctrination where HEA segment consistently influence the gap between opening scissors for students and social synergy.

Institutional development is based on the social integration and level-up of PhDs' identities in many ways. Stratification scissors between population's knowledge and its accessibility represent the gap where only a tiny percentage of people finished HEA levels' approbations. Narrowing conditions at universities between the years 2015-2020 in strategic visions of MEYS and essential older outlines in Strategy 2020+ allowed increasing opportunities to foster economically the development of future teachers at universities. Although this modified National Policy's (Výzkum, 2022a) conceptual aims (Výzkum, 2022b),

academics in Czechia did not solve any comprehensive problems in education environments, such as 'covidity pitfalls' or non-secured technical infrastructure conditions of students' support environment (Kropáč, 2021b).

Among the trends of actual practice for elementary social understanding, universities gain or lose their credits with any impacted or realised improvements in HEA area. Whether is covid situation handling or dealing with an infrastructure and environment conditions for PhD students' preparation.

At least Strategy 2030+ (MEYS, 2022) is trying to push curricula improvement in teachers' professional development, and the curricula enhancement is in the hands of universities. Academic values over the European HEA updated evaluation (European Commission et al., 2020) of *Yerevan and Paris Communiqué*, published as a conclusion of data analysed report in 2020, is pointing to the new roles of HEA reactions and changes. Those marginal contextual visions target our next generation of students, teachers, and academics who are standing on social justice crossroad. Although this highly recommends implementing doctrine further to education area, what is the most important is a fact there is a responsibility lying on the all of us in EHEA "Scientists and academics, whether working in universities, health systems, pharmaceutical companies or other settings are playing a key role in addressing the response to the challenges created by the COVID-19 pandemic." (European Commission et al., 2020: 158). Universities should help narrow social justice gaps in the current 'covidity' era; if not, they should at least try to do something that will help eliminate institutionalisation and lost independence by new blessed indoctrination outdated pre-pandemic strategic intention.

In dogmatic society, those views may be explained as elite group stratification. General dogmatic society views cannot understand the role and power of HEA on the utilitarian usage idea in proof-of-concept results. Society accepts only one public identity, defined as a teacher's identity, but complex identity is constructed in HEA, forming PhD students into graduates, doctors. So many factors are hidden and difficult to explain in broadening the theoretical and legal context to the public in simple language without academical jargon (Kropáč, 2020). People miss the fundamental point and struggle with only one idea, while the synergy of both worlds is cracked. Dusted institutional identity leads to fragmented entities claiming positions over faculty bodies, mainly legally settled for *bona fide* of academia. All of those processes tend to narrow procedures in achieving education until those social rights are not brightly taken by fake experts or unethical Foucaults' empowerment (see Bierhanzl, 2015; Kriššák, 2017).

In contrast, social justice improvement is developing overseas. On the other hand, bright future in post-communism era in Czech HEA sphere is a daily reality challenge. The Velvet Revolution on 17th November 1989 forced the Communist party to surrender in a non-bloody march to academia ethos of students' enthusiasm shared by the whole society. The current situation in a country is more likely a model of hostility and towards the academic individualism and

performance all over longitudinal society cooperation and academia embassy as invisible hands of brightness. However, there are many gaps in presenting science, applied science or commercial science in humanities with transfer to the other goodness. Those markers are irrelevant for social justice, and representative data are only for university repute. Those are re-sell as an economic data object in statistical methodics' markers rules by *the Methodology for Evaluating Research Organisations and R&D&I Purpose-tied Aid Programmes* (2017+) (Výzkum, 2022), where relevant factors are sublimated into the subjectivity of 'collegial spite' of fact, publish or perish rules and research pork-barrel spending.

Institutional responsibility to previously mentioned drop-out reports (MEYS, 2020) includes a drop-out matrix where the number of PhD students and presented figures indicates a failing gap in the inclusion process during their studies. Moreover, there is a practical approach to students' exodus in PhD programmes. The exodus of PhD students/candidates pointed to the non-functional requirements of the PhD education structure in fourth-year programmes, which were innovated in 2006 on the outdated vision of the Bologna process (EACEA et al., 2015; EURYDICE, 2018). Even though comprehensive results ascertain involved conceptual visions on the strategical educational approaches presented in the Bologna latest report updates evaluated as a conclusion from 2020, some of them are closely presented in Strategy 2030+ (MEYS, 2022). For HEA's global impact policy, challenges in Czechia are modifying a new document responding to the EU demands and current national expectations in the yearly shortage vision from 2022 up to 2025 (MEYS, 2022).

Methodology

Briefly pop in into methodological mastermind

Between 2019-2020, continuous data collection was conducted by phenomenological narrative interviews. The results were interpreted in the dissertation anchor background dataset for newly constructed online monitoring questionnaires in 2021 and distributed over unofficial online "early academics group" at Palacký University. In addition, students of PhD programme at the Faculty of Education identified leaks. Specifically named obstacles during their preparation and up to the 3rd year after their graduation in PhD programmes.

The applied research approach consists of data analysis using Atlas.ti to find the factors which influence the professional development and enhance students' identity in preparation in PhD programmes. Continuously, a mixed research approach underpins the needs of students in PhD preparation programmes. The research sample of involved students were 24. Therefore, it is necessary to mention pre-analysis via monitoring questionnaire to identify factors that impact the needs of NGO association and university platform connectivity for upcoming cooperation.

A questionnaire was constructed with Likert Scale options, semi-closed questions, and open questions to understand better setting up rules and ethos over early academics' preparation programmes. The results have been benchmarked over phenomenological expectations and gaps that influence needs and expectations for further platform development with the synergy of NGO and HEA sectors.

Set up research aims is to identify and construct a functional, utilitarian model of social justice engagement between academic and social valued research across scientific, NGOs and stakeholders.

The research question concerning options and possibilities; are there any ways to support PhD students during different stages of studies?

In pilot research tool for Mothership platform establishment has also been component partial monitoring research questions:

1. How to involve PhD students more in applied research synergy and deleting dogmatic society views?
2. How to prevent exodus in PhD programmes and motivate students by NGO (social justice tool)?
3. Which kind of support helps to lower 'drop-out prevention' for studying single mothers?
4. How is the working retention of single mothers among social equality mechanisms at university?
5. What is a critical need of PhD students from divergent social stratification?
6. What would happen when PhD students from the divergent social sphere have the option to develop their academic skills within a growing social community? E.g. supported mentoring or service-learning?
7. How to develop academic-social practitioners and engage their social responsibility in NGO & stakeholders' HUB research cooperation?

Results

The analytical part of research and monitoring – a bridge to results challenges in practical outputs

The applied outputs of dissertation research indicate necessary needs to support PhD students, engaging their social responsibility, and not hiding their knowledge and freshly gained skills for academic purposes only. However, the volatility of the support in academia does not focus on the most jeopardised categories of students. These are not specified in strategy framework with predictions or social impulses/stimulus how to involve enhanced tools to help them during their doctoral preparation and during their early career development, full of researchers' enthusiasm.

Therefore, we propose a thought NGO's association called *Máma studuje z.s.*, a supportive key Mothership platform that enhances equal opportunity in

social and institutional synergy for early carrier researchers and youth academical PhD, non-PhD workers, teachers, students and all people from society. All those who are breathing for knowledge. Mothership platform to be implemented to curricula on Palacký University for engaging PhD students.

Table 1 Analysis of open data Monitoring HEA indicators

PhD studies open data	2020	2019	2018	2017	2016	2015
Population N amounts of students in PhD programmes	21 726	20 921	21 420	22 228	23 265	23 928
Students per graduates' coefficient (student/finished studies in year)	1:12	1:9	1:9	1:9	1:10	1:10
Percentage of successful graduates in PhD programmes (student/successfully ended studies)	1:8,5	1:11	1:11	1:10,7	1:10,0	1:10,1
Successfully graduates amount	1 837	2 310	2 362	2 384	2 335	2 405

Source: Open data source MEYS up to July 2021 (2022)

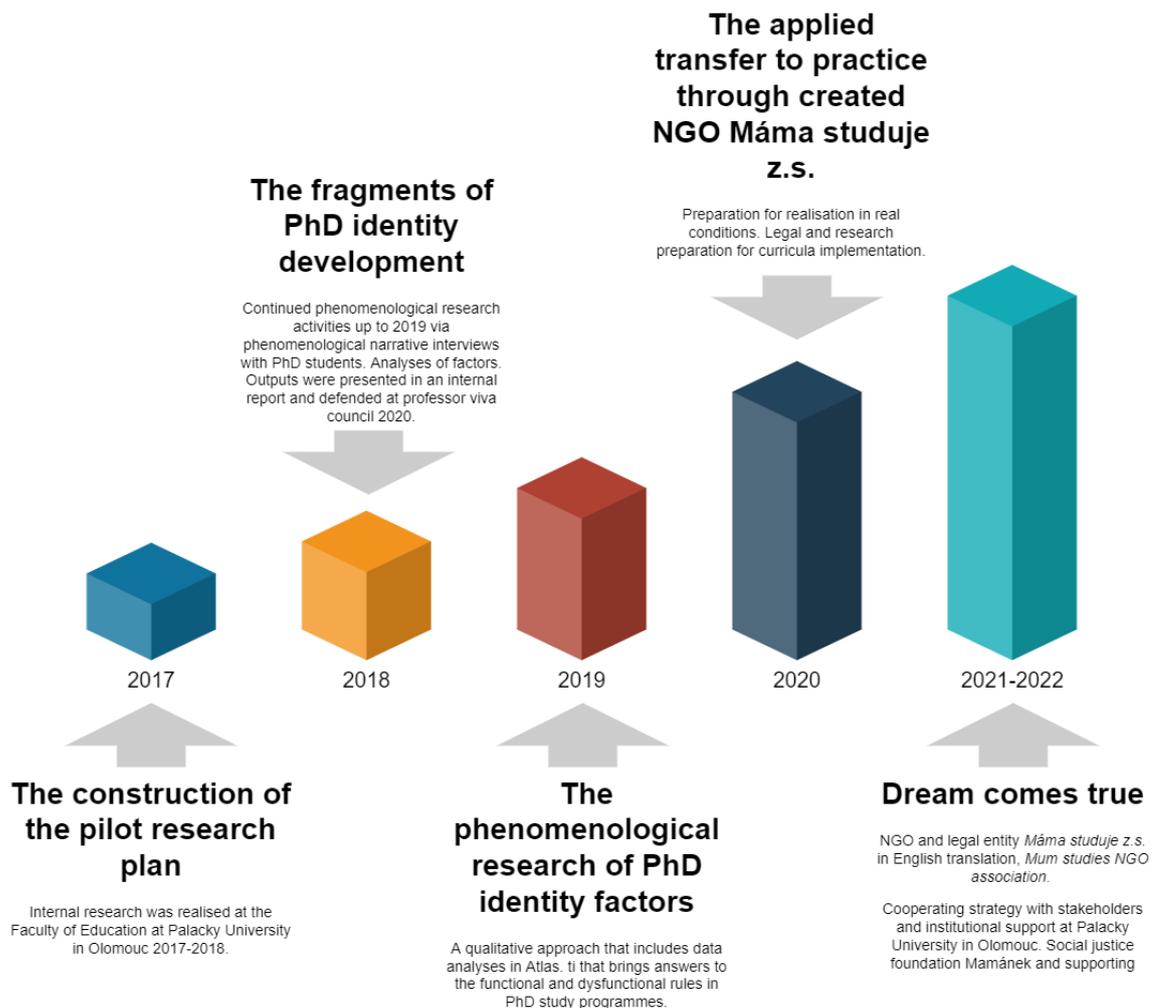


Figure 1 Phases of Mothership platform development (created by the author)

Established websites mamastuduje.cz and English modification on websites mumstudy.eu leads students and other society to cyber environment HUB, where collaboration starts based on the complex strategy of NGO association *Máma studuje z.s.*, which provides a platform Mothership and Mamánek foundation.

The Memorandum of cooperation among NGO association, Palacký University and other stakeholders would offer all students the same conditions if they decided to start with research, workshops, service-learning programmes or other educational activities.

Rules are based on fair access, transparency of connections between academic ethos and mentoring opportunities from broad expert sides, based on the *ex vitro* institutional model; for example, students' works are mentored by advanced mentors who are helping or offering enhancement options for better professional identity construction. Essential skills which are supported via the Mothership platform are also exclusion and inclusion monitor application as drop-out prevention in PhD programmes at the Faculty of Education.

Furthermore, through a particular way of applied research and cooperation entity in volunteer platform participation, students' may enhance their soft-skills and connect academic identity with different purposes in practice teaching society HUB by NGO options and unique tracks in calls which helps to improve a piece of knowledge and enrich prevention in actual social justice themes. Therefore, teaching and learning HUB society and open-call grant Mamánek for PhD students at Faculty of Education in Palacký University Olomouc in 2Q/2022 will aim to enhance this identity development tool.

This dissemination aims to create connecting puzzles supporting research engaging concept and civil expectations of social justice learning activities.

Discussion

The unspoken question is a fact: Did we not forget the connection between research and teaching continuity, which is underpinning an academic's complex identity together and not sublimated it into too small fragments?

Applied NGO HUB is connecting institutional needs and expectations, developing PhD skills and transferring interdisciplinary knowledge in volatile areas among schools, perception of stakeholders and society. Moreover, all indicates that it will help to avoid or lower the drop-out in maternity cases of PhD students' through tailored support. Foundation grand Mamánek fully supports early academics and students, single mothers or students with unstable starting conditions among non-only PhD students. Also, this is a preventing tool across divergent social situations in starting research careers of PhD students and divergent social situations, leading to obstacles in applied research out of the university. It helps implement values, to engage social responsibility, and to conduct applied research underpinning theoretical studies, case studies, and the

best practice. Students may involve themselves in training and consulting opportunities, transfer their framework close to their approbation and educational institutions to stakeholders, and naturally develop academic and social commitments.

Created NGO *Máma studuje z.s.*, the society with Mothership platform that reflects human endeavour and boosts opportunities to various students by Mothership platform and financial support for early academics and PhD students. Non-material support is by connecting the chain of society needs. Which is mainly standing on the cooperating social opportunities for research, engaging students to practice, value enhancement and social justice narrowing opportunities which may prevent to loss of motivation during studies, helps to connect theorem and practice point of views in society by attendance in schools, NGOs, institutions and local stakeholders.

Conclusion

The presented paper deals with the current rules and policies on the national and cross-national levels in the HEA sphere. Social dignity is a purpose of all great universities with a historical commission in the modern world. Development and enriching a students' consciousness about knowledge and transferability out of university walls are the essential keys to social justice. Our bright future is not only about setting up curricula for all educational levels based on the trends of leading empowerment but about the further versatility of values as mentioned Warren (2020), an expectation of the synergy in entrepreneur cooperation outside the university world mentioned by Krouglov (2018) and not in the last stand about us – academics (Kropáč, 2020). A university ethos has not to be only connected with the number of published articles (Barnett, 2017), and those recounted to economic indicators, competitiveness and hostile environment, mainly university is about divergency discussion with priority transfer to pragmatism way for society. If there is a power of knowledge and theorem, it must also exist a valuable synergy HUB, which erases all unfair conditions and helps boost social justice environments via complex and humble academics' identity. The critical point is to enhance opportunities for early carrier academics and help them survive a twist of the curricula and research expectations in institutional preparation. While students are in the Foucaults' empowerment clique position, there is always a liberal way to support our future colleagues, friends, and other society in natural educational conditions in the HUB space model. Educational challenges are encountered, but the best investment is based not only on money efficiency but also on our enthusiasm and our time to support an NGO approach to identity development and lead to results together with HEA institutions – academics and stakeholders.

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MODERNISATION OF HIGHER EDUCATION IN UZBEKISTAN: TRANSFORMING QUALITY ASSURANCE SYSTEM AND APPROACHES

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Abstract. *The paper explores the current transformations in the Quality Assurance (QA) system in the Higher Education (HE) of the Republic of Uzbekistan and examines the impact of the World Bank Modernising Higher Education project which aims, among other issues, to develop and implement a new system of external QA and strengthen the system of internal QA. The research analyses annual and quarterly reports prepared by the Project Team of the Ministry of Higher and Secondary Specialised Education of Uzbekistan, World Bank, Expert Advisory Panel as well as national and international consultants. In addition to this, a series of interviews were conducted with key stakeholders in Uzbekistan. The data received from the analysis of project reports and other documents were triangulated with the data obtained during semi-structured interviews. The research addresses the issues of the process of reforms in QA system at national and university levels and the gradual transformation of QA culture. It covers challenges in the introduction of new QA arrangements and assesses the role of various actors in the process of transformations.*

Keywords: *external QA, internal QA, quality assurance (QA), transformations in the Higher Education, Uzbekistan.*

Introduction and literature review

In recent years, quality assurance, enhancement, and accountability in Higher Education (HE) have become central worldwide, as it shows ways not only for increasing the efficiency of HE systems, but also identifies and enhances teaching and learning as well as technologies that are more effective for a particular mode of delivery (Billing, 2004; Ewell, 2010). The latter has been particularly important in the last couple of years since the introduction of lockdowns in various countries due to the Covid19 pandemic and the transfer of teaching and learning to online, blended, or hybrid modes of delivery (Hodges et al., 2020; Krouglov, 2021; Nworie, 2021).

Many authors considered and defined Quality Assurance (QA) through a variety of approaches (Van Kemenade et al., 2008; Newton, 2010; Harvey and Green, 1993). Quality and Quality Assurance are multi-dimensional concepts, and simple definitions often tend to be somewhat vague or broad to be useful. However, QA of HE has its roots in the need for accountability and enhancement of HE institutions, teaching, and learning they provide as well as research and

numerous other functions which are important for students and society as a whole. This duality of the accountability of HEIs towards their stakeholders has been the driving force of QA in HE (Jeliazkova & Westerheijden, 2002). On top of this, the definition and perception of QA by numerous stakeholders have been changing together with the way we approach teaching and learning, and how we develop new assessments and other criteria in the new environment.

As we begin to emerge from the pandemic mitigations, many QA agencies and universities around the world are beginning to consider future modes and models for teaching and learning. The period of the Covid19 pandemic provided numerous examples of tenacity and ingenuity in HE when academics reimaged the design and delivery of their courses for students who have continued to learn in unpredictable and sometimes challenging circumstances. We have been witnessing an ongoing reevaluation of what QA constitutes by QA agencies, universities, and their partners involved in the process. Since our main objective is to evaluate changes in the QA of HE in Uzbekistan we will aim to see how it develops along broad categories proposed by Harvey and Green (1993) which incorporate exception, perfection, the fitness of purpose, value for money, and transformation, and where quality is related to a set of standards which can be either high or minimal.

The transformation of QA and its continuous enhancement have become key categories in recent developments. There appeared new innovative approaches to quality, assessment, and inclusion as we explore imaginative directions for the future of HE. At the same time, it is obvious that international cooperation in the field of QA in HE has not stopped but also changed and acquired new forms and approaches. The globalisation process of QA in HE abated during the first stage of the Covid19 pandemic, but we can now observe new developments in various international settings and cross-border HE cooperation (Sánchez-Chaparro et al., 2021). In this respect, Uzbekistan has not been an exception. The process of internationalisation and modernisation of HE has only accelerated in recent years due to many international projects and the willingness of the government to introduce significant changes in the way the HE is governed. QA has been key in these reforms and numerous international projects specifically addressed this issue (Krouglov, 2017; Ruziev & Burkhanov, 2018; Kurbanov, 2022). Our current research addresses recent changes in the system of external and internal QA being developed and introduced in the course of the World Bank project Modernizing Higher Education (MHEP)¹ which is to be completed in early 2023.

The MHEP project aims at introducing systemic changes in Uzbek HE and more specifically addresses the issues of strengthening HE management through the development and establishment of a new HE management information system, improving QA system and the learning environment in HE institutions. Another

¹ See more about World Bank MHEP project in Uzbekistan with the commitment amount of US\$ 42.20 million: <https://projects.worldbank.org/en/projects-operations/project-detail/P128516>

objective of the project has been to improve the relevance of HE by modernising the curriculum and establishing effective cooperation with the industry and developing new cooperation models. These activities will produce an impact at institutional and societal levels. All these activities underpin overall QA in the HE of Uzbekistan and will develop HE which is fit for purpose in the new environment. The quality of HE has been identified as one of the key factors which will allow Uzbekistan to ensure progress and positive developments in society. It will allow the country “to succeed in a global competition” and meet “the requirements of innovative development of the economy, the development needs of both society as a whole and the personality of each of its citizens” (Aliev, 2020, p.406).

Methodology

The current research is not based on the performance of any universities in Uzbekistan but rather analyses more general trends in the development of HE as a whole. A qualitative research design is employed in this study guided by grounded theory (Patton 2002) in the investigation of major developments and reforms in the HE of Uzbekistan. The qualitative method was chosen to identify the main tendencies in Uzbek HE in recent years and gain a better understanding of how HE reforms were conducted in the country. The qualitative method used here also allowed this study to capture wider issues associated with HE and identify some aspects of best practice.

The data consists of official documents published in Uzbekistan and other countries or organisations, statements, legislation, reports, etc., and semi-structured interviews with key personnel in the Ministry of Higher and Secondary Specialised Education of Uzbekistan (MHSSE), State Inspectorate for the Supervision of Quality in Education under the Cabinet of Ministers of the Republic of Uzbekistan (SISQUE) which has the role of a QA agency in the country, staff in four local universities and members of project team of World Bank project Modernizing Higher Education (MHEP). The data received from the analysis of project reports and other documents were triangulated with the data obtained during semi-structured interviews with respondents from selected institutions mentioned above. This approach enabled us to confirm and expand various findings identified during literature and documents review and strengthen their validity. The selection of candidates for an interview was based on the requirements of the World Bank MHEP project as our aim was to have a wide representation of respondents in this research.

A semi-structured interview format was used which allowed for interviews to be both situational and conversational, as topics were identified in advance and facilitated a flexible approach where the exact wording of questions was not important. The main objective was to receive more in-depth and useful responses from participants. All interviews were initially recorded and when full

transcription of recordings was completed, all recordings were deleted in line with research ethics requirements. All personal names, names of organisations, and other references were deleted from transcripts to keep all records confidential.

Face-to-face interviews were conducted during fieldwork in October 2021 and online interviews were held during remote fieldwork in October 2020. This approach of two stages of fieldwork allowed us to analyse the situation in development and collect the necessary information. In total, 27 respondents were interviewed during the two fieldwork stages. Data analysis was conducted concurrently with data collection. Notes were taken during and after each interview, especially about emerging themes. After each interview and the analysis of answers provided, some adjustments were made for subsequent interviews. This included rephrasing questions or adding new lines of inquiry. For example, the topic of training and its relevance to the situation in Uzbek HE came up in several interviews. It was decided to include this question in some other interviews. This approach enabled us to identify thematic connections and verify data received in our review of literature and documents.

Numerous comments of participants in 27 interviews formed a major part of the data in this study. All references to quotes from interviews will be presented as CIN + number for an interviewed academic or an official of the MHSSE, SISQUE, or any other organisation.

Research results

The World Bank project Modernizing Higher Education (MHEP) is currently in the final stages of its implementation. The project will undoubtedly bring in the systemic changes required by the Higher Education in Uzbekistan, especially in such fields as HE management, Quality Assurance, and the learning environment. It is important to note that all changes envisaged under this project will have an impact on QA in Uzbek HE. The implementation of this major project will also significantly change the HE QA culture and establish the basis for further developments in the field of research as well as teaching and learning. These changes, together with the move of the government towards more independence and academic freedom of HE institutions (HEIs), will enable the development of a new culture and values, and contribute positively to all areas of academic life. This eventually will have a favourable impact on the economy of the country and society. Even at this stage, it is becoming obvious that the outcomes of the project will have wider implications for the country as a whole.

The World Bank MHEP project has been reported to have made significant achievements already in developing and implementing a new HE Management Information System (HEMIS) which connects 143 universities with the MHSSE and SISQUE. Eventually, HEMIS will be connected with other stakeholders and offer a variety of opportunities for collaboration and sharing between HEIs,

government, and other organisations. The system is unique, as it was specifically developed for the needs of the HE in Uzbekistan taking into consideration specific requirements of each university, MHSSE, SISQUE, and other government and commercial partner organisations.

The analysis of reports and interviews conducted in Uzbekistan confirmed that there was some progress in understanding and developing QA culture, especially the external part of it. Under this project, six universities were selected for piloting various aspects of QA and will accumulate knowledge, experience, and practical skills in QA which they will share with other universities. The selected six universities will also develop QA Manuals and other necessary documentation which could be used by other HEIs in the country. Colleague CIN23 reported that at some HEIs, QA units dealing with various QA issues at the university level face ongoing “problems in creating new documentation, manuals, and sometimes inability to discuss the issues of QA with faculties. Although in many cases, it is the result of Covid19 pandemic”. Our findings show that some universities are confused and report some issues linked to external and internal communication.

Because of the forthcoming government announcement of university independence, the new status of universities will push them to develop QA even further so that they could demonstrate to the public and prospective students that HEIs offer high-quality education and ensure employability for their graduates. Colleague CIN4 suggested that universities “will have to work hard to prove to the government, parents, and students that it is a good university and show concrete examples, like links with employers or employability, opportunities for research or mobility, excellent feedback from previous students, etc. The assessment results by SISQUE will also have an impact on the decision of choosing this university by prospective students”. During interviews, some colleagues thought that the decision on university independence should also accelerate the decision on the status of SISQUE as an independent QA agency and its role in the development of HE and QA.

The review of project reports and documentation showed that the project faced some challenges when consulting companies on QA issues which had not sufficiently studied the experience of Uzbek universities in the field of QA before the training was initiated for SISQUE and staff in HEIs. This gap in local knowledge and expertise had an impact on the relevance of training and consultancy provided, especially at the beginning of their activities. Our interviews (CIN 6, 14, 22) revealed that there were some improvements as consulting companies learned more about the existing system of QA in Uzbekistan while delivering the training and consultancy. Colleague CIN14 pointed out that “at the beginning of the training, there were lectures and workshops which participants could not connect to the real life in Uzbek HE. Quite often participants could not understand how they could apply those principles in practice”. Some training modules had too much adherence to QA

principles accepted in the West (mostly EU) with little reference to the existing standards in Uzbekistan. The lack of links with the existing QA system made the training less effective and did not allow the elaboration of those principles for specific Uzbek environment.

The role of SISQUE as the QA agency has been changing as well. The interviews revealed (CIN9, 14, 23) that colleagues saw the role of their organisation not only as a controller now but even more so as an educator working closely with HEIs. This was a significant transformation in the perception of their activities from previous years. At present, SISQUE offers three/four training courses for university staff every month covering both Internal and External QA principles. The establishment of QA Cells in HEIs, the development of Action Plans, and identifying individual responsibilities in those Cells contribute to a better understanding of QA principles and its processes locally.

On the whole, the analysed reports corroborated the view that SISQUE's approach of starting reforms with curriculum development and improvement of relevant QA standards was appropriate and should be supported. Both interviews, e.g. CIN4, 14, 23, and analysed documentation also confirmed that Uzbek HEIs did more work to engage employers in the development of new curricula, the organisation of internships, and participation in research projects. At the same time, the interviews (CIN3, 17, 26) also showed that the assessment of teaching and research staff at HEIs should have a more holistic approach and specifically address the issue of establishing links between research, teaching and learning. One colleague (CIN26) spoke about the drawbacks of a new assessment of colleagues at universities where such parameters as research are often overlooked, saying "there is a lack of interest of what was published by colleagues, and nobody considers the quality of those publications. And what about textbooks? It looks that they were completely excluded from the assessment process of teacher's work". The qualitative aspect and the aspect of impact should be key in the assessment of research. It should be noted that it takes time to change the culture and introduce new approaches which will lead to deeper changes in QA and will not only serve as another fill and tick exercise.

The MHEP project facilitated and guided the development of a Practical Guide based on competencies, the creation of a Manual for QA Cells, QA templates and other materials so that HEI staff could produce self-assessment reports. This remains to be one of the major tasks of SISQUE and MHSSE. At the same time, it is worth noting that QA reforms slowed down because of the Covid19 pandemic as well as other issues and may require more time for implementation across the country. In this respect, the theme of the timeframe of reforms emerged during interviews (CIN2, 7, 21). The main concern of some colleagues was that reforms were slowing down, and there was an overlap between the old and new QA systems and old and new documents, and approaches that were used at the same time. CIN21 reported that his institution had to go

through QA assessment several times using different documentation. This situation should be avoided at all costs since it may lead to some confusion and misunderstandings. It also contributed to a slower pace of reforms. In the words of CIN21 “the use of two systems of QA assessment should be stopped, and we will all need to move to a new system. If problems arise, we will need to correct or adjust them accordingly”.

Another issue that was raised in several interviews (CIN3, 4, 22) is linked to the availability of resources in HEIs for the smooth running of QA at all levels. Colleagues expressed their concern that the Quality Assurance Cells created in all institutions consist only of three staff members which may not be sufficient for some big universities. There are also issues about the organisation of QA work at faculty and course levels and how it is linked with the QA Cell of the institution.

The analysis of interviews (CIN3, 5, 14, 22) and reports indicated that the project would also improve the learning environment in HE institutions by providing and installing new laboratory equipment. This will have an impact not only on the quality of teaching and learning in STEM subjects, but will also develop research capabilities and enable HEIs to establish more efficient links with industries across the country. The MHEP project has already shown some improvements in the relevance of HE through various smaller projects in numerous institutions across the country.

The study of project documentation and the analysis of interviews (CIN4, 8, 12) confirmed that this project, as well as new demands caused by the Covid-19 pandemic, enabled many universities to move to online training and significantly rethink their approaches in teaching and learning. At the same time, there have been issues related to the connectivity and availability of reliable and stable Internet across the entire country. This remains a very important task for the country and its development. Nevertheless, the Covid19 pandemic created conditions for new and exciting initiatives in online and blended teaching and learning. Many HEIs and academics came up with numerous creative solutions which enabled continuous training at the majority of universities. It is now the task of the MHSSE and SISQUE to assess this experience and promote examples of good practice.

On the whole, the World Bank project Modernizing Higher Education has already shown solid examples of positive changes and will undoubtedly significantly transform the system of HE in Uzbekistan and bring it closer to the HE in other countries of Europe or North America.

Conclusions

The present research confirmed that the transformation of the QA system is a slow process that requires a lot of painstaking work and efforts by SISQUE, MHSSE, universities, and other stakeholders. At the same time, the current research endorses the results of previous research that the move from quality

control to quality assurance has accelerated in Uzbek HE (Krouglov, 2017). SISQUE has acquired a new role as an educator, developer, and moderniser of QA in HE. In other words, we witness the development of QA culture and the growing understanding of both internal and external QA principles. There has been some initial progress around other categories proposed by Harvey and Green (1993), such as exception, perfection, the fitness of purpose, and value for money. These categories will become even more important when the government moves towards more independence and academic freedom for HEIs, since they will have to demonstrate to the public that the teaching and learning they provide is fit for purpose and value for money.

The research also confirmed that it is impossible to transfer QA principles that successfully work in another country or even in a group of countries without a clear assessment of the current situation and needs in QA in the HE of another country. Even when the assessment is completed, we do not expect that the transfer will be smooth as each approach will undergo some rethinking, modifications, or changes. The process can be mutually beneficial for both parties since they will reassess approaches or methods and see whether they require some adjustments and more significant changes, or whether they will work in the HE environment of another country.

At the same time, the transfer from one system to another has to be managed effectively to avoid any overlaps and the use of two systems at the same time during the transition period. The quick transfer will accelerate reforms and develop the most appropriate QA approaches for the HE. It should be also noted that there has been some overreliance on quantitative methods in the QA and project assessment. The inclusion of more qualitative aspects will enable the Ministry of Higher and secondary Specialised Education of Uzbekistan, the World Bank, universities, and other stakeholders to assess better the outcomes of the project and QA reforms.

When the MHEP project is completed in early 2023, the HE in Uzbekistan should benefit from well-structured external and internal QA systems; however, it will take some time before QA culture becomes dominant in all HE institutions across the country. The six universities will become instrumental in showcasing best practice in QA – the ability to transform and adopt new practices in teaching and learning. This will not only raise the level of QA across the country but will also contribute to more effective collaboration between HEIs and all stakeholders.

There have been and will continue to be certain challenges in the introduction of QA across HE. One of the main issues is the allocation of resources to support necessary work in HEIs and SISQUE. The analysis of reports and our interviews showed that many universities were still in the process of learning how the new system worked, and what internal structures were required to support QA at university, faculty, and course levels. HEIs and SISQUE should not shy away from learning from mistakes in developing new QA approaches and themes.

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DISTANCE EDUCATION AS AN ALTERNATIVE FORM OF LEARNING IN A PANDEMIC CONDITION

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Abstract. *The aim of the research is to analyze the relationship between the success and frequency of the distance learning server Moodle using in the study of medical students, as well as to assess the features and identify major problems in training during COVID-19 pandemic. The results of 200 medical students total success have been analyzed. Students' education achievement was assessed as a factor in determining the training success in the context of relationship with the number of Moodle distance learning server visits. Two subgroups have been analyzed (100 people in each) depending on the departments: clinical discipline (propaedeutics of internal medicine) and theoretical (biochemistry). Statistical analysis of students' activity in Moodle system revealed high correlation between the frequency of the platform visits and students' educational success at the Department of Propaedeutics of Internal Medicine. A similar pattern is observed in the analysis of the correlation between the use of Moodle and learning outcomes in theoretical disciplines by the example of Bioorganic and biological chemistry and clinical biochemistry department. Thus, in order to prevent the spread of acute respiratory disease COVID-19, a distance education elements should be implemented; the using of the Moodle platform helps to increase medical student's educational success.*

Keywords: *COVID-19 pandemic, distance education, higher medical school, Moodle.*

Introduction

The world education system requires constant modernization to comply with scientific and technological progress in the context of innovative economy formation. The urgency and challenges of the problem are growing up in the current global pandemic of the coronavirus SARS-COV-2, shifting the emphasis

to distance education with increasing percentage of independent work of the applicants.

The main provisions of the Law of Ukraine "On Education" are aimed at this, according to which high-quality education remains a priority, which is an expression of social justice. World experience shows that progress is achieved where advanced technologies of the educational process are valued (Zakon Ukrainy «Pro osvitu», 2017).

The issue of innovative education - education that not simply develops but develops in today's conditions has become the most important among the teaching community (Saukh, 2011). The new paradigm of education requires a revision of teaching philosophy, the moving from lecturing to the encouragement and control of independent students' study and research. That is, now a person is not taught, but a person learns, and in the learning process the key principle is "to create" instead of principle "to repeat". Distance education in this aspect gives impetus to the realization of their professional and creative potential. Note that the main principles of innovative changes in education include the following: pluralism, variability, alternative and continuing education; personal oriented learning; close interaction between the teacher and the learner (cooperative pedagogy); unity of education and upbringing; search for unconventional methods and forms of teaching (increase teachers' freedom of creation), development and implementation of distance-active training in educational process and wide application of innovative pedagogical technologies based on fundamental epistemological and hermeneutic aspects of pedagogics and didactics (Bykov, 2005).

The aim of the research is to analyze the relationship between the success and frequency of the distance learning server Moodle using in the study of medical students, as well as to assess the features and identify major problems during training in the COVID-19 pandemic.

The set of general scientific methods is used in the work: theoretical analysis, synthesis; comparison; generalization. The study involved scientific papers, relevant regulations and a number of decisions and resolutions of the policy makers of that period.

Literature review

Based on the content of the "National Doctrine of Education Development of Ukraine in the XXI century", the importance of the national education system development should be concluded, considering the achievements of European and world community, where education democratization and the introduction of new forms, methods and techniques are priorities. Unfortunately, today the current education system in Ukraine does not meet the requirements of the Ukrainian statehood, which is reflected in the inconsistency of education with the needs of the individuals, social needs, and world achievements of mankind. Therefore, the

priority of the Ukrainian educational system today is to improve the education quality. Analyzing the above mentioned we can confidently state that one of the ways to improve education is the introduction of distance learning, which is especially important in the context of COVID-19 pandemic. It is through the introduction of distance learning we can prevent the spread of this dangerous disease among teachers and students (Terenda, 2020).

Of course, distance education is a new type of learning that was began to be implemented in the last third of the 20th century. It was facilitated by introduction of the latest technologies into educational process (computerization and Internet technologies). In the current context Internet technology is a widely available resource that allows to increase your capacity to transfer, receive and process information quickly in all scientific directions including medical sciences (Volosovets et al., 2020). However, despite the high autonomy of educational establishments which is regulated by the Law "On Education" in Ukraine and abroad there is a number of problems inherent in the development of distance education.

A number of leading domestic scientists pay attention to the problem of development and introduction of distance learning in the educational process, namely T. Marusei & T. Bilyk (2018), O. Horbatiuk (2020), N. Klokar, N. Benderets, & A. Borbit, (2011), L. Kartashova, N. Bakhmat, & N. Plish (2018) O. Spirin, O. Bazeliuk, L. Petrenko, A. Kalenskyi, & L. Maiboroda (2018), and many others. A number of legislative acts adopted in Ukraine are also aimed at this: the Law of Ukraine "On upper secondary education", "Regulations on the institutional form of upper secondary education" (April 23, 2019), "Regulations on Distance Learning", Resolution of the Cabinet of Ministers of Ukraine "On the establishment and implementation of enhanced anti-epidemic measures in the territory with a significant spread of acute respiratory disease COVID-19 caused by coronavirus SARS-COV-2 (July 22, 2020).

Today, in modern Ukrainian realities, considering the threat of coronavirus SARS-COV-2, the implementation of distance education is more relevant than ever, which is aimed at realizing the rights to appropriate qualification of every citizen. It should be noted that a number of scientific works of leading Ukrainian and foreign scientists are directed to the successful solution of the problem. The interpretation of distance education of scientists T. Marusei and T. Bilyk is promising. The scientists claim that distance education involves a high-tech approach to the process of knowledge transfer and creates a system of mass lifelong learning, global information exchange. Expanding on their idea the scientists note that by the introduction of the system there is the most adequate and flexible response to the society needs in the context of highly qualified professionals training. The scientists draw our attention to the fact that the distance education system increases the efficiency and quality of learning through additional opportunities to get reality cognition, self-knowledge, the personal

development; management and monitoring of the educational process (control, correction of educational results, computer pedagogical testing and psychodiagnostics, transfer of scientific and methodological experience, intellectual recreational activities) (Marusei & Bilyk, 2018).

Director of Ukrainian Institute of Information Technologies in Education of the National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute” characterizing the essence of distance education, notes that it is a well-organized and controlled self-education with the use of computer technology and communication networks.

Also, the viewpoint scientist S. Fedorchenko concerning the distance education merits attention. He notes that education is a high-tech product of the scientific and technological revolution, which widely uses the idea of marketing approach to service students, which explains its active distribution around the world (Fedorchenko, 2019).

Considering the essence of distance learning, scientist Y. Golovanova draws attention to the fact that many people equate it with distance learning. Thus, the scientist quite rightly notes that these are different forms of education. Their main difference is that in the process of distance education implementation almost constant effective interactivity is used. Distance education should be considered as another and completely new form of learning. Distance learning has the same structure as full-time one. Both forms of education are created under the corresponding objectives and contents of teaching. But the presentation and interaction of students with teachers is different from traditional form. Didactic basis, which consists of the principles of scientific, systematic approach and individualization of learning, and implements a system of educational and professional competencies, is the same as in the face-to-face form of education. A distinctive feature is its implementation, which depends on the specifics of this form of learning, the capabilities of the information environment, technical potential and similar factors that are associated with the Internet environment and its services (Golovanova, 2015).

It is very important that the distance education is based on modular principle, as it is noted by O. Horbatiuk. It should also be mentioned that the problem of distance learning widespread implementation in higher education establishments of Ukraine is given a lot of attention by the Ukrainian public highest-level governing bodies, which is explained by the current circumstances. Thus, according to section 10 of the Act “On Complete General Secondary Education” adopted by the Verkhovna Rada of Ukraine, the form of educational process is determined by the pedagogical council of the educational establishments within the time provided by the curriculum, considering the characteristics of the region (Horbatiuk, 2020).

The Regulation defines that the organization of education in the institutional form is carried out in accordance with the curriculum of the educational establishment. Distance education can be implemented by using distance learning

forms as a separate form of education or using distance learning technologies to provide learning in different forms of education or their combination. Teaching time in the case of distance learning is defined by the educational establishment.

The procedure for organizing the distance learning educational process is determined by the Regulation on Distance Learning, approved by the order of the Ministry of Education and Science, April 25, 2013, № 466 (as amended). Today, the procedure for organizing and approving distance learning is determined by the Regulation on Distance Learning of General Secondary Education, approved by the order of the Ministry of Education and Science of Ukraine, September 09, 2020, №1115. Some issues of the distance learning organization have been registered in the Ministry of Justice of Ukraine, September 8, 2020, № 941/35224.

When implementing distance learning, a very important point is the choice of distance education type (Fig.1).

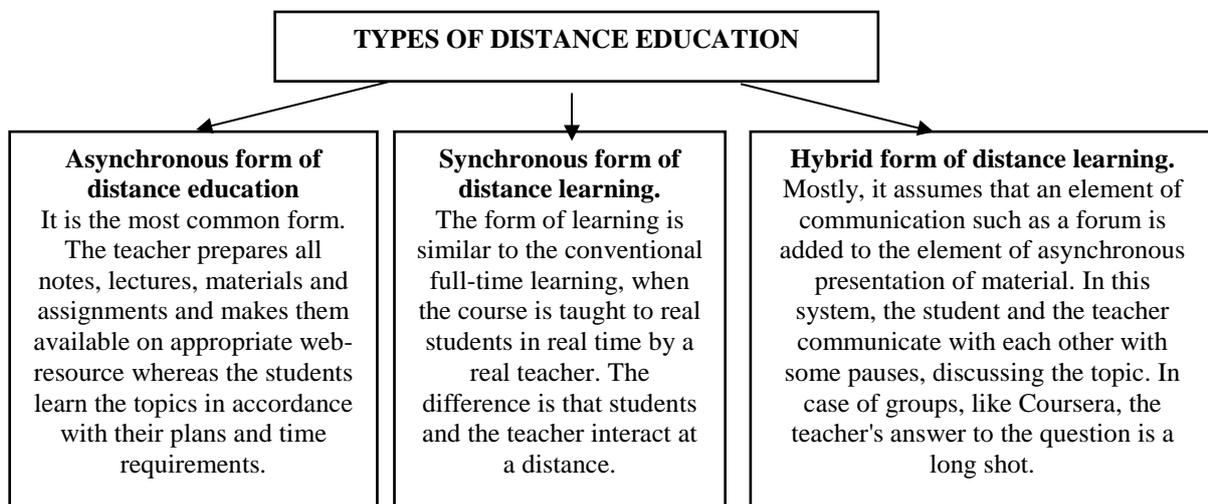


Figure 1 Types of distance education (created by the authors)

Considering the types of distance education, we want to draw attention to the fact that we are most impressed by the hybrid form of learning, because in this form the interaction of students and teachers is the closest, which primarily meets the interests of students. But the main advantage of this education form is its convenience: 1) the students independently choose the time and place for study; 2) replacement of written notes with electronic resources and the latest teaching methods, constant consultations with the teacher give this form of self-education additional advantages over the others.

An important point in the introduction of distance learning is to identify its features, which give a clear answer regarding its usefulness (Fig. 2) (Akhmad, 2012).

Considering distance learning as one of the most progressive education forms, in which the student can get the full range of necessary knowledge (provided by the curriculum), without exposing himself and others to the risk of

COVID-19, we want to note that in Ukraine today such system has been implemented, and it is based on the following principles (Klokar, Benderets, & Borbit, 2011; Mykhailova, 2014): 1) continuity, which means providing distance education at all levels, which are accepted in the system of continuing education in Ukraine; 2) democratization, which consists in providing equal opportunities to all educational establishments in solving legal, educational, methodological, financial and economic issues; 3) integration, which provides a virtual electronic library of distance learning courses, data banks and knowledge bases with copyright protection; 4) globalization, which means the openness of information resources and the organization of educational processes using telecommunications networks, including the network of the Ukrainian Academy of Sciences; not to hinder the independent activity of educational establishments and to promote the development of various forms of distance education that provide state educational standards; not to destroy existing regional centers or other associations of educational establishments.

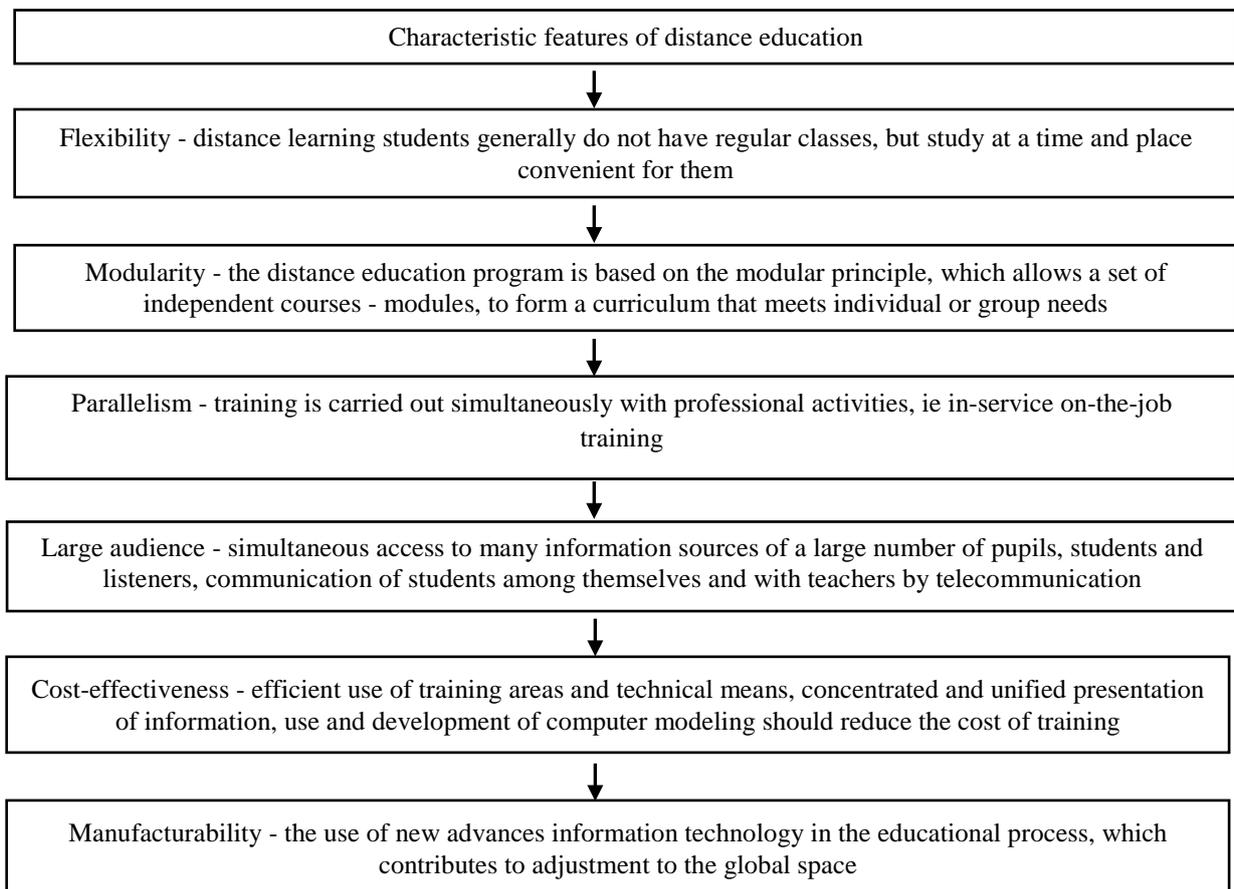


Figure 2 Characteristic features of distance education (created by the authors)

Methodology

The total success of 200 medical students at the clinical and theoretical departments of Bukovinian State Medical University has been analyzed. Students' education achievement was assessed as a factor in determining the training success in the context of relationship with the number of Moodle distance learning server visits. Education achievement was assessed in students divided into two subgroups depending on the department. The 1st group includes the students' final results in the process of studying the clinical discipline by the example of the Propaedeutics of Internal Medicine Department. The 2nd group includes the module control results on theoretical discipline biochemistry in Department of Bioorganic and biological chemistry and clinical biochemistry. Statistical processing of the results was performed by determining the Pearson's criterion.

Research results and discussion

Considering the challenges due to the coronavirus pandemic, the educational process at Bukovinian State Medical University in recent years was conducted distantly with practical classes in synchronous mode using the Google Meet platform and extensive use of Moodle system. We have analyzed the final performance of students, which included a summation of the final module control and current learning outcomes of students of the Medical Faculty of Bukovinian State Medical University (Fig. 3).

Statistical analysis of students' activity in Moodle system revealed high correlation between the frequency of use of the platform (5.29 ± 1.61) and students' educational success (143.78 ± 11.3) at the Department of Propaedeutics of Internal Medicine (Fig. 3a). Pearson's criterion is $r = 0,905$. A similar pattern is observed in the analysis of the correlation between the use of Moodle and learning outcomes in theoretical disciplines by the example of Bioorganic and biological chemistry and clinical biochemistry department (7.64 ± 1.96 and 133.68 ± 8.61 відповідствено) (Fig. 3.b). Pearson's criterion is $r = 0.901$. The comparative interdisciplinary analysis revealed a tendency towards more frequent use of the Moodle system by students with lower success in the study of biochemistry. This suggests that the established correlation occurs when assessing within a single discipline, and the frequency of use may depend on how tough is the material to study according with the curriculum of the discipline.

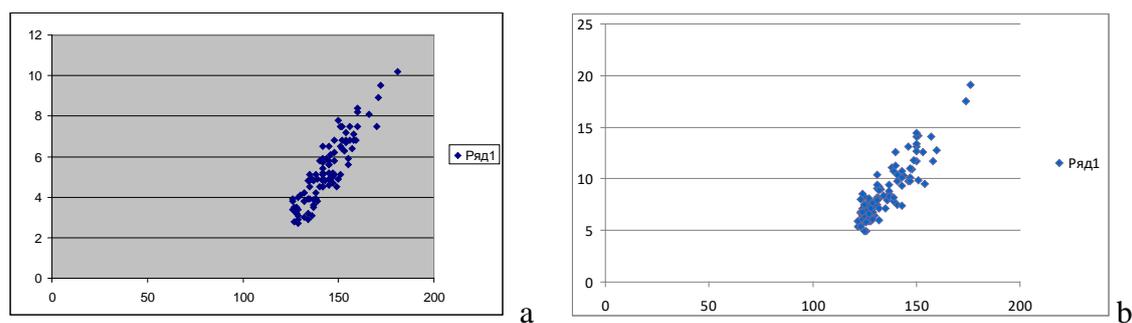


Figure 3 Correlation between the frequency of Moodle system use and students success in studying clinical (a) and theoretical (b) disciplines in the Medical University (created by the authors)

The effectiveness of the use of Moodle has been traced in the articles of European scientists, in particular when studying the model of e-learning in higher education institutions in Serbia, Lithuania and Bosnia and Herzegovina. Among other things, eight factors were identified that influenced the satisfaction with the use of the e-course (behavioral intention to use in the future, communication, format, quality of information, effectiveness, perceived usefulness, satisfaction and quality of the system) (Damnjanovic, Jednak, & Mijatovic, 2015).

The use of the Moodle system promotes the implementation of the latest learning technologies and allows to promote learning during the process of joint collective solution of educational problems, helps to exchange knowledge, gives students the opportunity to interact with learning materials, teachers, and each other. It should be noted that even the best education system is not ideal. Thus, in the use of distance education is has been revealed the lack of a centralized certification and accreditation system for electronic courses; high complexity of making methodological materials for distance learning; lack of copyright protection of educational software from "hacking"; psychological and computer unwillingness of teachers; significant expenditures for the material base. But despite the problematic situations which arise from the use of distance learning, its effectiveness is obvious.

No less important point in the introduction of distance education is the choice of a "platform" as its basis. Studies show that the most common platforms today are Learning Space, Top Class, WebCT (ver. 3-6), Black Board, Moodle. All the systems listed above, as experience and practice have shown, are similar to each other in their functionality. But personally, based on potential we are more impressed by Moodle which is a free and open-source learning management system (LMS) (*Moodle – Open-source learning platform*) (Fig. 4).

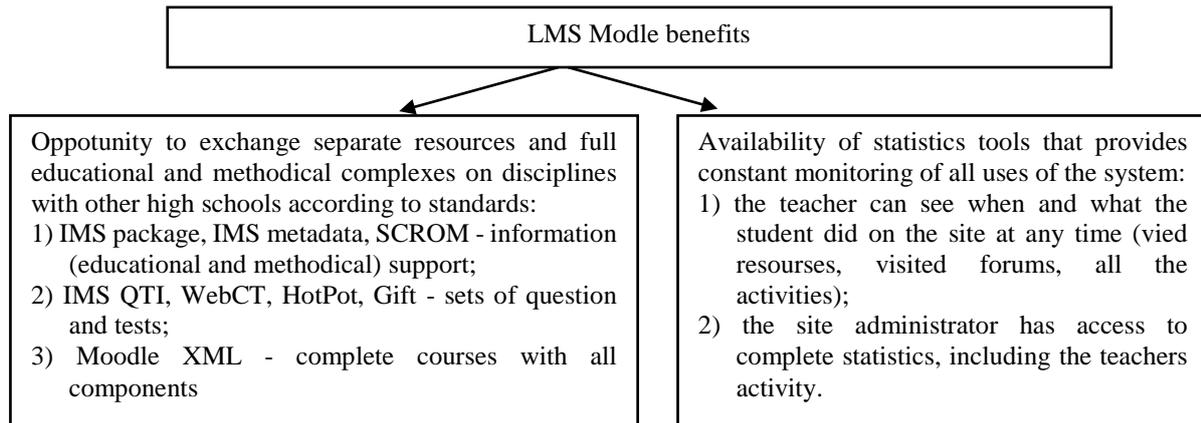


Figure 4 **Moodle benefits** (created by the authors)

The frequency of using Moodle is often influenced by students' satisfaction with the learning outcome, determined by the quality of e-learning. The results indicate that the quality of information is the most important indicator of student satisfaction in conditions of high communication. These factors may be exacerbated by the combined mechanisms of the educational process, such as blended and virtual learning (Costello, 2013). Today, e-learning has become part of a complex infrastructure that is now considered critical to higher education. Various technologies of Moodle's use lead to the improvement of the acquired knowledge and optimization of the educational process in the conditions of a coronavirus pandemic (Perez-Perez, Serrano-Bedia, & Pigueros, 2020).

Based on the above mentioned, considering the problems that may occur during the implementation of distance learning in Ukraine in response to the spread of acute respiratory disease COVID-19 caused by coronavirus SARS-COV-2, we propose the following set of organizational activities to reduce the level of morbidity: 1) taking into account the individual characteristics of educational establishments, to give them more independence in the implementation of distance learning technologies; 2) in order to obtain the necessary set of knowledge, students should combine distance learning with other forms of education; 3) the establishment of centres for teachers training to use distance learning technologies (it could be either courses at universities they teach or advanced training courses); 4) to develop a set of standards aimed at achieving maximum efficiency in the introduction of distance learning; 5) to strengthen control of policy-makers over the quality of distance learning.

Conclusions

Based on the above mentioned, we can draw the following conclusions:

- 1) in order to prevent the spread of acute respiratory disease COVID-19 caused by the coronavirus SARS-COV-2, an active distance education should be implemented;

- 2) distance education contributes to the replacement of traditional forms of getting knowledge with electronic resources and the latest methods;
- 3) distance education helps to avoid many inconveniences and problems that occur in modern conditions, develops information culture;
- 4) the use of the Moodle platform helps to increase student's educational success in Bukovinian State Medical University in both theoretical and clinical departments.

To improve the organization of distance education in Ukraine, we propose to consider the experience of foreign countries, where this form of education has already been actively and effectively used.

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INNOVATIVE EDUCATIONAL ACTIVITY IN HIGHER EDUCATION IN THE CONDITIONS OF MODERN REFORMING OF UKRAINIAN EDUCATIONAL SYSTEM

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Abstract. *The processes of creation, development and application of innovations are increasingly spreading in the education system and pedagogical science. The specific historical situation in Ukraine necessitates the restructuring of education, its reforming and approximation to European and world standards. The aim of the study is to study the purposeful impact of these processes on the constant formation and renewal of Ukrainian pedagogical theory and practice with further rethinking the importance of innovation to increase the rating of higher education institution and increasing its competitiveness.*

Basic research methods are surveys, observation and statistical analysis.

The article emphasizes the key values of improving the modern sphere of education, pays attention to the innovative processes that take place in the modern school, and pedagogy, in particular. The peculiarities of the introduction of innovative education in higher education institutions are highlighted. The authors analyze the importance of the application and management of innovative educational processes that can help to increase the level of quality education for the success and competitiveness of higher education institution.

The author's team studied the structure and dynamics of the development of educational innovation processes of modern higher education institutions, as well as the scheme of division of the innovation process, which was called the "life cycle of innovation". The importance of

developing individual perception of a particular applicant of the proposed innovations during studying at the higher education institution is proved.

It is noted that it is important to develop the initiative of teachers of Ukrainian higher education institutions before making decision about necessity to introduce innovations of a certain type.

Keywords: *educational system, higher education institution, implementation, innovation, innovative educational processes, management, realization.*

Introduction

The formation of a modern school of European level is impossible without the introduction of innovation, because it greatly contributes to improving the educational process of student youth. This is the aim of the Law of Ukraine «On Complete General Secondary Education» (2020) adopted by the Verkhovna Rada of Ukraine and the «National Doctrine of the Development of Education in Ukraine in the XXI Century».

The deepening of innovative educational activities in the higher school of the Ukrainian state is also facilitated by the changing of socio-economic processes taking place on its territory. Thus, in recent years, higher education in Ukraine has undergone significant transformational changes: the decision-making process has been democratized; the school has gained more independence in management, etc. This situation affects the necessary to deepen the innovative culture of higher education.

The need in people who are ready to live in a constantly changing society, willing and able to create new things in their activities, accelerates innovative educational processes. Their reaching a new level ensures the stability and development of society.

It should be noted that the deepening of innovation processes in the education system is due to the coexistence and complex relationships in scientific pedagogy and pedagogical practice of traditional scientific pedagogy, which focuses on the objective regularities of education and has research as its main source.

The purpose of writing the article is: research, analysis and identification of ways and means of strengthening innovative educational activities in higher education in Ukraine in the context of reform.

The theoretical background

Frans A. Van Vught (Frans, 1989) also noted that in recent years there have been discussions about the role of higher education in society in various European countries and all of them focus on the need for reorganization to stimulate innovation in higher education institution and implementation of innovative behavior of them.

Although research about higher education innovation becomes more, no consensus has been reached on key concepts and central research issues. To meet

these challenges, Yuzhuo Cai (Cai, 2017) proposes to develop a new field of research - the study of innovation in higher education by integrating two disciplines, those are innovation research and research in higher education. The author suggests an analytical basis for understanding the innovation process, especially in the context of higher education, as this structure may have the potential to guide practitioners to smarter of innovation implementation.

The problem of creation, development and application of innovations in higher educational institutions of Ukraine is also reflected in the works of Ukrainian scientists M. Godiyev, V. Vynogradova, N. Strizhak, G. Litovchenko, N. Iordanova, etc.

The process of deepening innovative educational activities in higher education institutions during the modern reform of the educational system is given much attention by a number of leading scholars and educators: L. Danylenko, L. Karamushka (Danylenko & Karamushka, 2003), O. Bondarchuk (2003), V. Bondar (2000), L. Vashchenko (2005), V. Kremen (2005), L. Danylenko (2004), V. Maslov (2004), O. Savchenko (2008), T. Sorochan (2003), etc. Their scientific works are aimed at researching problems that are directly related to the deepening of innovation processes in the higher education institutions.

Therefore, based on our research and analysis of the scientific achievements of the above scientists, we can conclude that the relevance of our chosen topic of this research. Confirmation of the authenticity of this conclusion are also the scientific works of such leading Ukrainian and foreign scientists: K. Angelovska, A. Barabanshchikov, B. Gaevsky, N. Rodiuk, O. Grishnov, I. Kuchynska, G. Tymoshko, T. Ivanova, I. Osadchy, I. Ziaziun, V. Rodina, O. Rudnytska, I. Yermakova, O. Kozlova, L. Myshkina, V. Palamarchuk, O. Popova, V. Slastinina, M. Fuplen, etc. They consider innovative innovations in the educational process of students and pupils as a special scientific concept. It needs a comprehensive study, because (according to scientist G. Tymoshko) it is a pedagogical system and at the same time an element, individual formation, dialectical integrated unity of social values, between which there are certain connections and relationships that are formed, implemented and improved in various ways of professional and pedagogical activity and communication (Polishchuk, 2019).

That is, pedagogical innovation is the constant search and implementation of scientific, most effective technologies of teaching and education, the result of which should be the formation of highly adapted to changing conditions, active creative individual who can analyze, make necessary decisions.

It should be noted that the policy-making bodies of Ukraine pay great attention to the innovative development of the domestic educational system, to the implementation of innovative technologies in the educational process. In particular, the problem of development and implementation of innovative technologies in the educational process of Ukrainian higher education institutions is reflected in the action plan for 2021-2023 on the implementation of the Strategy

for the development of innovation for the period up to 2030 (Pro zatverdzhennia, 2021), the Laws of Ukraine "On Innovation Activities" (Zakon Ukrainy Pro innovatsiinu diialnist, 2002), Regulations on innovative educational activities in education system of Ukraine (Danylenko, Dovbyshchenko, Malovanyi, & Nochvinova, 1999), the Law of Ukraine «On Complete General Secondary Education» (Zakon Ukrainy Pro povnu zahalnu seredniu osvitu, 2020), etc. This is due to the fact that (as the experience of European educational institutions shows) the innovative development of the educational system is the carrier of everything new, progressive, which brings positive changes in each educational institution.

Scientist I. Dychakivska, revealing the essence of the innovation process in the modern domestic educational school and pedagogy, pays attention to the specific features of innovative learning. In particular, I. Dychakivska says that the development of systems and content of education in the modern world takes place in the context of global educational trends (mega-trends), among which the most popular are:

- mass nature of education and its continuity as a new quality;
- the importance of education for the individual and society;
- focus on the active development of human (student) methods of cognitive activity;
- adaptation of the educational process to the demands and needs of society;
- orientation of learning to the individual, providing opportunities (Polishchuk, 2019).

Based on the above, we can conclude that innovation is one of the dominant areas of high-performance education at higher education institutions. Innovation directs student youth to self-determination in changing social conditions, their readiness to perceive and solve important tasks facing the educational institution.

Therefore most researchers (G. Yelnikov, L. Kalinin, Y. Pelekh, V. Shcherban) agree that the structure of innovative learning optimally corresponds to the nature of modern social processes. But at the same time, as noted by scientists L. Danylenko and L. Karamushka, to increase the effectiveness of innovation it is necessary to implementation of innovation to the educational process of higher education together with a scientific approach.

For this purpose, first of all, it is necessary to choose a strategy for the development of educational institutions. To do this, we must pay attention to certain problems that need to be solved, ie problems on the successful solution of which directly affect the results of the educational institution function. Therefore, they need to be identified and ranked in order of importance, and then innovate. For this purpose, i.e. to solve successfully a significant problem, it is necessary to select certain innovations (didactic, educational, management systems, components, technologies, etc.). Sources of relevant information can be:

educational periodicals, websites, scientific and methodological publications, consultancy with specialists of methodological services, scientists, etc. (Danylenko & Karamushka, 2003).

Innovations as a category, their types, are explored from different points of view. For example, Robert J. Sternberg, Jean E. Pretzand, James C. Kaufman in their publication point to eight types of innovation, as types of creativity and human creativity. Among them, researchers distinguish replication, redefinition, forward Incrementation, advance Forward Incrementation, redirection, reconstruction / redirection, reinitiation, integration - interpretations of each of them are qualitatively different (Sternberg, Pretzand, & Kaufman, 2003). Therefore, when choosing an innovation, it should be remembered that the successful solution of a problem that takes place at educational institution depends entirely on the implementation of the innovation, which is aimed at solving the problem. The choice of innovation, the implementation of which will help solve the identified problems of the educational institution, is a necessary step to improve its educational position.

It should be note that if we want to succeed in implementing innovations in the educational process of higher education, we should act according to certain rules that appear as norms, guidelines. That is, we must build our innovation activities on the basis of adherence to certain principles that express the common in the organization of their management, which covers all their stages and contributes to their success and efficiency. Such principles, which are reflected in the scientific literature and represent the specific laws and regularities of implementation of innovation processes include:

- the principle of organized innovative change in the state of the education system;
- the principle of transition from stable mechanisms of innovation processes to consciously controlled ones;
- the principle of information, material and technical base, staffing of the main stages of innovation processes;
- the principle of forecasting reversible or irreversible structural changes in the innovative socio-pedagogical environment;
- the principle of accelerating the development of innovative processes in the education system;
- the principle of strengthening the sustainability of innovative educational processes.

All these principles are elements of a comprehensive system of organization and management of innovative processes in the field of teaching and education. They interact closely with each other, which due to the synergistic effect enhances the effect of each of them (Danylenko & Karamushka, 2003).

Therefore, the deepening of innovation processes in higher education institutions in the context of reforming the educational system is a very important issue. The research of scientists of the University of Tehran (Iran) H. Tokhidi and

M. Jabbari (Tohidi & Jabbari, 2012). demonstrates the importance of innovations in educational institutions. It pays great attention to the importance of innovation and emphasizes its crucial role in the growth, survival and success of the organization (including higher education). Associate Professor of Queensland University of Technology (Australia) R. Owen (Owen & Koskela, 2006) and the German scientist Seiwert Lothar (Seiwert, 2010) also emphasize this in their research.

Thus, the development of any educational institution (including higher education) can't be done other than through the development of innovations, through the innovation process, which is a complex phenomenon in its structure. At the same time, a very important point in the implementation of innovation in higher education institutions in order to improve the educational process largely depends on the composition (structure) of innovation processes.

According to scientists L. Danylenko, L. Karamushka, the following levels are distinguished in the structure of innovation processes:

- 1) subject-technological micro-level, which divides innovations into parts (stages, phase, cycles), analyzing its content;
- 2) the macro-level, which considers the interaction of certain innovations, determines the features of their combination, transformation, etc.

At the same time, according to scientists M. Vynogradsky, S. Belyaeva, A. Vynohradarska, O. Shkanova, scheme of division of the innovation process into stages which was called "life cycle of innovation" is formed in pedagogical innovation. In particular, it covers:

- 1) the stage of a new idea origin, the beginning of a new concept of innovation (start). Conventionally, it can be called the stage of discovery, which is usually the result of basic and applied research or life "enlightenment";
- 2) the stage of the invention. At this stage, there is the creation of innovation, i.e. the embodiment of a new idea in a particular object, material or spiritual project, model;
- 3) the stage of implementation of the innovation. Its essence, as a rule, is the practical application, correction, refinement of a new tool. The stage is completed by obtaining a stable effect from the innovation, after which it exists autonomously. The prerequisite for the next stage of the innovation process is openness, receptivity of the pedagogical community to innovation. The phase of its use begins just then;
- 4) the stage of extension of innovation (maturity). Its essence is wide implementation, diffusion (penetration) into new industries (education institutions);
- 5) the stage of saturation in a particular industry. At this stage, the innovation is mastered by many people in all areas of pedagogical management processes. It loses its novelty just then (routine

- innovation). This stage may finish in the emergence of an alternative innovation or its absorption by more efficient system;
- 6) the stage of recession (crisis, finish). Its peculiarity is the completeness of the possibilities of applying innovation in new conditions, industries;
 - 7) the stage of irradiation (Latin irradiare - to shine, radiate) of the innovation. This stage is not inherent in every innovation. The routine innovation does not disappear, but it is modernized and reproduced, often significantly affecting the development of educational institutions.

The presence or absence of the last two stages depends on the innovation potential of the educational institution that implements a particular innovation. Each stage of the life cycle of innovation is characterized by specific laws and contradictions.

This approach to the introduction of innovations in the educational process of higher education will certainly improve the quality of its activities, which will increase the rating of the educational institution and its competitiveness, which is so important in reforming the Ukrainian educational system.

Methodology, organization and results of the research

To identify the individual perceptivity of a particular applicant of the proposed innovations while studying at higher education institution and to identify initiative in teachers of higher education institution in Ukraine for deciding about necessity to implement innovations of a certain type, we conducted a survey of 2-4-year students and teachers of Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University and Kamianets-Podilskyi Ivan Ohienko National University. 548 students by specialties of Preschool Education, Philology (Ukrainian language and literature), Management, and 37 teachers from 27 to 57 years were interviewed.

Such sample of 2-4-year students is explained by the fact that senior students have already adapted to learning and they can perceive adequately the innovations used by teachers during the teaching of academic disciplines. *The basic methods of our research* are observations, surveys and statistical analysis. The questionnaire was completed using google.com/forms, as this online service is actively used during the educational process. All responses from students and teachers were anonymous and had no time limit.

The questionnaire developed by the authors consisted of a battery of open-ended and closed-ended questions for both teachers and students. 13 questions were identified for teachers. 8 questions were developed for students.

The content of the questions asked to teachers is as follows: 1. Do you have information about the concepts of "innovation in education" and "innovation"? (Yes; no; another answer). 2. Do you think it is appropriate to implementation any innovations in Ukrainian education? (Yes; no; another answer). 3. What

innovations do you think are effective? (Effective are innovations that promote their application in new conditions, areas of education; Those ones that focus on the scientific approach to management in the implementation of innovations; The effectiveness of the implementation of innovations depends on their appropriate identification and ranking according to scientific needs; Effective are only didactic innovation, another answer). 4. What innovations do you think are ineffective? (Ineffective are those innovations that require adaptation to educational conditions; Those ones that require the formation of new personal qualities or character traits; Those ones that require additional funding; Ineffective are educational, managerial innovations; another answer). 5. What sources have you used or are currently using to acquire and master innovations? (Internet, literary sources and professional publications; webinars, participation in conferences, seminars; I do not use any sources, they are ineffective; another answer). 6. Whose or what recommendations do you use the selected source on? (Recommendations of colleagues, attending conferences, webinars, seminars, etc.; from the Internet; received an information letter by e-mail; information from social networks; I do not use the recommendations; another answer). 7. Which of the following principles of innovation implementation do you follow? (The principle of transition from stable mechanisms of innovation to consciously controlled; the principle of implementation of informative, material and technical, staffing realization of the innovation main stages; the principle of forecasting reversible or irreversible structural changes in the innovative socio-pedagogical environment; the principle of accelerating the development of innovation in education; the principle of strengthening the sustainability of innovative educational processes; I do not follow any principles; another answer). 8. Are you aware of the "life cycle of innovation"? (Yes; no; another answer). 9. Do you have difficulties in implementing innovations, if so at what stage(s) of the innovation life cycle? (There are no difficulties; at the stage of birth of a new idea, the emergence of a new concept of innovation (start); at the stage of invention - the creation of innovation, ie the embodiment of a new idea in a particular object, material or spiritual project sample; at the stage of innovation implementation, when the phase of its use begins; at the stage of dissemination of innovation (maturity), in its wide implementation, diffusion (penetration) into new areas (educational institutions); at the stage of saturation with innovations in a particular field, loss of its own novelty (routine innovation); at the stage of recession (crisis, finish) - the exhaustion of opportunities for innovation in new conditions, areas; at the stage of irradiation (Lat. irradiare - shine, radiation) in the process of routine innovation does not disappear as such, but it's modernized and reproduced; another answer). 10. How do you overcome difficulties at the (stage) stages of mastering and implementing innovations in your own teaching activities? (Acquisition of new knowledge, self-education, additional training; I ask for advice from colleagues and specialists; I look for additional materials in

information sources; I do not solve difficulties; another answer). 11. Do the personal qualities of the teacher matter for mastering innovations? (Yes; no; another answer). 12. Give an example of the necessary personal qualities of the teacher, which will help him/her master the innovations? 13. Does the contingent of higher education applicants (age category, level of their intellectual abilities, social environment, life views, etc.) matter for the teacher to choose and use certain innovations in teaching the discipline? (Yes; no; another answer).

The content of the questions offered to applicants of different specialties was the same, because we did not intend to identify the ratio of specialty and specific innovations. Our goal was to identify students' attitudes to innovation and identify the effectiveness / inefficiency of such a process. The first question offered to teachers and students was the same, as this question is fundamental for further research.

1. Are you familiar with the concepts of "innovation in education" and "innovation activities"? (Yes; no; another answer). 2. In your opinion, is it appropriate to implement any innovations in Ukrainian education? (Yes; no; another answer). 3. Are you aware of such types of innovations as material and technical and social? (Yes, no, another answer). 4. Choose material and technical innovations from the following ones: (machinery; technology; production materials; literature; legal; pedagogical innovations). 5. Choose from the following innovations social ones: (economic; organizational and managerial; social and managerial; legal; pedagogical; another answer). 6. What is pedagogical innovation - it is...? (innovations in pedagogical activities; changes in the content and technology of teaching and increase their effectiveness; innovations in any field that are implemented in education; only new technologies; I do not know; your answer). 7. Choose pedagogical innovations from the following ones: (project method; school-park; creating schemes of network interaction; individual educational trajectories; tutoring; methods of collective learning with creating situations of mutual learning; play methods (quizzes, debates); new training programs; educational technologies only; innovations related only to the creation of computerized courses and software training; political technologies; creation of new methods of evaluating educational results; none of the listed methods). 8. Does the readiness of students to innovate in the educational process matter? (Yes, no, another answer).

The average score for each question after generalization was determined by a statistical method to identify the arithmetic mean.

Table 1 Quantitative data according to the teacher's questionnaire, %
(created by the authors)

No questions / specialty	No questions	1	2	3	4	5	6	7	8	9	10	11	12	13
Preschool Education	1	100	100	56,8	21,6	54	51,4	13,5	70,3	24,3	62,2	94,6	-	78,4
	2			13,5	13,5	48,6	56,8	24,3	29,7	5,4	40,5	0	-	16,2
	3			40,5	29,7	86,5	40,5	21,6		5,4	48,6	2,7	-	2,7
Philology	4			16,2	5,4		27	16,2		27			-	
	5				5,4		21,6	10,8		8,1			-	
Management	6						0	10,8		5,4			-	
	7							24,3		18,9			-	
	8									5,4			-	

Due to the fact that the number of teachers at the department is different, the indicators of answers in Table 1 are given in percentages of answers given by teachers. Thus, the statistical generalization of the results involved summarizing the results for each individual question for all departments, which is combined and represented by the average value in percent.

Let's analyze the results of the research. So, answering *the first question*, all teachers gave answers that they have information about the concepts of "innovation in education" and "innovation activities"? Option "Yes" was chosen by 100% (37) of teachers; "No" - 0; and "Another answer" - 0.

Answering *the second question* about the appropriateness of introducing any innovations in Ukrainian education, option "Yes" was chosen by 100% (37) of teachers; "No" - 0; and "Another answer" - 0.

Teachers' answers to *the third question* were divided as follows: effective innovations are those innovations that contribute to their application in new conditions or in the field of education - 56.8% (21); 13.5% (5) emphasize the effectiveness of those innovations that focus on the scientific approach to management in the implementation of innovations. 40.5% (15) say that the effectiveness of innovations depends on their appropriate identification and ranking according to scientific needs. And 16.2% (6) chose the answer that only didactic innovations can be effective. The answers to this question provided an opportunity to choose several answer options by one teacher, as evidenced by the sum of the generalized percentages.

Answers to *the fourth question* about ineffective innovation were also divided. Thus, some of the surveyed teachers believe that such innovations that need to be adapted to the conditions of education are ineffective - 21.6% (8). The implementation of such innovations that require the formation of new personal qualities or character traits of the specialist, considered ineffective - 13.5% (5);

29.7% (11) of innovations that need additional funding are also considered ineffective. 5.4% (2) of teachers report the inefficiency of using only educational and managerial innovations. 12 teachers provided their own answers to the "Another answer" option. Thus, 5.4% (2) of teachers consider literary innovations ineffective due to declining public interest in literature and reading. Also ineffective, according to teachers, are innovations that do not achieve the goal and those that do not improve the efficiency of the educational process, or if the costs (tangible and intangible) are greater than the result - 24.4% (10).

Answers to *the fifth question* showed that 54% (20) of educators work in the Internet; 48.6% (18) of the surveyed teachers prefer literary sources and professional publications. Teachers also consider webinars, participation in conferences, seminars, symposiums, etc. to be useful for obtaining new information - 86.5% (32) of teachers. This question provided an opportunity to choose several answer options, so the sum of generalized indicators in percent is consistent with the received answers.

The answers of the teachers to *the sixth question* are quite interesting. It should be noted that it was proposed to choose several answer options, which allows teachers to learn more about the methods and opportunities for innovation in education in Ukraine. Thus, 51.4% (19) of teachers listen to their colleagues' recommendations; 56.8% (21) of educators believe that personal attendance at conferences, webinars, seminars, etc. is important; the Internet is also effective for 40.5% (15) of teachers; 27% (10) of teachers pay attention to invitation letters sent to e-mail addresses; 21.6% (8) of teachers are interested in information from social networks, groups and posts.

The seventh question also provided for the possibility for teachers to choose several answers. 13.5% (5) of respondents say about the compliance with the principle of transition from stable mechanisms of innovation to consciously controlled; 24.3% (9) of teachers emphasized the importance of the principle of implementation of informative, material and technical, staffing realization of the innovation main stages; 21.6% (8) of specialists mentioned the importance of the principle of forecasting reversible or irreversible structural changes in the innovative socio-pedagogical environment; 16.2% (6) of teachers say about the principle of accelerating the development of innovation in education; 10.8% (4) indicate the compliance with the principle of strengthening the sustainability of innovative educational processes; 10.8% (4) of teachers state that they do not follow any principles and 24.3% (9) of teachers emphasize the expediency of following all the principles of the innovation implementation process.

Teachers' answers to *the eighth question* are clear, as it concerns whether teachers are aware of the "life cycle of innovation". The answer "yes" was given by 70.3% (26) of teachers, "no" - 29.7% (11) of teachers.

The following were answers to *the ninth question*. Thus, 24.3% (9) of respondents haven't difficulties; 5.4% (2) of teachers have difficulties at the stage of birth of a new idea, the emergence of a new concept of innovation (start); 5.4%

(2) of respondents have difficulties at the stage of invention - creating an innovation, i.e. the embodiment of a new idea in a particular object, material or spiritual project sample; 27% (10) of teachers experience difficulties at the stage of innovation implementation, when the phase of its use begins; 8.1% (3) of teachers have difficulties at the stage of dissemination of innovation (maturity), in its wide implementation, diffusion (penetration) into new areas (educational institutions); difficulties arise for 5.4% (2) of teachers at the stage of saturation with innovations in a particular field, loss of its own novelty (routine innovation); 18.9% (7) of teachers have difficulties at the stage of recession (crisis, finish), where there is an exhaustion of opportunities for innovation in new conditions, areas; 5.4% (2) of teachers have difficulties at the stage of irradiation of innovation, in the process of routine innovation does not disappear as such, but it's modernized and reproduced in a new form.

Opportunity to give several options for answering *the tenth question* was offered to teachers. The following results were obtained: 62.2% (23) of teachers acquire new knowledge, go in for self-education and additional training; 40.5% (15) of teachers ask for advice from colleagues and specialists; 48.6% (18) of teachers are looking for additional materials in information sources.

Answers to the closed *eleventh question* were clear. 94.6% (35) of teachers chose "Yes"; answer "No" - 0%, option "another answer" 2.7% (1) of teachers said that "the most important were the personal qualities of the teacher" and 2.7% (1) of teachers said that "personal qualities were urgent".

The results of the answers to *the twelfth question*, which provides examples of personal qualities of the teacher that will help him/her to master the innovations, are presented in Fig. 1.

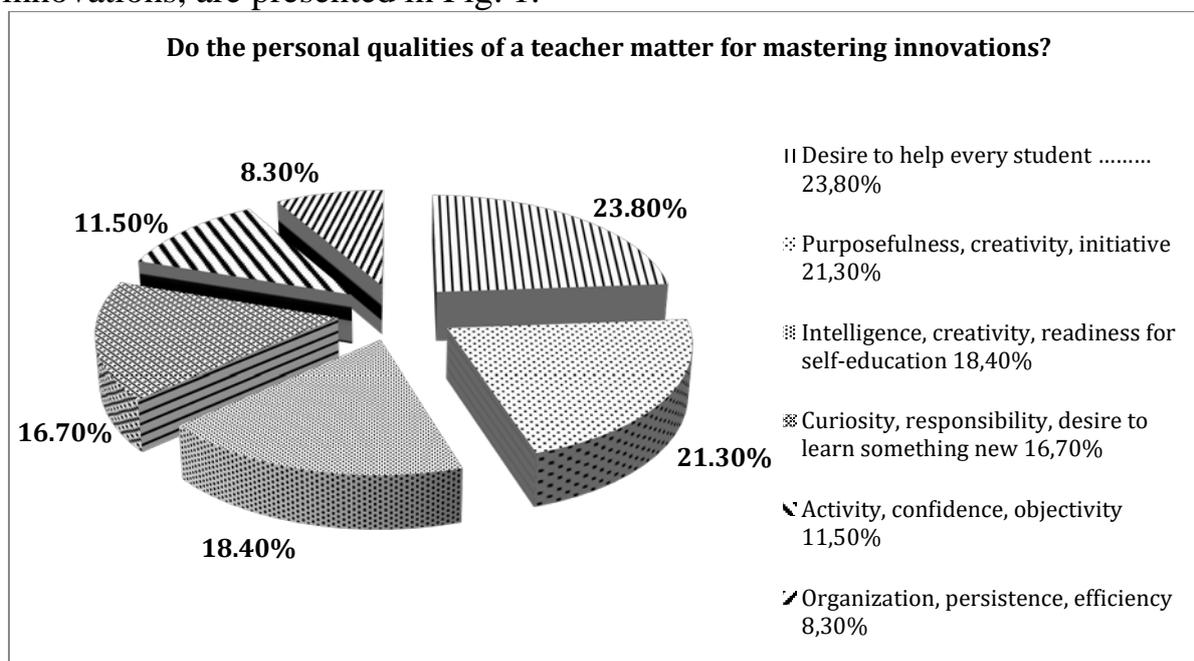


Figure 1 Personal qualities of the teacher (created by the authors)

The thirteenth question is closed type. 78.4% (29) of teachers answered "Yes", 16.2% (6) - "No". The following answers were received to the "another answer" option: 2.7% (1) of teachers said that "it was more likely than not. Although, as the experience of the teacher-innovator V. Shatalov shows, the personality of the teacher decides everything; other characteristics of the applicants mentioned in the question do not matter". 2.7% (1) of teachers said that the contingent of higher education applicants is important when implementing someone's innovation. This indicator does not matter for the implementation of own, author's innovation (experience of V. Shatalov)".

548 applicants of the above specialties in equal proportions were involved in the survey of students. The number of applicants for specialties varies. Thus, 245 students are in Preschool Education, 92 students are in Management and 211 students are in Philology. In order to process and summarize the obtained data, the answers for each specialty are 100%, from which the averages for each question are calculated. Table 2 presents the generalized indicators by specialties. Theoretical analysis and description of answers were subject to the following generalization for each answer of students.

Analyzing the responses of applicants for the above specialties, the following results were revealed.

Table 2 *Quantitative data on the questionnaire of higher education applicants, % (created by the authors)*

No questions / specialty	No questions	1	2	3	4	5	6	7	8
Preschool Education	1	90,1	93,4	50,3	30	6,6	90,3	-	91,7
	2	7,3	6	49,6	32	8,2	9,7	-	8,3
Philology	3	2,6	0,2 0,2 0,2		26,8	70,4	0	-	0
	4				7,5	6	0	-	
Management	5				2,2	8,8		-	
	6				1,3			-	

To the first question show such results: 90.1% (497) of respondents answered "Yes", 7.3% (40) answered "No"; 2.6% (11) of students provided the "Another answer" option – "I know approximately".

Answers to the second question were as follows: the answer "Yes" was chosen by 93.4% (512) of applicants, the option "No" was supported by 6% (33) of respondents; the following answers were received in the "Another answer" option: 0.2% (1) of students said that "it was appropriate to implement adequate innovations, not any", 0.2% (1) of students said that "depending on whether these

innovations were needed", 0.2% (1) of students said that "depending on what innovations they proposed to implement and for what purpose".

To the third question the following answers were received: "Yes" was supported by 50.3% (276) of applicants, "No" was answered by 49.6% (272) of respondents.

To the fourth question, where it was necessary to choose material and technical innovations: 30% (165) of applicants chose machinery, 32% (176) - technology, 26.8% (147) of students chose production materials, 7.5% (41) chose literature; 2.2% (12) - legal and pedagogical innovations were supported by 1.3% (7) of students.

The answers to the fifth question, where it was proposed to choose social innovations, are as follows: 6.6% (36) of students chose economics, 8.2% (45) of students chose organizational and managerial, 70.4% (386) chose social and managerial, 6% (33) - legal, and pedagogical ones were selected by 8.8% (48) applicants.

The sixth question is proposed to reveal the knowledge of students about what is meant by "pedagogical innovation". A number of correct and incorrect statements were submitted, including: "Innovations in pedagogical activities, changes in the content and technology of teaching, and increase their effectiveness" as the correct answer 90.3% (495) of applicants chose; "Innovations in any field implemented in education" were supported by 9.7% (53) of students; "Only new technologies" - 0%; I do not know - 0%.

The results of students' answers to the seventh question, where they were asked to choose the types of pedagogical innovations, are presented in Figure 2.

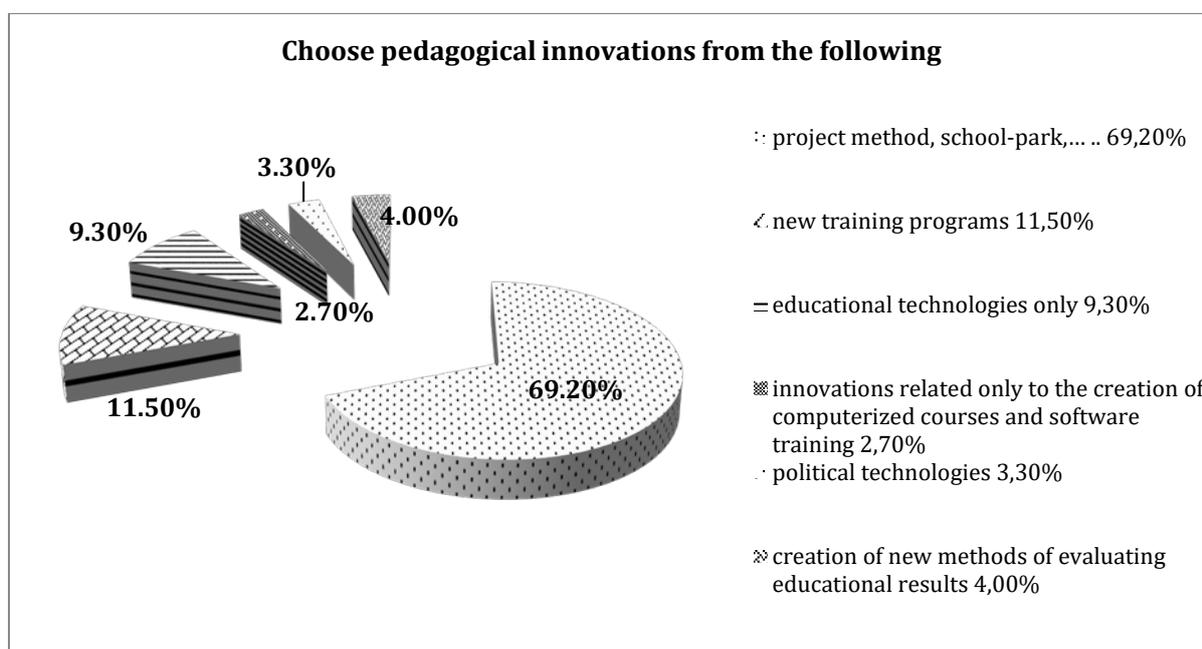


Figure 2 Types of pedagogical innovations (created by the authors)

Thus, *the seventh question* highlighted the orientation of students of higher education institutions in pedagogical innovations that are offered and used in the teaching of academic disciplines. The obtained result on this issue is important for our research, as it shows a certain level of students' awareness of what is new in the education of Ukraine, as well as is a stimulus to new research in this area.

The answers to *the eighth question* gave the following results: the answer "Yes" was chosen by 91.7% (503) of applicants, the option "No" was supported by 8.3% (45); the option "another answer" received 0%.

The answer to the eighth question is closed, as the problem of readiness of applicants of higher education to innovate in the educational process and the willingness of teachers to implement selected innovations will be explored in the future research, we believe that this issue attracts more scientists and needs more detailed study.

Conclusions

Our research and the obtained results confirmed and supplemented already known theories and developments, as well as contributed to the generalization of new results on the problem under study. Based on the highlighted data, we can say that the process of introducing innovations in the educational activities of higher education is attracting the attention of a growing number of modern scientists, both foreign and Ukrainian. It was found that the issue of practical implementation and deepening of innovations in the Ukrainian school is in the field of view of L. Karamushka, L. Danylenko, V. Bondar, L. Vashchenko, V. Kremenyha, the process of creating and developing innovations is considered in the works of M. Godiev, V. Vinogradova, N. Strizhak, G. Litovchenko, N. Iordanova; innovations in the educational process for student youth as a special scientific concept requires a comprehensive study (G. Timoshko) and is a pedagogical system and at the same time a separate element.

New results include the understanding that pedagogical innovation is the constant search and practical implementation of scientific, most effective technologies of teaching, which should result in the formation of highly adapted to changing conditions, active creative individual of the teacher who can analyze and adopt the necessary innovative decisions in the process of own pedagogical work. In order for innovations to effectively contribute to the quality educational process of higher education, necessary condition is personal readiness, initiative and orientation of the teacher both to search for innovations and to create their own ones and take into account personal readiness of students and their interest in acquiring new innovative competencies. The attitude of students to innovations, their personal perception or rejection of innovations deserves further study. It is important to study the causes and factors, personal attitudes that can complicate the process of innovation in education in Ukraine.

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ENERGY GENERATOR PROTOTYPES DEVELOPMENT AND THESE RESEARCH INTEGRATION INTO THE EDUCATIONAL PROCESS

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Abstract. *The paper presents the preconditions for improving the quality of technical training of engineers by integrating experimental research based on patented technology into the power supply circuits of autonomous robotic systems to improve power consumption and regeneration rate, ensuring longer autonomous robot operation. Not only the topics of arousal of curiosity in researching technical nuances are discussed, but also the promotion of motivation to delve into the study subjects envisaged in the curriculum and their integral understanding by examining the interrelationships. After-school activities are discussed: participation in the research, analysis of the research methodology, preparation of the layout for research and measurements; and the impact of these activities on the overall educational process. Suggestions for the integration of research results into the practical educational process of students are presented.*

Keywords: *electricity generator, integration, regeneration, robotic system.*

Introduction

The assumptions presented in this article to improve the educational process in the preparation of engineering students are based on two statements that can be described in this way. First, "Regard man as a mine rich in gems of inestimable value. Education can, alone, cause it to reveal its treasures, and enable mankind to benefit therefrom". Second, children pay little attention to what adults tell them and learn from examples they see in their horizons. Of course, students are no longer children, so the second statement should be slightly transformed by combining the accents of the example shown with a verbal explanation of the motives. In this case, the emphasis is on communication and cooperation. John Berger draws on this principle in his book, "Ways of seeing" He writes:

- „Seeing comes before words. The child looks and recognizes before it can speak. But there is also another sense in which seeing comes before words.

- It is seeing which establishes our place in the surrounding world; we explain that we are surrounded by it. The relation between what we see and what we know is never settled. Every night we see the sun setting. However, we know that the Earth is actually turning away from the Sun. But this knowledge, this explanation, never definitively coincides with the visible spectacle...“ (Berger, 2019)

Aspects of the practical application of these principles are widely discussed in the paper of the international project in the form of a book entitled “100 Ways to Improve Teaching: A Teacher’s Book for Student-Centered Teaching and Learning” (2018, Vilnius). Here it is presented as integrated project work or project based learning.

“Project Based Learning (PBL) is a backwards design process in which the teacher begins with the end in mind (Bayer & Hallerman, 2013). It is an instructional model that involves students in investigations of compelling problems that culminate in authentic products (Zafirov, 2013). The Buck Institute for Education (BIE) defines standards-focused PBL as a systematic teaching method that engages students in learning knowledge skills through an extended inquiry process structured around complex, authentic questions and carefully designed products and tasks. BIE, in their video “PBL Explained” that by focusing students on a project, teachers put them on a path that deepens their knowledge and builds skills they need for their future (BIE, 2010). They further break down the skills developed during Problem Based Learning as collaboration, question asking, giving feedback, research, presentation, and critical thinking (BIE, 2010)” (TechPLC, 2015)

In the presented case, the research activity is not directly integrated into the intended curriculum and is not even a direct education project or part of it, but is closely related to the subjects studied in terms of both acquired theoretical knowledge and practical skills. It is a project of more extracurricular activities that is based on the principles of volunteerism and interest on the part of students, although it is focused on students, the development of their competencies, the promotion of motivation, and the formation of professional skills.

The research project itself and its object are based on a patented technology, studying its applicability in the power supply circuits of autonomous robotic systems (Matutis et al., 2021). Thus, in the initial stage we are talking about the construction and research processes of the electric generator, where the practical possible application for electric cars is envisaged, because it is also a kind of autonomous robotic system.

General teaching part, research motives

The idea of the project was inspired and matured in the pre-pandemic period and is being developed in parallel through patenting processes where possible. In our article, “Research of power generator prototype development and integration

into autonomous robotic systems” presented in 2021 (Matutis et al., 2021), we have just discussed the course of this project in the presence of pandemic constraints. The lack of contact work for such projects is holding back and slowing down all progress, but it is not destructive, so even during this difficult period, the work was moving.

The project is being developed as a research based on an invention that relates to the transformation of wind (air flow) energy into electricity. It is a natural, constantly renewable source of energy for the environment around us, environmentally sustainable and environmentally friendly. The process itself does not bring any harmful substances into the environment. However, to achieve practical benefits, an integrated approach is needed, as mechanics, electromechanics, electronics, and several other specific areas of practical physics are combined here. Examination of similar ideas has shown that many of them do not reach the efficiency required for practical application, as at some stage the loss increases more than expected and the potential efficiency becomes negative (which means loss).

The use of air flow energy is studied in the practical application studies of wind turbines, where the kinetic energy of air flow is used to the maximum. It was decided to develop a practical study of this aspect in the first stage. A key issue at this stage has been the need to determine the number of blades that would be most efficient for a selected wind turbine. The chosen turbine geometry (Fig. 1) is the simplest. The design of the wings is also simple but ensures a positive efficiency from a mechanical point of view due to the appropriate force ratio of the shoulders.

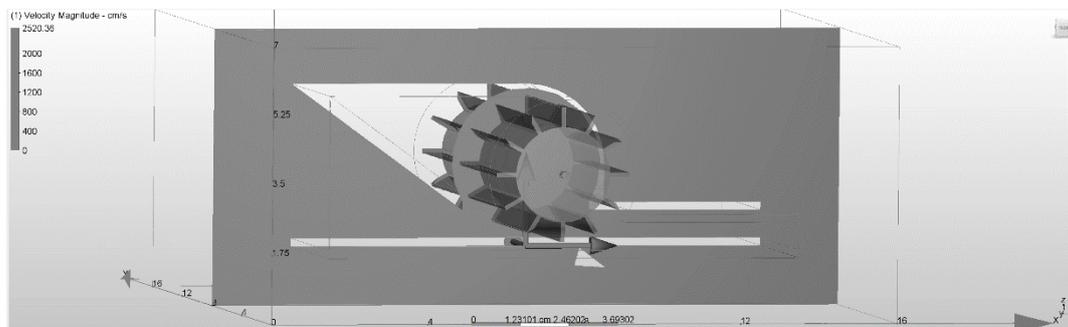


Figure 1 Selected turbine geometry in wind tunnel simulation (created by authors)

The simulations used Autodesk® CFD software to turn a 3D CAD workstation into a fully interactive liquid and gas test rig, thermal test rig, or wind tunnel. 3D layouts become interactive, at no cost to prototypes, revealing critical engineering information that is difficult to obtain during physical testing. Change the design of the model and we will see the same change in Autodesk® CFD right away. This software has been used in combination with Autodesk Fusion 360, which is 3D and 2D modeling software with a user-friendly environment that

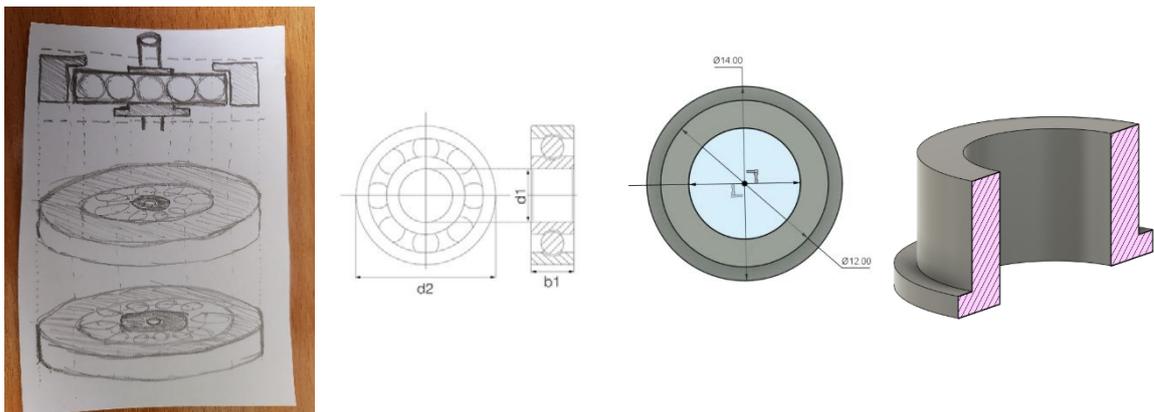
allows you to use it comfortably without much challenge. It is a powerful program that allows you to create complex and large-scale layouts.

The essence of the research chosen at this stage is the research of mechanics. It seems to have no direct connection with the future work of electronics engineers or engineers of computer systems. It should be mentioned here that research at this stage covers several areas, such as simulation or computer simulation; laboratory research including layout design (computer layout), printing of the layout and its details on 3D printers (practical use of applications); laboratory tests or specific measurements under laboratory conditions; as well as measurements with the same layout stand under external situation conditions. In this way, practical research and wider knowledge skills are developed for future engineers involved in project activities in one aspect or another.

Experimental part, description of research

Each stage begins with a discussion. The purpose of the discussion is to share the available information, to formulate tasks, to get an idea of the current situation, to plan further steps and upcoming works. At this stage, the visualization of the problem in question plays an important role. This stands out when we start discussing what an initial layout model is needed. The visualization here is very intuitive. During the project, this part of the visualization of the discussion phase remains intuitive, although it is already based on the initial information collected during the project.

This could be illustrated by the following examples from real situations during the project (Fig. 2).



*Figure 2 Stages in the process of visualization of the required part (bearing inner bush)
(created by authors)*

Any new detail acquires its shape and image first in our imagination. Only the initial conditions that limit the degrees of freedom of our imagination are

changing. Those initial conditions are framed and strengthened depending on the information already accumulated during the project.

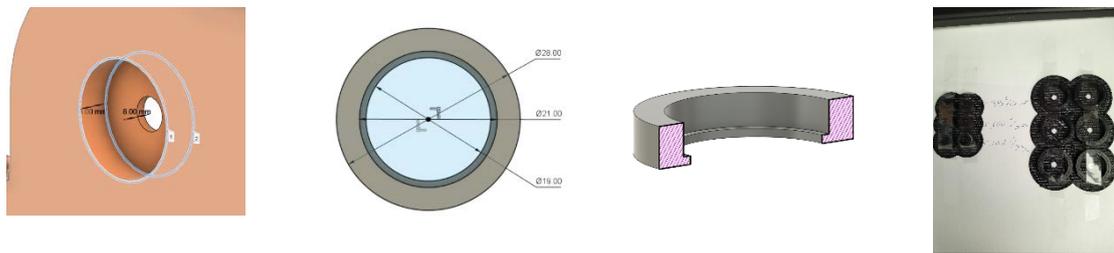


Figure 3 Visualization and realization of the part (bearing outer bush) (created by authors)

So first the image, then the attempt to describe it in words, put it on paper and here are already used various tools from simple pencil to computer drawing and design. Then the image becomes a real detail with the help of a 3D printer (Fig. 3). In this way, students acquire the skills needed for any engineering job. These skills can be called visualization-realization. This stage is repeated many times during the project.

The specifics of this project are its scope and longevity, so the change of students involved in it is natural. Graduates leave the project, and those who have just started their studies join the research team during the project. The formation of a replenishment is currently underway.

The next natural stage of this project is 3D printing, which provides students with theoretical knowledge and practical skills in mastering the application software for design and preparation for 3D printing. Acquisition of theoretical knowledge and skills in the operation of the 3D printer itself as a device. When a 3D printer works for several days (Table 1) to print the required detail, it is very important to optimally select its settings, and theoretical knowledge alone is not enough, practical skills are required. All this is very useful even when switching to other models.

Table 1 3D printer manufacturing runtime (created by authors)

Product completeness (%)	Printing time
32	1d 0h 46min
80	2d 1h 2min
100	2d 11h 4min

In close collaboration with students and faculty was developed an initial layout for critical measurements. The initial goal is to measure how the amount of energy absorbed from the air stream in a turbine of such a design depends on the number of impeller blades (Fig. 5).

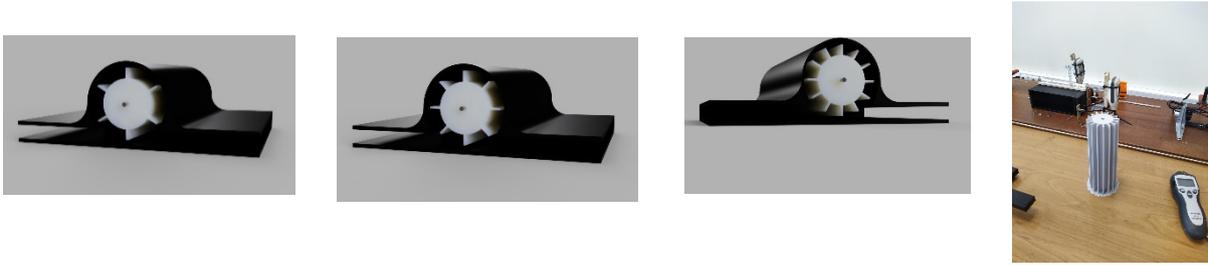


Figure 5 Layout with a different number of wings (created by authors)

Measurements were performed by changing the impellers in the same layout housing as shown in Fig. 5. The amount of energy itself was not measured directly, and it was chosen to measure the number of revolutions of the impeller per unit time.

The following layout geometry was chosen for the measurements of the critical values after computer simulation of the air flow (Fig. 6).

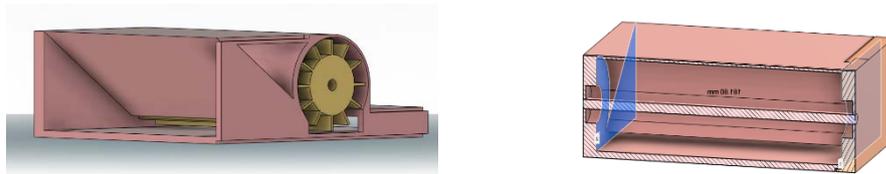


Figure 6 Geometry of the selected layout for critical value measurements (created by authors)

In the model, the height of the air flow inlet was chosen to be only half the length of the impeller wings. In this way, by measuring the air flow rate required to rotate the impeller, we will find critical values and will be able to improve the design of the turbine by increasing its efficiency.

This research process, in which students participate from the discussion of ideas, the submission of ideas and their own suggestions, to the production and assembly and coordination of an appropriate layout, allows them to become aware of and understand the interrelationships between practical skills and theory, also relations between theory and experimentation.

Measurement results, summary

We move on to the experimental measurements. Under the laboratory conditions, a stand with a constant air flow was installed in which the turbine model was also installed in the same place. This allows measurements to be made under the same environmental conditions and by varying the number of turbine impeller blades.

The layout for laboratory measurements is shown in Fig. 7. As we can see, two aerometers measuring the speed of the incoming air flow and the speed of the outgoing air flow are installed.



Figure 7 Layout installation on a measuring bench (created by authors)

The tachometer is mounted in such a way that it can measure the number of revolutions per minute of the rotating impeller. A video camera connected to a computer for monitoring the readings of the devices allows the recording of the measurement process. This is convenient for analyzing the obtained data and comparing the results.

An illustration of the course of measurements performed under laboratory conditions is shown in Fig. 8.



Figure 8 Illustration of the course of laboratory measurements (created by authors)

As we can see, in an effort to maintain the same environmental conditions: a constant flow of air, a fixed location of the layout, a fixed position of the measuring devices, etc.; we change only the number of wings of the impeller. The obtained results are shown in Fig. 9. a function of the number of revolutions of the impeller as a function of the number of wings.

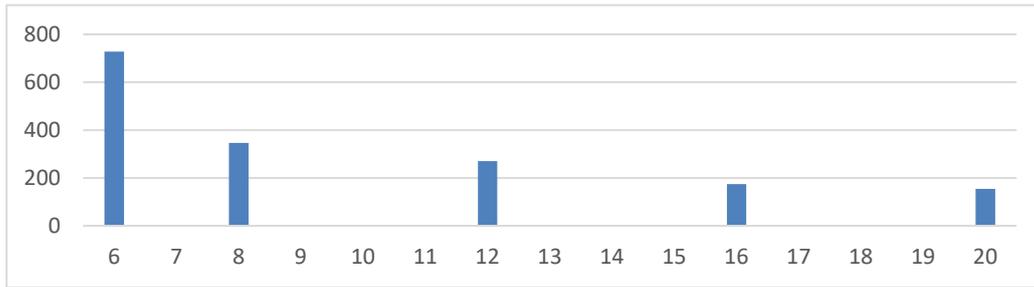


Figure 9 Graphical representation of laboratory measurements(created by authors)

From the graph of the measurement results we can see: as the number of wings increases, the number of revolutions of the impeller decreases during the same period of time. We can conclude that increasing the number of wings does not improve the energy absorption of airflow. Changes in airflow velocity were also observed during these measurements by measuring the airflow velocity before and behind the model. Although these were not our primary measurements, they are needed to analyze the potential for improving the efficiency of the turbine.

The maximum power factor of the ideal impeller is 0.593 and occurs under conditions where the air flow velocity behind the impeller is decelerated by a ratio of 2/3 to the air flow velocity in front of the impeller (layout). This law was adopted in 1919 formulated and proved by the German scientist Albert Betz. A. Betz published the results of his study in 1920 "Betas Maximum der theoretisch möglichen Ausnützung des Windes durch Windmotoren" ("Theoretical power limit of a wind farm using maximum wind energy"), and since then Betz's law has not been amended or proved otherwise. A. Betz's law defines the maximum of the energy transformation of a given operating point.

The results of our measurements, albeit indirectly, also confirmed this law.

Velocity v is a key characteristic for airflow (wind) energy analysis. Air masses, vol. y . the kinetic energy E of wind flow motion, based on the theory of classical mechanics (Augulis et al., 2012), is expressed as follows:

$$E = \frac{1}{2}mv^2; \quad (1)$$

where: v - wind speed, m / s; m - air mass, kg.

In the final result, taking into account the difference in airflow velocity before and behind the model, we obtain that the airflow power is directly proportional to its velocity cube (Mukund, 2006).

This means that once we find the critical points in the performance of this turbine, we still have a lot of room for improvement.

The measurements and experiments were then transferred to the real environment. The same model was mounted on the roof of the car (Fig. 10).



Figure 10 Experimental measurements in external situation (created by authors)

In this case, the critical air flow speed required for turbine spinning was about 100 km / h. It coincides with the speed of the car. The speed of the passing air flow drops tenfold. This shows that such a turbine is not efficient in case the 12-blade impeller it uses. However, it can be improved by raising its efficiency according to other laboratory measurements. More so as experiments with other count of wings in the outdoors have not yet been performed at this stage.

It should be mentioned that the organized practical measurements provoked a heated discussion in predicting the possible results, discussing theoretical assumptions, and using intuitive arguments. Participation in these processes provides students with the opportunity to develop perspective planning skills. Allows a clear understanding of the relationship between theory and experiment.

Conclusions, suggestions

A model of additional practical activities, integrated project work or project-oriented and project learning is presented. During this project, the impact of such activities on their (students) interest in learning and acquiring practical skills is clearly felt through the direct communication (as reflection of ideas and impressions in discussions with students on a wider scale). Therefore, this project is presented as creating preconditions for improving the quality of technical training of engineers in training. The technical platform of the project is also based on the pursuit of a public benefit that makes it socially relevant. As art teaches to see, this type of project activity helps future professionals to understand their own

social role and the need for integration into society. The existence of such activities in addition to the basic curriculum helps to expand the educational process while acquiring the necessary professional skills and competencies.

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PROFESSIONAL TRAINING OF MUSIC AND CHOREOGRAPHY TEACHERS: ARTISTIC-COMMUNICATIVE CONTEXT

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Abstract. *The article highlights the importance of artistic communication in the process of professional training of teachers of music and choreography. The purpose of the article is to analyze the artistic and communicative context of professional training of music and choreography teachers. The study used theoretical methods: analysis of psychological and pedagogical literature, synthesis, comparison, generalization of research results; diagnostic methods: interviews, questionnaires, surveys, observations; methods of processing experimental data for quantitative and qualitative analysis of the results of diagnostic studies. The meaning of the concepts is specified: communication, pedagogical communication, communication, artistic communication, artistic-communicative process. The method of introduction of art-communicative context in practice of preparation of teachers of music and choreography is developed, the directions of its realization are defined - art-pedagogical, performing, directing-staging; the levels of interpersonal interaction are highlighted, the communicative, interactive and perceptual aspects of communication are characterized.*

The results of empirical research have shown that in the process of professional training of teachers of music and choreography, the artistic and communicative context is insufficiently relevant. In individual lessons in instrumental classes and choreography classes, only certain elements are used: information or messages. Innovative technologies and methods of formation of communicative skills and stimulation of artistic communication are offered.

Among the innovations of art education are the technology of personification, design technologies, coaching method and start-method of cooperative learning. We are convinced that artistic communication is a powerful and effective means of developing social skills (soft skills), as it allows to involve students in various types of artistic creativity: music, stage, choreography.

The study confirmed the importance of activating the artistic and communicative context in the process of professional training of teachers of music and choreography.

Keywords: *artistic communication, artistic-communicative process, communication, dialogue,*

Innovations, language of art, pedagogical communication.

Introduction

The reform of higher pedagogical education in Ukraine is closely linked to general scientific and artistic innovations in the training of music and choreography teachers. This means that modern art education must offer new approaches and principles on which the latest artistic and pedagogical activities will be based. One of such approaches can be to strengthen the role of artistic and communicative component in the training of music and choreography teachers.

In the pedagogical activity of a teacher, artistic communication is considered not only as the main means of artistic teaching, education and development of students, but also as a model that is consciously or unconsciously assimilated, copied and disseminated. Therefore, both general cultural and professional-pedagogical requirements are set for artistic communication as a component of the professionalism of music and choreography teachers. After all, they are socially responsible for both the content and quality of the information provided and its consequences.

In the traditional system of higher artistic and pedagogical education there are elements of artistic and communicative training, but they are not implemented systematically and purposefully. Moreover, in the conditions of the corona crisis, live communication is increasingly excluded from the initial process and replaced by written, printed or electronic text. As a result, there is no holistic concept of professional training for music and choreography teachers that combines artistic, communication and performance aspects. Thus, the problem situation is the need to create such conditions for the training of teachers of music and choreography, which will enhance the development and self-development of all components of artistic communication for their successful implementation in educational and future professional activities.

Literature review

It should be noted that the issue of students' readiness for artistic and communicative activities has already been considered in one of the studies by the authors of this article, the results of which were published earlier. In particular, I. Baranovska and N. Mozgalova thoroughly analyzed the views of Ukrainian and foreign researchers on the problem of artistic and pedagogical communication. As a result, its essence was determined, which consists in the implementation of intellectual and creative dialogue between the author and the recipient and the transfer of the latter processed, organized, artistic and communicative information about art. At the same time, the nature and result of

such a 'dialogue' depends not only on what the author embodies in the artistic and figurative content of the work, but also on the artistic and aesthetic experience of the student (Baranovska, 2017; Mozgalova, 2011).

The logic of the research required clarifying the essence and meaning of the concepts of 'communication', 'pedagogical communication', 'artistic communication'. Thus, researchers interpret communication as a multifaceted information process that reflects the interaction of individuals, their attitudes toward each other, empathy, interaction and mutual understanding (Shcholokova, 2009); transfer of information in any form from one person to another directly or by means of any type (Bodalev, 1996); multifaceted process of establishing and developing contacts between people, which involves the exchange of information, certain tactics and strategies of interaction, perception and understanding of the subjects of communication with each other (Miasoid, 2000).

As a form of interaction of the educational process, pedagogical communication is aimed at the development of subjective, social and substantive qualities of the individual. It is a means of solving educational problems, organizing the relationship of those who teach and those who learn, ensuring the success of learning and education (Kan-Kalyk, 1987). The functions of pedagogical communication are: cognitive, normative, socialization and culturalization, organization and development of interpersonal relations and communicative interaction (Lomov, 1980).

Considering communication (translated from Latin *communicatio* – to make common, connect, communicate) as a multicultural phenomenon, researchers pay attention to its interdisciplinary nature, features of language and language communication (Baranovska, 2011); on connection with the processes of communication, presentation and perception of information (Bodalev, 1996); the main components are information, messages and understandings that actualize the issues of the language in which the information is presented (Kan-Kalyk, 1987). Interaction is important, through the prism of which the connections between communicative systems are understood, which ensure the movement of information and its semantic content and transformation in acts of communication (Lupak, 2021, p.13).

The concept of artistic communication is based on the understanding of the ability of artistic language as an appropriate sign system to capture, store, transmit information of emotional and intellectual content, which contains the aesthetic experience of generations. According to J. Dewey, the art of communication is manifested through the artist's attitude to the audience, the desire to communicate with him in the language of art, giving him a unique experience of their own worldview (Dewey, 1994).

Important for our study were the theories of M. Davydov, L. Zaks, M. Kahan, V. Medushevskiy, V. Razhnikov, which revealed the features and mechanisms of artistic communication. Thus, according to M. Kahan's theory,

the dialogic model of artistic communication is most fully realized in the art of music. It serves as a communicative field that provides dialogue between different nationalities and cultures, as well as the transmission of artistic and cultural heritage of mankind to new generations (Kahan, 1998). A feature of musical dialogue is the act of communication between the composer, performer, listener and music, in which music acts as a kind of 'quasi-subject' (Zaks, 1987). M. Davydov's theory (Davydov, 2010) emphasizes the psychological mechanism that allows the individual to choose from which angle to communicate with the art of music. It can be educational, cognitive, educational or literary activity. V. Medushevskiy's theory (Medushevskiy, 2004) defines a musical instrument as the main instrument of artistic communication, which accumulates the interaction between music, subjectively fixed in musical signs and means of musical expression, and music objectively voiced. In the context of the above is the theory of V. Razhnikov, according to which in a musical work dialogicity permeates the musical-linguistic components (meter, rhythm, phrase) and means of musical expression. Dialogue also arises between the first perception and the secondary through imagination and fantasy. At the same time, the principle of 'strongly-weak' is important for both the performer and the listener. Its purpose is to help reveal the artistic and figurative plan of the composer and to form the performer's own vision of the musical work (Razhnykov, 1993). The action of this principle is appropriate in the art of choreography, because the nature of music and choreography is common. They are united by metro-rhythm, intonation, form. In the process of performing or staging activities, the choreographer must comprehend the artistic image of a musical work as an emotional and semantic intention encoded by the composer by means of specific musical language: meter, rhythm, intonation, form (Plokhov, 2002).

In the musical-pedagogical plane, artistic communication is a means of developing the artistic, creative and intellectual potential of its participants, helps to reveal the individuality of each through the emotional-intonational sphere, creating inspiration for pedagogical interaction. Researchers believe that the lessons of music and choreography should be dominated by artistic and pedagogical dialogue, "because dialogicity permeates artistic and pedagogical activities in two interrelated forms - interpersonal and internal" (Shchokolova, 2009, p.10). According to Liu Qianqian, based on the syncretic functioning of musical and choreographic performance in the educational process of students there is an artistic and pedagogical dialogue aimed at understanding the common laws of organization of artistic time and space, performance invariance of dance genre intonation (Qianqian, 2011).

"Artistic and pedagogical dialogue must be built in such an artistic logic that would unite the art of pedagogy and music" (Bochkarova, 2008, p.9); it must obey the laws of artistic logic, provide aesthetic pleasure and aim to create

an atmosphere of collective emotional and aesthetic experience of the work (Rostovskyi, 1997, p.214-216); stimulate the process of learning about art and at the same time effectively influence the artistic and communicative development of students, which is manifested in the ability to understand themselves and other communication partners (Rudnytska, 2005, p.63-65); recognize the equality of subjects regardless of their age, level of knowledge and experience (Mozgalova, 2011, p.254); to become a powerful and effective means of developing social skills (soft skills), as it allows to involve students in different types of artistic creativity: music, stage, choreography (Mozgalova, Baranovska, Hlazunova, Mikhalishen, &Kazmirchuk, 2011, p.318).

Thus, artistic communication in the process of training future teachers of music and choreography is embodied in various forms. In particular, it is a dialogue between teacher and student in the classroom; dialogue between the student, the musical work and the composer; dialogue between students acting as performers and students, spectators at concerts or classes; in the process of independent classes, between the author's plan and the future teacher's plan; macro-dialogue between cultures, when works of different countries and composers are studied and performed, different artistic directions meet in the program, and each participant of the dialogue reflects his epoch and culture.

The list of such studies can be significantly expanded, given the analytical work carried out by the authors of the article, but it is limited by the requirements for the presentation of material for publication. The analysis and generalization of various scientific works allowed to conclude about the expediency of further research in this area.

In our research, we primarily focused on the formation of students' artistic and communicative skills. This will allow them in the future professional activity to present high-quality artistic information, to organize a favorable educational environment filled with the dynamics of words, the harmony of sounds and colors, the plasticity of movements.

Methodology

Theoretical and methodological basis for the study of this problem is based on: a systematic approach, which involves the reconstruction of the content of disciplines in order to provide them with a structure that would enhance artistic and pedagogical interaction and development of artistic and communicative skills of future teachers of music and choreography; culturological approach, which contributes to the understanding of artistic communication as a cultural phenomenon, considers the artistic and communicative context of training teachers of music and choreography through the prism of cultural heritage, values, norms of life and teaching; competency approach, which ensures the acquisition of future teachers' readiness to apply the acquired knowledge, skills and abilities in the basics of artistic communication in teaching and professional

activities, intensifies the renewal of technological support of the educational process through the introduction of new information and communication technologies; an intermedia approach that provides innovative and informative training for music and choreography teachers; activates intersubjective interaction through communication with art, dynamizes the personal intellectual and creative process of acquiring artistic information to gain new knowledge and aesthetic experience.

The author's vision of the problem is based on the principles, the set of which holistically reflects the process of professional training of teachers of music and choreography on an artistic and communicative basis. These are the principles of: integrity (provides for the coherence and direction of the content of artistic disciplines, methods, forms and means of teaching for artistic and communicative training of teachers of music and choreography); reflexivity (enables artistic communication, providing contact between the author, performer and listener on the basis of immersion in the inner world of feelings and experiences inherent in works of art); creative interaction (determined by the need to update the communicative capabilities of students in order to achieve the highest results in education and professional activities); integration of different areas of training (provides the interaction of artistic and pedagogical, performing, directing and staging areas of training, which, having their own specifics, tend to interpenetration and mutual enrichment); genre and style diversity of the repertoire (activates the performance of students by including in the learning process of works of different styles and genres, from ancient to modern).

In the course of the theoretical research methods of analysis, comparison and generalization of views of different authors on the subject of research - artistic and communicative context of professional training of teachers of music and choreography were used. At the same time, methods of systematization, concretization and scientific abstraction were used.

Organization of Empirical Research and its Results

In order to test the methodology of formation of artistic and communicative skills of teachers of music and choreography, we conducted an experimental study, which included three stages: ascertaining, forming and control. Teachers of Vinnytsia schools, teachers and students of Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University and National Pedagogical Dragomanov University, teachers and students of higher pedagogical educational institutions studying in educational programs 025 music art and 024 choreography took part in the research work.

The purpose of the observational experiment was to study the requests of school teachers and university teachers about the need for changes in the theory

and practice of training teachers of music and choreography; analysis of typical problems that arise in the learning process and determine the introduction of innovative artistic and communicative techniques in the practice of training teachers of music and choreography; direct diagnosis of components of students' artistic and communication skills and their ability to innovate artistic and communicative activities.

In order to carry out psychological and pedagogical diagnostics, we conducted purposeful pedagogical observation of the process of training teachers of music and choreography. To do this, we used methods: surveys, interviews (oral and written), testing, the method of analysis of products and generalization of independent characteristics. The authors adapted a set of diagnostic methods: “Communicative Sensitivity” by E. Smirnova, “Determination of professionally significant qualities of a teacher” by O. Serheienkova, “Study of emotional orientation” by B. Dodonov, “Research of understanding and mutual understanding” by N. Shevandrin, research “Level of communicative control” G. Kominko, V. Petrushyn's methods KOZ-1 and KOZ-2 (assessment of communicative abilities), readiness of students for innovative artistic and communicative activity (L. Vashchenko) and others. It should be noted that in the process of ascertaining and control stages of the experiment, we did not use all these methods at once, but chose them depending on the situation and the individuality of the respondents.

Analysis of surveys of graduates working as teachers of music and choreography showed their lack of awareness of the communication aspects of performing and choreographic art (42%), the presence of only general ideas about the nature and features of artistic and communicative activities of teachers (38%) and basic knowledge of music education, in which artistic and communicative skills are most important (37%). The results of the survey showed a positive attitude of music and choreography teachers to modern information and communication technologies. Depending on the length of service, this percentage increased from 14% (experience up to 20 years) to 67% (experience up to 5 years); the growth was primarily due to city teachers and recent graduates.

In the process of diagnosing the components (motivational, emotional, creative) of students' artistic and communicative skills, we paid attention to the level of their motivation to use and implement the latest communication technologies, the ability to acquire information in modern “information flows” and exchange it with participants in online and offline communication, manifestations of creative initiative in communication (sociability), the ability to emotionally communicate with audiences of all ages, critically analyze and creatively use artistic information in the learning process.

The results of the diagnosis showed that paying much attention to the acquisition of psychological and pedagogical knowledge, performing skills and abilities, students do not attach due importance to the acquisition of artistic and

communicative skills, without which the success of professional activity is impossible.

The author's method of forming artistic and communicative skills of music and choreography teachers is designed to solve the following educational tasks: to actualize the communicative function of art, in particular in the aesthetic, spiritual and intellectual growth of the individual; to intensify the artistic and communicative interaction of the participants of the pedagogical process in order to create creative intersubjective connections; use the creative potential of artistic information in pedagogical communication; to identify semantic dominants of artistic and figurative content, to trace and analyze their transformation in different performing interpretations; update the content of music and choreography teacher training with new forms of communication, using computer technology and social networks.

The method was implemented in three stages, subject to the following pedagogical conditions: the orientation of the educational process on the systematic and consistent involvement of students in artistic and communicative activities; formation of attitude to it as a particularly important area of professional training necessary for professional success; creation of a pedagogically-guided artistic and educational environment; optimal combination of theoretical and practical-communicative factors in mastering artistic disciplines; acquisition by students of artistic-communicative and performing vision.

At the first (initial-founding) stage the following methods were used: obtaining musical information (acquaintance with methodical literature, educational discussions, creation of information-methodical cases), stimulating interest in artistic and communicative activities (encouragement, guidance, motivational talks, approval), emotional saturation of learning, personification, coaching and smart methods, the method of group generation of ideas, pedagogical palliative and intertextual analysis. The introduction of these methods was carried out using individual and group forms of work.

At the second (creative and activity) stage, the project “Artistic and communicative development of teachers” was implemented. This project involved student problem groups, conducting scientific and practical seminars (seminar-discussion “Communication in music”, “Communication aspect of choreographic art”, seminar-dialogue “Successful Teacher and Artistic Communication”), “Round Tables”, “Brain Rings”, “What? Where? When?”. At these scientific and practical seminars, situations were created that activate the analytical thinking of students, encourage independent creative research. Being active participants in problem groups, students acquire skills of dialogue communication, act as organizers, speakers, researchers and performers. Within the framework of this project, the program “Communicative Culture of Teachers” was implemented, which aims to ensure in-depth preparation of

future teachers for performing arts or choreography, as well as conscious and balanced attitude of students to terminological instructions in musical texts or choreographic productions.

The third (final-analytical) stage included various types of lectures (“Communicative space of modern art education”, “Communicative competence of teachers: modern format”, “How to encourage young people to dialogue”), master classes “Creative questioning techniques”, “Communicative game”). This stage also included the analysis and processing of various texts (narrative texts, descriptive texts, reflective texts) (monographs, musicological works, reviews) in the field of performing and choreographic arts. with verbal explanation, staging and solving pedagogical situations, creating situations of dialogue, organizing presentations and quizzes, attracting future professionals to discuss their own performances. At this stage, it becomes important to independently create performing interpretations and create artistic and communicative accompaniment to them, develop the ability to communicative improvisation in the process of conducting lessons at school and establishing contact with students during concerts and more.

In the process of implementing the methodology, multimedia platforms (Moodle, Zoom, Google Meet, UberConference) and programs (Skype, Viber, Microsoft Word, PowerPoint, Sony Vegas Pro, Prezi, Adobe Photoshop, Corel Draw) were used.

Determining the results after each stage of the formative experiment made it possible to reliably trace the dynamics of the level of formation of artistic and communicative skills of students. The recorded positive changes (high growth from 16 % to 57 %) captures the positive effect of the introduction of the author's methodology for the formation of artistic and communicative skills, which allowed future teachers of music and choreography to understand the role of artistic communication in professional development and personal development in the media.

Conclusions

Experimental verification of the effectiveness of the author's methodology for the formation of artistic and communicative skills proved its functionality and effectiveness in the context of professional training of teachers of music and choreography.

This technique is designed to bring into the environment of art education the possibility of continuous artistic communication, free reflection, the desire to be a performer of interesting music with its unique artistic codes and meanings. It provides ample opportunities for expanding communicative ties in order to realize artistic and creative potential in choreography and music in professional activities, promotes educational, including communicative, activities through

direct immersion in the information space, aims to gain artistic and communicative experience as the basis of successful professional activity.

Further study and deepening of scientific needs of formation of separate communicative skills of future teachers of art disciplines, mastering of new innovative tasks on increase of level of formation of communicative skills of students need. Also of considerable interest and complexity is the problem of structural modeling of the training of teachers of music and choreography in the context of the interaction of folklore, academic and popular arts.

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KOMBINĒTO MĀCĪBU ĪSTENOŠANAS IESPĒJAS

Opportunities of the Implementation of Blended Learning

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Abstract. *So far one of the 21st century biggest global events that brought about unforeseen changes in education was the pandemic caused by the SARS-CoV-19 virus. Measures to reduce the spread of the virus have made it necessary to replace traditional face-to-face education with alternative options, such as distance learning or remote learning. Blended learning, which combines face-to-face and online learning and is seen as a solution for future education, has also become relevant during the pandemic, providing an opportunity to promote the integration of digital technologies into learning process and to support equal access to education for all. The article deals with a case study to explore the principles of the implementation of blended learning and pilot them in a higher education institution. Based on the theory review, it has been concluded that blended learning is defined as a method and an approach, as well as a curriculum that combines face-to-face learning with online learning. The data have been collected by the content analysis of documents, questionnaires for students and lecturers and an interview with the director of a higher education institution. The obtained data allow to develop the recommendations for the management of higher education institution, lecturers and students for the implementation of blended learning in the study process.*

Keywords: *asynchronous and synchronous remote learning, blended learning, online learning.*

Ievads

Introduction

Vīrusa SARS-CoV-2 pandēmija, kas pasaulē strauji izplatījās 2020. gada martā, līdz šim radījusi nebijušus izaicinājumus sabiedrības veselībai un aprūpei, ekonomikai, tautsaimniecībai un praktiski visām nozarēm, tostarp arī izglītības sistēmai. Sākotnēji vīrusa izplatības mazināšanas nolūkos vairāku valstu izglītības iestādes tika pilnībā slēgtas, atsevišķās valstīs tās bija daļēji atvērtas, bet citas izsludināja ārkārtas brīvdienas, lai labāk sagatavotos pārejai uz cita veida izglītības iegūšanu (The United Nations Educational, Scientific and Cultural Organization, 2021). Kur tas bija iespējams, tradicionālās klātienē mācības tika aizstātas ar alternatīvām iespējām, tādām kā tālmācība vai attālinātās mācības. Pandēmijas laikā visā pasaulē tika veikti dažādi pētījumi par alternatīvo mācību efektivitāti un vīrusa ietekmi uz izglītības sistēmu un mācībām, meklējot labākos risinājumus nākotnes izglītības pilnveidošanai mainīgiem dzīves apstākļiem.

Viens no šādiem risinājumiem ir kombinētās jeb jauktās mācības – klātienēs un tiešsaistes mācību apvienojums, kas paredz dažādu mācību metožu, teoriju un tehnoloģisko risinājumu kombinācijas. Latvijā 2020. gadā izstrādātajās Valsts izglītības satura centra vadlīnijās klātienēs, kombinēto un attālināto mācību īstenošanai, kombinētās mācības tika piedāvātas kā viens no iespējamajiem mācību modeļiem, kuru izglītības iestāde var īstenot atkarībā no epidemioloģiskās situācijas valstī (Valsts izglītības satura centrs, 2020). Kombinētās mācības kā risinājumu Covid-19 pandēmijas radīto seku mazināšanai un kvalitatīvākas un iekļaujošas izglītības īstenošanai nākotnē, izvirzījusi arī Eiropas Komisija, kas 2021. gada augustā publicēja priekšlikumus par kombinēto mācīšanos kvalitatīvai un iekļaujošai pamatizglītībai un vidējai izglītībai (Eiropas Komisija, 2021). Ņemot vērā, ka Latvijas izglītības dokumentos kombinētās mācības nav noteiktas, kā arī, lai Latvijā aktualizētu kombinēto mācību lietojumu, kā pētījuma mērķis tika izvirzīts – noskaidrot kombinēto mācību būtību, īstenošanas principus un, veicot gadījuma pētījumu, izvērtēt kombinēto mācību īstenošanas iespējas augstākās izglītības iestādē (AII). Lai iegūtu iespējami pilnīgu izpratni par situāciju un iegūtu datus kombinēto mācību īstenošanas iespēju analīzei AII, tika veikta dokumentu kontentanalīze, studentu un docētāju anketēšana un intervēta augstākās izglītības iestādes vadītāja.

Kombinētās jeb jauktās mācības *Blended Learning*

Kombinētās jeb jauktās mācības (*Blended Learning*) sauktas arī par hibrīdajām mācībām (*Hybrid Learning*) tiek pētītas jau vairāk kā divdesmit gadus. Pirmie kombinēto mācību īstenošanas mēģinājumi sākās 2000. gadā. Viens no pirmajiem pētījumiem, kurā tika izmantots kombinēto mācību jēdziens, bija ar mērķi apvienot spēles un darba elementus pirmsskolā (Güzer & Caner, 2014). Lai gan šis pētījums bija tālu no kombinēto mācību vispārējas izmantošanas, tas aizsāka ideju par kombinēto mācību īstenošanu. Pirmie mēģinājumi atbalstīja klātienēs un tiešsaistes mācību apvienošanu, taču kombinētām mācībām nebija precīzu definīciju. Laika periods no 2002. – 2006. gadam tiek saukts par definīciju periodu, jo visbiežāk citētie raksti ir par kombinēto mācību definēšanu (Garrison & Kanuka, 2004; Bonk & Graham, 2006; Young & Duhaney, 2008, Garrison & Vaughan, 2008). Kombinētās mācības tika definētas kā izglītības metode, kurā tiek izmantota tālmācības, tehnoloģiju un tradicionālās izglītības kombinācija (Young & Duhaney, 2008). D.R. Gerisons un N.D. Kanuka (Garrison & Kanuka, 2004), analizējot kombinēto mācību problēmas augstākajā izglītībā, secināja, ka kombinētās mācības ir pārdomāta klātienēs mācību pieredzes un tiešsaistes mācību pieredzes integrēšana. Tika rasti pierādījumi tam, ka kombinētās mācības var palīdzēt augstākās izglītības iestādēm attīstīt mācību procesu, kas centrēts uz izglītojamo un bagātināt augstākās izglītības pieredzi (Garrison & Kanuka, 2004). Populārākā kombinēto mācību definīcija pauž to, ka kombinētās mācības ir

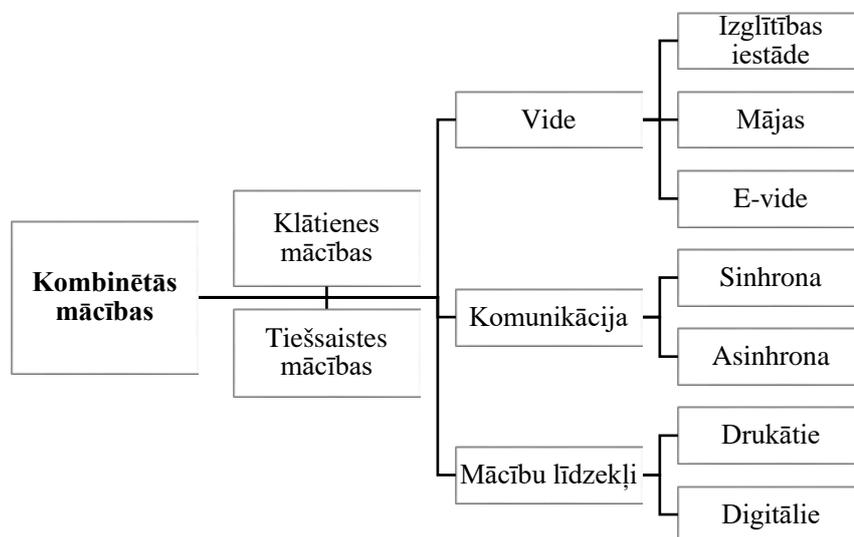
klātienes nodarbību un tiešsaistes mācību kombinācija (Bonk & Graham, 2006; Garrison & Vaughan, 2008). Mācības klātienē tradicionāli notiek sinhroni fiziskā mācību vidē, kur studenti vienlaikus atrodas vienā un tajā pašā vietā un telpā kopā ar docētāju. Turpretī tiešsaistes mācības ir tālmācības forma, kurā izmanto datorus un internetu kā piegādes mehānismu, un vismaz 80% no mācību satura tiek apgūti tiešsaistē (Shelton & Saltsman, 2005; Allen & Seaman, 2008). Tiešsaistes mācības attiecas uz mācīšanu un mācīšanos, kurā (1) studenti atrodas fiziski šķirti no docētāja, (2) tiek izmantota kāda no tehnoloģijām, lai piekļūtu mācību materiāliem, (3) studenti izmanto tehnoloģijas, lai mijdarbotos ar docētāju un citiem studējošajiem, (4) studentiem tiek sniegts sava veida atbalsts (Anderson, 2011). Daži autori, aprakstot kombinētās mācības, izšķir ne tikai klātienes un tiešsaistes kombināciju, bet iekļauj arī mācību teorijas, kuras var tikt kombinētas. Viena no šādām autorēm ir K. Vīpcke (Wiepcke, 2006), kas kombinētās mācības definējusi, iekļaujot tajās mācību teoriju (konstruktīvisms, konektīvisms, kognitīvisms un biheiviorisms), metožu (asinhronās un sinhronās) un plašsaziņas līdzekļu (tiešsaistes līdzekļi, kā mācīšanās platformas, videokonferences ar bezsaistes līdzekļiem kā drukātajiem materiāliem) kombinācijas. Arī citas definīcijas paredz, ka uz kombinētajām mācībām ir jāskatās plašāk, ietverot mācību teorijas un metodes, jo arī tās var kombinēt. Kombinētās mācības ir piemērotu teoriju, metožu un tehnoloģiju kombinācijas izmantošana, lai optimizētu mācīšanos noteiktā kontekstā (Cronje, 2020). Kombinētās mācības tiek aprakstītas kā formālās izglītības programma, kurā students vismaz daļēji mācās tiešsaistē, kur tiek izmantots kāds studenta kontroles elements laikā, vietā, ceļā un vai tempā, un vismaz daļēji mācās klātienē prom no mājām. Katra studenta mācību kursa kārtība ir saistīta, lai nodrošinātu integrētu mācīšanās pieredzi (Christensen, Horn, & Staker, 2013). Kombinētās mācības nav tikai virtuālas un kopīgas fiziskās telpas mācīšanās apvienošana. Tas ir mācību process, kurā integrēti dažādi faktori:

- mācību vide (mājas, tiešsaistes, skolas, darbavietas, citi);
- kompetences attīstības process (mūžizglītība un profesionālā);
- afektīvā sfēra (motivācija, gandarījums, drosme, vilšanās);
- cilvēki (studenti, docētāji, vecāki, izglītības iestādes personāls) (Yu, 2015).

Eiropas Komisijas (2021) izstrādātajos ieteikumos par kombinēto mācīšanos kvalitatīvai un iekļaujošai pamatizglītībai un vidējai izglītībai, tiek lietots jēdziens *kombinētas mācīšanās pieeja*. Kombinētā mācīšanās formālajā izglītībā un tālākizglītībā ir tad, kad “skola, pedagogs vai audzēknis mācību procesā izmanto vairāk nekā vienu pieeju: – tā sapludina skolas un tālmācības vidi, – mācību uzdevumos tā savieno dažādus mācīšanās rīkus, kas var būt digitāli (arī tiešsaistē) vai nedigitāli” (Eiropas Komisija, 2021, p. 4).

Autoru viedokļi par to, kas ir kombinētās mācības dalās un, lai arī to būtība šķiet ir līdzīga, kombinētās mācības tiek definētas gan kā metode, gan pieeja, gan mācību programma, kurā tiek kombinētas klātienes mācības ar tiešsaistes

mācībām. S. Grosberga-Merca (2021, 26) uzskata, ka kombinētās mācības ir “klātienē un tiešsaistes mācību apvienojums, kurā kombinējot **mācību vidi** (izglītības iestāde, mājas, e-vide), **komunikācijas veidu** (sinhrona un asinhrona) un **mācību līdzekļus** (drukātos, digitālos), iespējams īstenot daudzveidīgu un mūsdienīgu mācīšanas un mācīšanās procesu” (1.att.).



1.attēls. *Kombinēto mācību struktūra* (Grosberga-Merca, 2021, p.26)

Figure 1 *Structure of Blended Learning* (Grosberga-Merca, 2021, p.26)

Kombinētās mācības pēc to iespējam izglītības iestādē var tikt īstenotas četros dažādos līmeņos: uzdevuma līmenī, kursa līmenī, programmas līmenī vai iestādes līmenī, kur klātienē un tiešsaistes attiecība katrā līmenī ir atšķirīga. Programmas un iestādes līmenī kombinācijas proporciju nosaka studenti, savukārt, uzdevumu un kursu līmenī tie ir docētāji un kombinēto mācību modeļu izstrādātāji (Graham, 2009). Kombinētās mācības var tikt īstenotas ne tikai dažādos līmeņos, bet ir izstrādāti vairāki to īstenošanas modeļi – rotācijas modelis, individuāli organizēto mācību modelis, pašvadīto mācību modelis un papildināts virtuālo mācību modelis (Staker & Horn, 2012). Kombinētās mācības īstenojamās dažādos savstarpēji savienojamos veidos, kuros docētājs vienlaikus strādā ar studējošajiem klātienē un tiešsaistē, asinhronas mācīšanas metodes var papildināt sinhronu klātienē mācīšanu, ieplānotajās kontaktstundās studējošie dažādās grupās var rotēt caur dažādiem uzdevumiem klātienē un tiešsaistē, studiju kurss var tikt pilnībā nodrošināts gan klātienē, gan tiešsaistē un studējošais var izvēlēties veidu, kādā kursu apgūt.

Kombinēto mācību kā jebkura jauninājuma ieviešana sākas ar izpēti un analīzi. Lai noteiktu izglītības iestādes gatavību ieviest un īstenot kombinētās mācības, jāizvērtē izglītības iestādes, tostarp izglītojamo, vajadzības, motivācija ieviest kombinētās mācības, docētāju pieredze un prasmes un visa veida resursi – tehniskie, elektroniskie, cilvēkresursi, finansiālie. Valsts izglītības satura centra un partnerorganizāciju no Latvijas, Austrijas, Kipras un Lielbritānijas

Erasmus+ stratēģiskās partnerības projektā “Izglītības procesu vadība multimodālām mācībām”, kura mērķis bija veidot izpratni par kombinētajām mācībām un veicināt to izmantošanu skolās, tika izstrādāti pašdiagnostikas indikatori, ar kuru palīdzību izglītības iestāde var novērtēt savas iespējas ieviest un īstenot kombinētās mācības (B-Learning, 2017). Indikatori orientēti uz trīs dimensijām – sistēmas, procesiem un cilvēkresursiem (2.att.).

Sistēma	Procesi	Cilvēkresursi
<p>Izglītības iestādes vīzija un mērķi kombinēto mācību idejas saistība ar izglītības iestādes vīziju (fokuss uz studentcentrētām mācībām, patstāvīgu un mijatkarīgu mācīšanos)</p> <p>Inovāciju kultūra attieksme pret inovācijām, to atbalstīšana, veicināšana</p> <p>Tehniskā kapacitāte izglītojamo un mācību personāla piekļuve digitālajām ierīcēm ar interneta pieslēgumu, wi-fi, IKT rīkiem, gan izglītības iestādē, gan mājās, mācību telpu piemērotība IKT lietojumam.</p> <p>Kopienas atbalsts izglītības iestādes sadarbība, lai atbalstītu skolas vīziju (lokāla, nacionāla, starptautiska)</p>	<p>21. gadsimta mācīšanās izglītības programmās 21. gs mācību prasmju (kritiskā domāšana, komunikācija, sadarbība, radošums) iekļaušana mācību procesā</p> <p>Esošās pieejas un prakse pieredze kombinēto mācību elementu īstenošanā (e-mācības, mācības tehnoloģijām bagātā vidē, mācības ārpus klases) un prakse (tiešsaistes komunikācija, nodarbības, virtuālās simulācijas u.c.)</p> <p>Studentcentrētas mācības studentu iesaiste mācību satura, aktivitāšu, materiālu un tempa plānošanā un organizācijā</p> <p>Mācīšanās pārraudzība formatīvās vērtēšanas kvalitāte, IKT lietojums formatīvajā vērtēšanā</p>	<p>21. gs. mācību dizains 21. gs. mācību pieeju izpratne, digitālā mācību satura izmantojums, stundu modelēšanas/pārraudzības kvalitāte</p> <p>IKT prasmes mācībām mācībaspēku IKT prasmes (tiešsaistes nodarbību, videolekciju veidošana, vērtēšana, pašnovērtēšana u.c.)</p> <p>Motivācija kombinētām mācībām vadības, akadēmiskā personāla, studentu motivācija ieviest un īstenot kombinētās mācības</p> <p>Profesionālās pilnveides pieredze sadarbība profesionālai pilnveidei, savstarpēja mācīšanās, koučings, pedagoģiskās meistarības pilnveidei, atbalsts IKT prasmju pilnveidei</p>

2.attēls. *Izglītības iestādes pašdiagnostikas indikatori* (pielāgots no B-Learning, 2017)

Figure 2. *Self-diagnostic indicators for educational institution*

(adjusted from B-Learning, 2017)

Metodoloģija Methodology

Mērķa sasniegšanai tika izvēlēts atsevišķa gadījuma pētījums, kas paredz detalizētas informācijas vākšanu un analīzi par kādu noteiktu fenomenu tā reālās dzīves situācijā. Lai iegūtu iespējami pilnīgu izpratni par situāciju un iegūtu datus kombinēto mācību īstenošanas iespēju analīzei augstākās izglītības iestādē, tika veikta dokumentu kontentanalīze, studentu un docētāju anketēšana un intervēta augstākās izglītības iestādes vadītāja.

Kvalitatīvās dokumentu kontentanalīzes mērķis bija iegūt kvalitatīvus datus par AII darbības mērķi, docētājiem un studentiem, viņu tiesībām un pienākumiem, materiāltehnisko nodrošinājumu un mācību procesa norisi. Tika analizētas piecas dokumentu vienības – AII nolikums, Studiju nolikums, Iekšējās kārtības noteikumi studējošajiem, gada publiskais pārskats un npublicēts pašnovērtējuma ziņojums.

Anketēšanas mērķis bija noskaidrot kombinēto mācību īstenošanas iespējas AII. Pētījuma izlases veidošanai tika izmantots ērtuma jeb pieejamās izlases veids, iekļaujot izlasē indivīdus, kuri ir pieejami un gatavi piedalīties pētījumā brīvprātīgi. Kopā tika iegūtas anketas no 216 respondentiem, 201 AII studenta un 15 docētājiem. Anketēšanas rezultātā tika iegūts viedoklis no apmēram katra ceturtā AII studenta un pārstāvēta tika nedaudz vairāk kā viena trešā daļa no visiem AII akadēmisko personālu pārstāvošajiem docētājiem. Iegūtie anketu dati ļāva noskaidrot respondentu viedokli par digitālo prasmju līmeni, resursu pieejamību, attālināto studiju pieredzi, apmierinātību ar studijām/darbu AII un studiju organizēšanu pēc pandēmijas beigām.

Daļēji strukturētajā intervijā tika noskaidrots AII direktores viedoklis par attālināto studiju procesu AII, kā arī docētāju spēju pielāgoties situācijas mainībai un virzīties uz attīstību.

Kombinēto mācību īstenošanas iespēju izvērtēšanai kontentanalīzes, anketēšanas un intervijas iegūtie dati tika savstarpēji analizēti pēc šādiem parametriem:

1. Izglītības iestādes mērķu saistība ar kombinēto mācību būtību.
2. Inovāciju kultūra – attieksme pret inovācijām, to atbalstīšana, veicināšana.
3. Studentcentrētu mācību īstenošana izglītības iestādē.
4. Studentu vajadzības saistībā ar mācību procesa organizēšanu.
5. Izglītības iestādes un studējošo tehniskais nodrošinājums.
6. Docētāju pieredze kombinēto mācību īstenošanā un digitālo tehnoloģiju lietošanā.
7. Docētāju un studentu digitālo prasmju līmenis.
8. Izglītības iestādes vadības, docētāju un studentu redzējums par kombinēto mācību īstenošanu nākotnē.

Pētījuma rezultāti

Results

Pēc iegūto datu apkopošanas, izmantojot triangulācijas metodi, tika veikta datu analīze pēc astoņiem parametriem (mērķi, inovāciju kultūra, studentcentrētas mācības, studējošo vajadzības, tehniskais nodrošinājums, docētāju pieredze, digitālo prasmju līmenis un iesaistīto grupu nākotnes redzējums) un izstrādāti priekšlikumi AII vadībai, docētājiem un studentiem, kas veicinātu kombinēto mācību īstenošanu AII.

1. AII mērķi – kombinētās mācības atspoguļo īpašības, kas piemīt 21. gs. izglītībai, tādējādi, secinājumi pēc dokumentu kontentanalīzes liecina, ka kombinēto mācību īstenošana AII nebūtu pretrunā ar AII mērķi sniegt mūsdienīgu izglītību, bet tieši palīdzētu šo mērķi sasniegt. Pretrunā ar AII mērķi nav arī aptaujātie docētāji, no kuriem visi pauž pārliecību par nepieciešamību studentiem sniegt 21. gs. atbilstošu izglītības ieguvu.

2. Inovāciju kultūra – AII pašnovērtējuma ziņojumā rakstīts, ka studiju procesa ietvaros tiek pievērsta uzmanība inovatīvajiem risinājumiem, piemēram, produkta inovācijas ietvaros tiek veikti dažādi tehniskie uzlabojumi, pilnveidota materiāli tehniskā bāze, iegādātas jaunas datu bāzes. Docētāju sniegtās atbildes par inovāciju atbalstīšanu un novērtēšanu AII norāda, ka inovācijas tiek atbalstītas, vadības veiktie pasākumi un procesi AII veicina docētāju darba dažādošanu, kā arī docētāji tiek iedrošināti eksperimentēt. Aptaujāto docētāju vairākums norādīja, ka ir gatavi ieviest mācību procesā dažādas pārmaiņas. AII direktore gan norādīja, ka vecāka gada gājuma docētājiem pārorientēties darbam citā vidē, izmantojot jaunas metodes, kā tas notika attālinātajās mācībās, varot sagādāt grūtības un radīt izaicinājumus. Pastāv iespēja, ka direktores pieminētie vecāka gada gājuma docētāji, kas pētījumā varētu būt nepiedalījušies, nevēlētos atbalstīt pārmaiņas izglītības procesa maiņā jeb kombinēto mācību īstenošanā, tāpēc kā iespējamo risku būtu jāuzskata docētāju iespējamā pretestība pārmaiņām.

3. Studentcentrētas mācības – studentcentrēta mācību pieeja paredz iespēju pašiem studentiem piedalīties mērķu izvirzīšanā, uzdevumu noteikšanā un pat mācību satura un metožu izvēlē, kā arī sniedz iespēju pašiem sevi kontrolēt, vērtēt un uzņemt atbildību. AII pašnovērtējuma ziņojums apstiprina, ka studiju norisē tiek ņemti vērā studentcentrētas mācīšanas un mācīšanās principi, atbalstot studējošo patstāvību, vienlaicīgi nodrošinot gan studiju procesa vadību, gan studējošo atbalstu. Studiju procesā tiek pievērsta uzmanība savstarpējai sadarbībai un studiju rezultātu atgriezeniskās saites nodrošināšanai visu studiju kursu apgūvē. Studentu sniegtās atbildes par iespēju iesaistīties studiju plānošanā un organizēšanā, kas ir viens no studentcentrētu mācību principiem, norāda, ka nedaudz vairāk kā 50% aptaujāto ir apmierināti ar iespēju piedalīties studiju plānošanā un organizēšanā, turpretī docētāju sniegtā atgriezeniskā saite apmierina nedaudz vairāk kā 70% studentu. Lai arī studentu vairākumu apmierina docētāju sniegtā atgriezeniskā saite, direktore norādīja, ka tieši atgriezeniskās saites sniegšana ir tā prasme, kuru docētājiem nepieciešams pilnveidot. Pēc studentu sniegtajām atbildēm arī studentu iespēja piedalīties studiju plānošanā un organizēšanā varētu tikt pilnveidota.

4. Studējošo vajadzības – studentiem netika uzdots tiešs jautājums par viņu studiju vajadzībām, bet tā vietā tika uzdoti jautājumi par nodarbinātību un iespēju studijām veltīt tik daudz laika, cik tas ir nepieciešams. Kombinēto mācību mērķis ir izglītības pieejamības nodrošināšana neatkarīgi no vides, kurā tā tiek īstenota un neatkarīgi no izglītojamā atšķirīgajiem personīgajiem un sociālajiem apstākļiem. Studentu nodarbinātība varētu būt viens no iemesliem, kas kavē kvalitatīvu izglītības iegūšanu, jo studenti nespēj apvienot darbu ar studijām. Studentu vajadzība pēc iespējas apvienot darbu ar studijām un iekonomēt laika resursus varētu būt pamatojums kombinēto mācību ieviešanai AII. Studentu atbildes uz jautājumu par nodarbinātību norāda, ka 60% studentu papildus studijām strādā algotu darbu, attiecīgi 33% no tiem pilnas slodzes darbu, 21% nepilnas slodzes darbu, bet 6% ir pašnodarbinātas personas vai sava uzņēmuma

īpašnieki. Jautājumā par iespēju veltīt laiku studijām tik daudz laika, cik, pēc studentu domām, tas ir nepieciešams var tikai 34% no aptaujātajiem studentiem. Vairāk kā puse – 57% studentu uzskata, ka ne vienmēr var veltīt studijām tik daudz laika, cik nepieciešams, bet 9% studentu vienmēr trūkst studijām nepieciešamā laika. Vajadzība pēc izmaiņām studiju procesā varētu būt vairāk kā pusei no AII studējošajiem. Par studiju pielāgošanu studentiem runā arī direktore, apsverot dažu studiju kursu pielāgošanu tiešsaistes formātam, tādējādi atvieglot studijas strādājošajiem studentiem un vakara grupu studentiem, kā arī cilvēkiem, kuri nedzīvo tuvu AII un ikdienā patērē daudz laika un resursu nonākšanai līdz AII.

5. Tehniskais nodrošinājums – studentu sniegtais vērtējums par personīgo aprīkojumu liecina, ka gandrīz visi aptaujātie studenti ir nodrošināti ar datoru un/vai planšeti un ar telefonu ar interneta pieslēgumu un /vai pieeju bezvadu tīklam. Vairāk kā 80% no studentiem ir pieejams stabils interneta pieslēgums jebkurā diennakts laikā. AII aprīkojums sniedz iespēju AII īstenot mācības gan klātienē, gan tiešsaistē, jo katrs nodarbību kabinets un auditorija ir aprīkota ar datoru un interneta pieslēgumu, AII ir datorklase, kurā vienlaicīgi ar datoru var strādāt vairāki studenti, tāpat visā AII ir pieejams bezvadu tīkls, kas nozīmē, ka studenti un docētāji nav atkarīgi no stacionāriem datoriem, bet ar saviem viedtālruniem vai citām ierīcēm var pieslēgties internetam un īstenot tiešsaistes mācības neatkarīgi no mācību telpas. Vairāk kā 60% studentu norādījuši, ka ir apmierināti ar bezvadu interneta pieejamību, tehnisko iekārtu nodrošinājumu un elektronisko mācību materiālu pieejamību. Aptaujātie docētāji gan ir nedaudz citās domās par pietiekami kvalitatīvu, pieejamu elektronisko materiālu pieejamību, 60% no aptaujātajiem docētājiem norādījuši to kā problēmu, ar kuru saskārušies attālinātajā mācību procesā. AII direktore, sniedzot vērtējumu par tehnisko aprīkojumu, ir daudz skeptiskāka, norādot, ka AII ir datori, kuri ir aprīkoti arī ar kamerām, taču kopumā tehniskais aprīkojums un sistēmas nav tādā stāvoklī, lai varētu izvairīties no tehniskām problēmām. Kā viena no problēmām iezīmējas, vienotas e-studiju platformas trūkums, kurā varētu tikt ievietoti mācību materiāli, vērtējumi un notikt savstarpēja saziņa.

6. Docētāju pieredze – AII studiju programmu praktiskā realizācija, galvenokārt, notiek izmantojot lekcijas, seminārus, praktiskās nodarbības un patstāvīgos darbus. Studiju mērķu sasniegšanai docētāji izvēlas atbilstošu mācību metodi. Digitālo tehnoloģiju izmantošana notiek visu minēto mācību metožu īstenošanā, taču tehnoloģijas visvairāk papildina lekcijas. Docētāju sniegtās atbildes par pieredzi kombinēto mācību modeļu īstenošanā, norāda, ka daļai docētāju ir bijusi pieredze kombinēto mācību iekļaušanā mācību procesā, ko var vērtēt kā pozitīvu aspektu, taču nevar uzskatīt, ka docētājiem ir pilnīga izpratne par kombinēto mācību būtību un to īstenošanas principiem, ņemot vērā to, ka AII dokumentos kombinētās mācības nav definētas. Docētājiem ir pieredze darbā ar tehnoloģijām, tās savā ikdienā izmanto visi no aptaujātajiem docētājiem, tāpat ir pieredze darbā ar tiešsaistes platformām, elektronisko mācību materiālu un

sociālo mediju izmantošanu mācību procesā. Esošā docētāju pieredze var nākt par labu kombinēto mācību īstenošanā, jo samazina vajadzību pēc docētāju papildu mācībām tehnoloģiju un rīku lietošanā. Vairāk kā 70% no studentiem, sniedzot vērtējumu par docētāju darbu, norādīja, ka ir apmierināti ar docētāju prasmi lietot digitālos rīkus un mācību tehniskos līdzekļus, bet vairāk kā 80% studentu ir apmierināti ar studiju procesā izmantoto informācijas un komunikācijas tehnoloģiju dažādību un mācību metožu dažādību.

7. Digitālo prasmju līmenis – studentu sniegtais digitālo prasmju līmeņa pašnovērtējums uzrāda, ka studentu vairākumam digitālas prasmes piemīt augstā vai vidēji augstā līmenī. Arī docētāji norādījuši, ka visas digitālās prasmes viņiem vērtējamas augstā vai vidēji augstā līmenī, tomēr attālināto studiju pieredze rāda, ka vairākiem docētājiem problēmas sagādājušas elektronisko materiālu veidošana un pieredze darbā ar digitālajiem rīkiem nav bijusi pietiekami liela. Digitālās prasmes kā vienu attālināto mācību izaicinājumiem min AII direktore, kas uzskata, ka šo prasmi būtu nepieciešams pilnveidot. Var uzskatīt, ka digitālās prasmes nebūtu šķērslis kombinēto mācību īstenošanai, drīzāk kā viens no variantiem, kā šīs prasmes pilnveidot.

8. Kombinēto mācību īstenošana nākotnē – direktore konceptuāli atbalsta kombinēto mācību ieviešanu AII, taču pirms to ieviešanas būtu nepieciešams novērtēt vairākus faktoros, tostarp, kādiem studiju kursiem tas būtu piemērojams, un kāds būtu procentuālais sadalījums starp klātienē un tiešsaistes mācībām, tāpat būtu jāizstrādā vienota sistēma un nolikums kombinētajām mācībām. Studenti un docētāji ir līdzīgās domās par iespēju nākotnē AII īstenot studiju apguvi kombinēti, norādot, ka gan klātienē, gan tiešsaistē varētu organizēt lekcijas, seminārus, konsultācijas un studiju noslēguma darbu aizstāvēšanu, bet neatbalsta iespēju, ka tiešsaistē varētu organizēt praktiskās nodarbības un prakses.

Iegūtā datu analīze ļauj identificēt veicinošos faktoros, kas var palīdzēt attīstīt kombinēto mācību īstenošanu un kavējošos faktoros, kurus nepieciešams pilnveidot, lai kombinēto mācību īstenošana AII notiktu pilnvērtīgi un kvalitatīvi. **Par veicinošajiem faktoriem** var uzskatīt vadības atbalstu inovāciju ieviešanā, kas varētu veicināt kombinēto mācību ieviešanu un īstenošanu. Nozīmīgi ir arī tas, ka docētāju tiesības ļauj atbilstoši normatīvajiem aktiem brīvi noteikt studiju programmas, pārbaudījumu saturu, formas un metodes un ierosināt jaunu studiju programmu īstenošanu. Šādas tiesības ļauj docētājiem, kas vēlētos izmaiņas savā darba organizācijā, īstenot kombinētās mācības, vismaz uzdevuma līmenī vai pat kursa līmenī. Docētāju tiesības ļauj arī virzīt priekšlikumus par kombinēto mācību īstenošanu, kas nozīmē, ka pat viena docētāja priekšlikums varētu sekmēt kombinēto mācību īstenošanu. Izglītības iestādes un studentu tehniskais nodrošinājums ļauj īstenot daudzveidīgu mācību procesu gan klātienē, gan attālināti, izmantojot gan datorus, gan telefonus. AII tehnisko bāzi noteikti varētu papildināt, bet arī ar esošo nodrošinājumu AII būtu iespējams īstenot vairākus kombinēto mācību modeļus un darīt to gan uzdevuma, gan kursa līmenī. Docētāju pieredze darbā ar informācijas un komunikācijas tehnoloģijām uzskatāma par

pozitīvu aspektu, jo paātrinātu kombinēto mācību ieviešanu un samazinātu papildu nepieciešamību pēc pilnveides kursiem.

Kavējošie faktori ir e-studiju platformas trūkumus, kas būtiski var ietekmēt mācību procesa veiksmīgu organizēšanu tiešsaistē. Nepietiekama elektronisko mācību materiālu bāze var liegt iespēju kombinēti īstenot visus studiju kursus, īpaši praktiskos kursus, kuros nepieciešamas dažādas instrukcijas, video pamācības, simulācijas. Studentu iesaiste mācību procesa organizēšanā uzskatāma par vienu no AII vājajām pusēm, jo tā liedz iespēju stiprināt studentcentrētu mācību procesa organizēšanu, kurā studenti paši var piedāvāt savus risinājumus un izteikt viedokli par savām vajadzībām. Spriežot pēc studentu nodarbinātības un nespējas veltīt studijām tik daudz laika, cik tas ir nepieciešams, iespējams studenti jau šobrīd vēlētos studēt kombinēti.

Kombinēto mācību īstenošana var notikt dažādos līmeņos – uzdevuma, kursa, programmas un iestādes līmenī, kas nozīmē, ka izglītības iestāde, izvērtējot resursus un vajadzības, var pieņemt lēmumu par atbilstošāko kombinēto mācību īstenošanas veidu. Novēršot identificētos trūkumus, teorētiski AII kombinētās mācības varētu tikt īstenotas visos līmeņos, taču ņemot vērā AII darbības specifiku, AII kompetenci, stiprās puses un AII vadības, docētāju un studentu redzējumu par kombinēto mācību ieviešanu AII, atbilstošākais līmenis, kurā īstenot kombinētās mācības būtu kursa līmenis. Kombinēto mācību īstenošana kursu līmenī neprasītu veikt izmaiņas visā AII studiju procesā. Izmaiņas varētu skart tikai tos studiju programmu kursus, kuros kombinēto mācību īstenošana prasītu mazākus resursu ieguldījumus un spētu nodrošināt kvalitatīvu izglītības ieguvu un mācību mērķu sasniegšanu. Lai kombinētās mācības kursa līmenī AII varētu tikt ieviestas un īstenotas, atsaucoties uz identificētajām AII vājajām pusēm, tiek izvirzīti vairāki priekšlikumi AII vadībai, docētājiem un studentiem:

AII vadībai:

1. Veikt padziļinātu AII pašdiagnostiku, nosakot AII vajadzības un iespējas kombinēto mācību īstenošanā.
2. Organizēt diskusijas ar akadēmisko personālu, tostarp studējošajiem, par kombinēto mācību ieviešanas stratēģijām.
3. Izstrādāt – vadlīnijas/ plānu/ stratēģiju/ noteikumus, radot vienotu izpratni par kombinētajām mācībām, to īstenošanas kārtību un vērtēšanas sistēmu.
4. Ieviest e-studiju platformu studiju procesā nepieciešamo mācību materiālu ievietošanai, vērtējumu sniegšanai un komunikācijas veidošanai.
5. Papildināt elektronisko mācību materiālu resursu bāzi.
6. Organizēt docētājiem nepieciešamo prasmju pilnveides pasākumus.

Docētājiem:

7. Attīstīt studentcentrētu mācību principu īstenošanu, vairāk iesaistot studentus mācību procesa organizēšanā un plānošanā.

8. Pilnveidot prasmes veidot elektroniskos mācību materiālus un prasmes sniegt atgriezenisko saiti, apmeklējot profesionālās pilnveides kursus, mācības.

Studentiem:

9. Iesaistīties izglītības iestādes darbībā, izsakot priekšlikumus par mācību procesa organizēšanu.

Secinājumi *Conclusions*

Kombinētās mācības nav jauns izglītības jēdziens, to aktualitāti var skaidrot ar nepieciešamību pēc pielāgojama mācību procesa, kas nodrošina piekļuvi izglītības ieguvei neatkarīgi no laika un vietas. Kombinētās mācības ir divu, iepriekš plaši īstenotu mācību ieguves formu – klātienē un tiešsaistes apvienojums, kurā kombinējot mācību vidi, komunikācijas veidu un mācību līdzekļus, iespējams īstenot daudzveidīgu un mūsdienīgu mācīšanas un mācīšanās procesu. Kombinēto mācību plašās īstenošanas iespējas, variējot ar to īstenošanas līmeņiem un modeļiem, ļauj izglītības iestādei, izvērtējot iestādes, tostarp izglītojamo, vajadzības, motivāciju, mācībspēku pieredzi un prasmes, kā arī visa veida resursus – tehniskos, elektroniskos, finansiālos, cilvēkresursus, izstrādāt atbilstošākās kombinēto mācību īstenošanas vadlīnijas.

Iegūtie pētījuma dati par kombinēto mācību īstenošanas iespējām konkrētajā AII ļauj secināt, ka esošās AII vajadzības, motivācija un pieejamie resursi ļauj virzīties uz kombinēto mācību īstenošanu nākotnē. Bez papildu ieguldījumiem kombinētās mācības AII varētu tikt īstenotas jau šobrīd, piemēram, uzdevuma līmenī atsevišķos studijuursos, taču vienotas izpratnes veidošanai par kombinēto mācību īstenošanu nepieciešams veikt darbības gan AII vadības un akadēmiskā personāla, gan studentu līmenī.

Šī pētījuma papildu ieguvums ir sekmēts darbs pie tehnoloģiju bagātinātas mācīšanās terminoloģijas precizēšanas, īpaši terminiem, kas saistīti ar kombinēto un tai skaitā attālināto mācību fenomenu, lai vienotos par jēdzienu saturu, izpratni un konsekventu lietojumu.

Summary

Despite the fact that blended learning has been researched for more than twenty years, it has received more attention with the changes in education caused by the pandemic. Learning that combines face-to-face and online elements has become a model for future education, and it is likely that discussion, research and implementation will become a key objective for the education system in the coming years.

The article deals with a case study to explore the principles of the implementation of the blended learning and pilot them in a higher education institution (HEI). Based on the theory review, it has been concluded that blended learning is defined as a method and an approach, as well as a curriculum that combines face-to-face learning with online learning. Blended learning can be implemented at four different levels: at the task level, course level, programme level, or institution level, where the face-to-face ratio is different at each level. At the programme and institution level, the proportion of the combination is determined by the students, while at the task and course level they are the lecturers and developers of blended learning models choosing among rotation model, individually organized learning model, self-directed learning model and augmented virtual learning model. To conclude blended learning is a combination of face-to-face and online learning, in which a diverse and modern teaching and learning process can be implemented by combining the learning environment (educational institution, home, e-environment), type of communication (synchronous and asynchronous) and learning tools (printed, digital).

In order to evaluate the opportunities of implementing the blended learning, the data obtained from the content analysis of five HEI documents, questionnaire from 201 HEI students and 15 lecturers and an interview with the director of a HEI were mutually analyzed according to the following parameters:

1. Relation of the goals of HEI to the essence of blended learning.
2. Innovation culture – attitude towards innovations, their support, promotion.
3. Implementation of student-centered learning in HEI.
4. Students' needs in connection with the organization of HEI study process.
5. Technical provision of HEI and students.
6. Lecturers' experience in the implementation of blended learning and use of digital technologies.
7. Level of digital skills of lecturers and students.
8. The vision of the management, lecturers and students of HEI about the implementation of blended learning in the future.

The obtained research data give the evidence that the needs, motivation and available resources of the specific HEI allow to move towards the implementation of blended learning in the future. Without additional investments, blended learning in HEI could be implemented already now, for example, at the task level in separate study courses, but in order to create a common understanding of the implementation of blended learning, it is necessary to perform activities at the level of HEI management and academic staff. Therefore, nine recommendations have been developed for the management of HEI, lecturers and students for the implementation of blended learning in the study process.

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THE ROLE AND IMPORTANCE OF DETERMINISTIC COMPUTER SIMULATIONS IN THE DEVELOPMENT OF TECHNICAL CREATIVITY

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Abstract. *The deterministic computer simulations (abbr. DSK) are a group of simulation software most often used in the process of technical education. Innovative education based on the introduction of this group of software into the online and offline learning process creates a new work environment conducive to creativity and creativity in humans. This article presents theoretical discussions as well as the place and role of DSK among modern teaching aids.*

Keywords: *computer simulation, didactics, polytechnic education.*

Design and modeling in polytechnic education

There are various definitions of the concept of simulation in the pedagogical literature. They relate to both the teaching method and the technique, e.g. computer simulation in engineering. In pedagogy, the concept of simulation methods that derive from didactic games is mentioned, and the concept of simulation is combined with the concept of simulation and didactic games. The simulation method belongs to the group of problematic teaching methods, which W. Okoń described in the framework of the so-called didactic games.

The lack of winners and losers is what distinguishes simulations from simulation games - recalls W. Furmanek. Computer simulation is a special type of simulation. Due to the currently popular environment for the implementation of simulation experiments, which is a computer, the name computer or digital simulation has been adopted. Computer simulation is a simulation with the use of a mathematical model, saved in the form of a computer program. Simulation techniques are particularly useful where analytical determination of the solution would be too laborious, and sometimes even impossible - which is often the case in complex systems. (Furmanek, 2010, pp.19–22). In simulations and simulation computer games, real models are created thanks to mathematical algorithms contained in computer programs. The pedagogical literature also includes the following terms: computer simulation experiments, computer teaching games, virtual laboratory, computer simulation programs, computer techniques or computer simulation systems. They indicate participation in the simulation method of the dominant role of the computer together with the simulation

software. Computer simulation is one of the types of *simulation learning* that has become the object of great interest among educators in recent years (Ibid., pp. 23-33).

Deterministic Computer Simulations (abbr. DSK) in terms of information technology can be defined as a system of techniques, numerical methods used to carry out experiments on specific types of mathematical models, which are characterized by the use of a digital machine. Computer simulation is a simulation with the use of a mathematical model, saved in the form of a computer program. The *deterministic* term also brings additional information about its type, so the simulation result repeats and depends only on the input data and interaction with the external (virtual) environment. Since computer simulations are carried out with the use of computers that could not function without specialized software, the concept of *deterministic computer simulations* can also be defined by a group of simulation software. The constructed algorithm of the program operation combines both the modeling process and the performance of deterministic simulations based on the model made. In the further part of the work, examples of technical projects made in the DSK environment will be presented. On the other hand, computer simulation, as a simulation method, is a system of purposefully selected research activities, i.e. a structure of phased activities aimed at achieving the research goal. These activities include: problem formulation, creating a mathematical model, formulating a program for a computer, checking the correctness of the model, planning simulation experiments, performing simulation runs and analyzing the results (Łatuszyńska, 2011). Its effect is, therefore, the acquisition of certain skills and knowledge, in terms of didactic effectiveness. Simulation modeling is a field of knowledge that serves to deepen the level of understanding of the interactions occurring in the system and the system as a whole. In terms of methodology, simulation is a method of active learning in which reality is imitated in order to gain experiences similar to those we do in the real world. In the process of education and research, computer simulation is irreplaceable wherever research is needed on systems that are so complex and tedious in calculations that their analysis in real conditions would be difficult, time-consuming or even impossible. Computer simulations, especially those based on the deterministic foundations of their operation, perfectly reflect the current assumptions of constructivism and cognitivism. Computer simulation is one of the forms of simulating the system visualization using a symbolic (graphic) model, which can be easily operated, and the result of which is numerical data (Łatuszyńska, 2011, pp.162-163).

Computer simulation shows the complex process of device operation or the course of the phenomenon from the moment of designing the project in the program (modeling) to the end of the calculations. This process is repeatable, so it is possible to introduce innovative solutions based on its preliminary results and in reference to the basics of theoretical knowledge. In the cognitive process, we

can observe the feedback phenomenon, in which the student (or student), obtaining the initial results of the simulation, compares them with the expected values, undergoes a preliminary assessment, on the basis of which he makes further changes in the model. The cycle may end when the results are significant enough to meet the expected requirements compared to the project assumptions. Their acceptance is therefore based on the knowledge enriched as a result of the simulation tests carried out. The student compares the results, draws preliminary conclusions, which, as a result of incorrect work effects, mobilize to search for new ways of solutions and study the literature. This process can be repeated systematically, so each time there is an increase in the level of knowledge through new perceptions and beliefs, thus stimulating to further active work. This process ends when the final simulation results are considered to be in line with the assumed goals, and thus leads to a deep interpretation of the content, evaluation and creation of new questions and associations. The advantage of the simulation method over laboratory tests deserves attention in terms of the consequences of making wrong decisions and the possibility of correcting them. If the selected didactic tools support the teacher in practical activities that allow students to present knowledge, develop their interests and cognitive abilities, and implement them into self-education, then their legitimacy should be considered as the success of the teacher's work. As an example, the principle of science can be cited, so the teaching aids to be accessible to the student should correspond to the appropriate level of previously acquired knowledge. It should be borne in mind that they are only an element supporting the cognitive process, and not only the goal of learning in itself. The above remarks should be considered as universal observations concerning a broad classification of teaching aids in various fields of science and levels of education. However, with regard to deterministic computer simulations, the above remark needs to be supplemented. Deterministic simulation programs can be an example of commercial software, developed not only for educational purposes, but also aimed at a narrow audience. So they combine both features - didactic and commercial. Their usefulness in the didactic process is not determined by the fact that they were created with a selected user in mind. The analysis of the computer software market shows that software authors offer their product on the basis of various licenses, and thus, related to a specific group of recipients. There is a group of software in the so-called educational version, which can be an example of free software, intended for people starting their education. Of course, they have their limitations in functionality, but they are an interesting alternative not only for pupils or students, but also for educational institutions. Due to the high purchase costs of the full versions, they are often used in secondary and higher schools with a technical and IT profile. The principle of pictoriality (concreteness) is also important here, i.e. the simulation model should reflect through symbolism (graphics) the elements of the system understandable to the student and the relations between them. What is more, the possibility of own interpretation of the model by changing its appearance and symbolism, as

imagined by the student, facilitates its interpretation and analysis of the complexity of the launched project. The principle of systematicity (systematic), in turn, indicates the correctness of the effectiveness of the teaching-learning process, related to the organization of didactic material according to the adopted logical structure, dividing the material into smaller units and mastering them in relation to the whole.

Compliance with the principle of systemic nature should lead to the development in students' minds of understanding the world as a whole, as a certain system, a structure based, *inter alia*, on temporal, spatial, quantitative and cause-effect relationships. Another is the principle of independence, i.e. respecting all individual actions of the student leading to the solution of the problem situation (also in cooperation with the group). Of course, these are only selected teaching principles, but as you can see, the discussed group of software perfectly identifies with them and finds its place. An important role of computer simulations is not only the very fact of understanding the operation of the modeled system, but most of all shaping the ability to make decisions about the functioning of a given model. It is important to use the knowledge of a computer program to develop additional skills in solving other problems within a given field of science. In this way, we transform a passive attitude into an active one, but most of all we make it scientific.

In terms of the effectiveness of education, the usefulness of computer technology will be a derivative of several factors, i.e. primarily the input knowledge before starting the simulation (substantive knowledge), the ability to use IT¹, the quality of knowledge acquired during the simulation (individual creative work) and interaction with peers and the teacher.

The computer software discussed in the work enables simulation with the following feature:

- deterministic, because it meets the event predictability criterion - the result is repeatable and depends only on the input data;
- with discrete time (time elapsed criterion - the time increases with constant increments, and the time step is selected optimally with regard to the system performance load);
- static and / or dynamic - the result is a data set, a static image or the result is a process running over time, e.g. animation (output data criterion);
- local and / or dispersed (criterion of location and complexity of the computer system).

Computer simulation is a method of conducting experiments on dynamic models describing existing or designed systems (Fig. 1). The research objective of the simulation method is to obtain knowledge about the behavior of the

¹ Abbrev. IT- information technology

examined mechanism in time. The computer program is therefore a tool for the implementation of the research goal, which is a formal representation of the model of the tested system (Łatuszyńska, 2011, p.162).

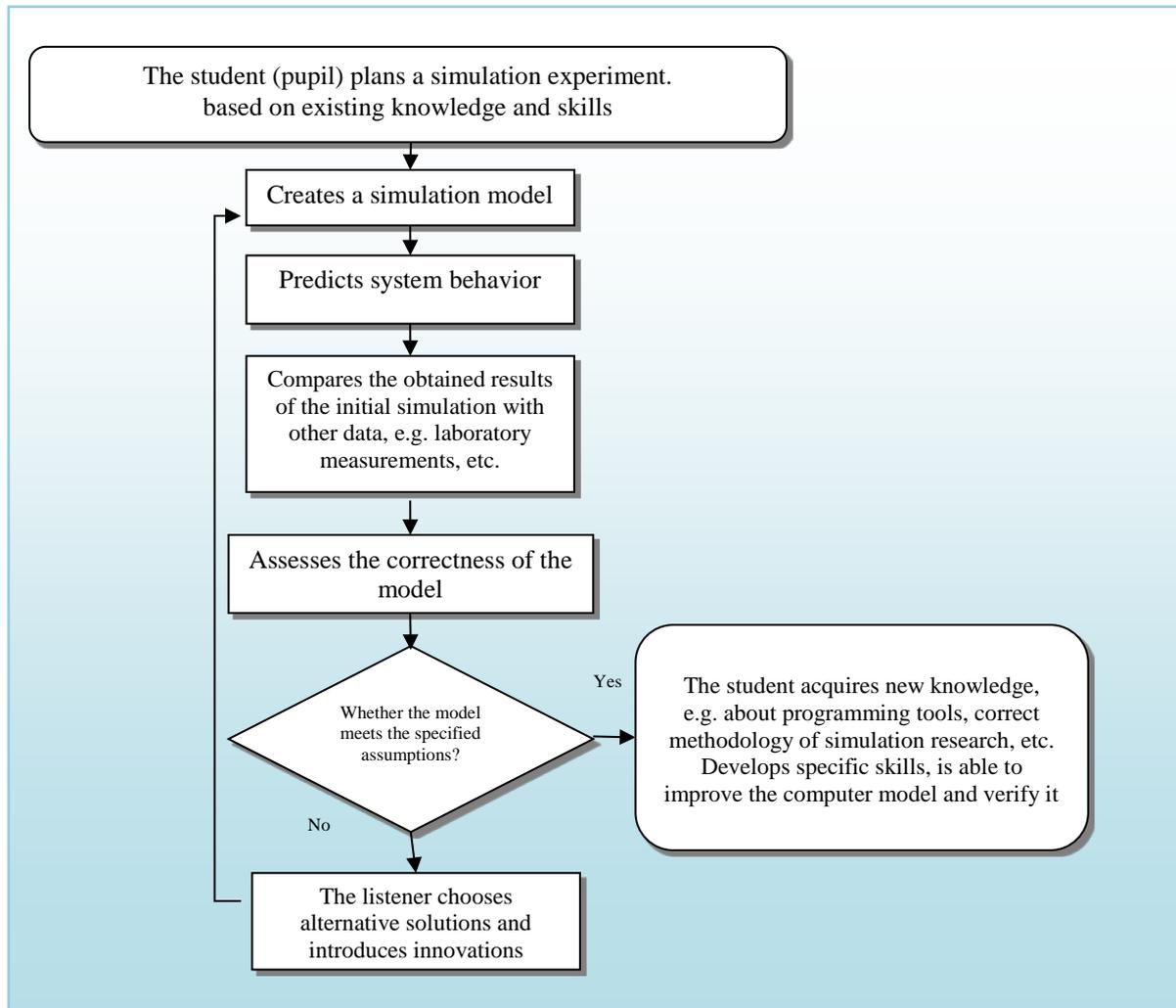


Figure 1 Algorithm of the real model design process (own source)

Deterministic simulation software is easy to use and relatively easy to handling. Using it while working does not require the student to have additional programming skills (writing algorithms), because these programs offer ready-made basic instructions that meet the expectations of the learner. Of course, they do not limit their capabilities to basic tasks and allow the introduction of additional, complex algorithms, but such a function is not used in simpler modeling operations. The program itself is a supporting tool, a means of cognition, not an end in itself. This is an extremely important feature, because thanks to its intuitiveness in use, it relieves the student from additional work, which is not his main goal. The tool used should not, therefore, force knowledge of keywords, commas, colons, and parameters in the appropriate columns, but rather propose a ready-made solution to the problem related to the model software. In addition, the software should be distinguished by the ease of writing and

reading the computer model. The menu should be dominated by graphic icons corresponding to their purpose, and the components of the model should be displayed both in a simplified² and very detailed form (realistic view).

The construction of the model is a basic activity, but what would it be like to develop a model without observing its operation and analyzing the results? Legible reports with the option of any modification or visualization as well as archiving in the most popular, compatible recording formats also seem important. Practically unlimited possibilities of their analysis, including the statistical one, should apply here. In addition, the program should ensure the correctness of the individual stages of the student's work through automated communication and identification of errors when they occur. Of course, the most common cause of their formation are errors resulting from modeling errors, i.e. wrong assumptions in the logical structure of the model, imperfections of the computer software algorithm or incorrectly entered data. Ease of experimentation can be a subjective concept. These programs, however, are characterized by the possibility of repeated repetition of the experiment as a result of interference and modification at each stage of the work, which in relation to the learner's ability allows the use of an individual pace.

The simulation package should also enable two main strategies for running a simulation experiment - ending simulations and continuous running simulations. It is also desirable that the statistical analysis of the replicates be performed automatically, for example calculating the mean and variation from multiple replications, determining the length of the confidence interval and others (Mielczarek, 2003, pp.137-138). Figure 2 shows a block diagram classifying computer simulations according to the adopted division criterion (Łatuszyńska, op. Cit.). As you can see, the classification is quite complex, because it corresponds to different types of simulations.

For the purposes of this study, the discussion of programming parameters resulting from algorithmics was omitted, and only the values resulting from the practice of using individual programs for didactic purposes were focused. It should be mentioned that the presented diagram does not take into account mixed simulations, which at the same time present different division criteria.

² Graphical User Interface - an IT tool enabling the construction of a computer model using graphic icons and dialog boxes

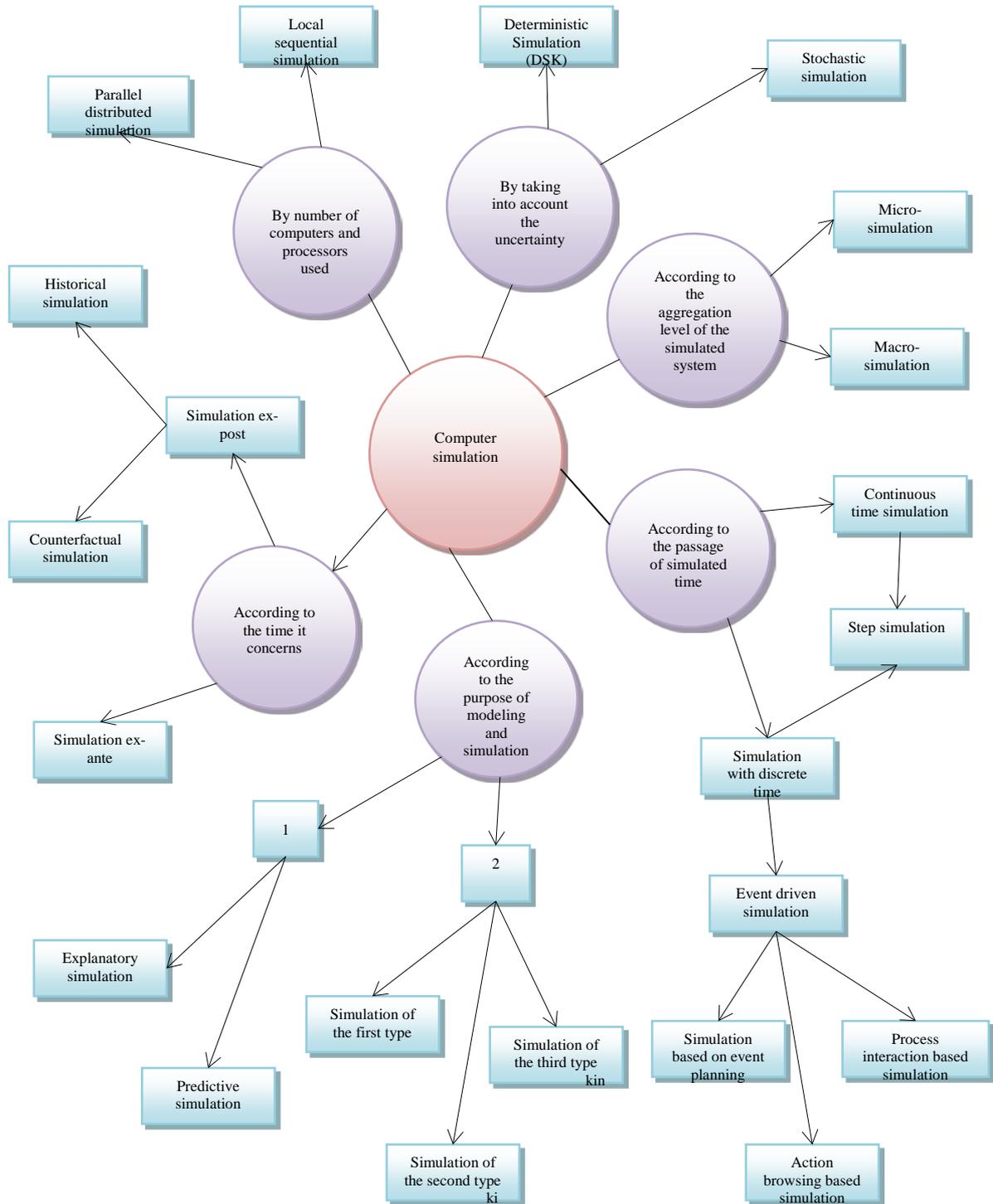


Figure 2 *Extended scheme of logical classification of computer simulation methods*
 (source: Łatuszyńska, 2011)

The simulation programs belonging to DSK present the assumptions of the constructivist idea and give it an extremely practical meaning. The concept of constructivist software was very accurately defined by Z. Meger: *Constructivist software offers problem situations for independent reflection and development. It differs from objectivist programs which, from the teacher's perspective, offer*

explanation of dependencies and relationships and presentation of how to perform tasks or exercises. They allow the learner to independently determine which information he needs and is necessary for solving further stages of the work, solutions are not given, but asked, and the learner has to achieve the final result on his own. Computer simulation in this case is an interesting solution (Meger, 2006).

Classic and didactic simulation model

As already mentioned, the variety of computer simulation techniques proves the rich offer of software, aimed at a wide range of users. The literature on the subject also distinguishes the division of computer simulations into a classic and didactic simulation model³. The classic simulation model is identified with a group of simulation software of wide versatility, enabling solving problems with a complex structure. This group also includes deterministic simulation software. These are professional programs that are most often used by engineers and scientists. They were created as advanced tools, characterized by an extensive algorithm that allows high accuracy of mapping the model of the real object. It is a group of programs that require considerable technical knowledge, often professional, with a narrow specialization. By design, their operation requires considerable skill. The second group of programs are didactic simulation models, the purpose of which is designed in advance for educational purposes. These programs are easier to use and do not require a lot of knowledge commitment. Unfortunately, the simpler, and therefore generalizing, results - here, the accuracy of calculations with the use of simulations takes a back seat. Their main goal is to show narrowly thematic dependencies, often limited to presenting the general principle of the model's operation. Thus, a question arises about the didactic usefulness of each of the groups in relation to the constructivist philosophy of building knowledge. Which of these programs will be most useful for solving technically complex problems?

According to the author, programs that enable deterministic computer simulations, belonging to the group of traditional software, will find wider application in technical education at the level of secondary and higher education. It should also be remembered that the constructive nature of the cognition process is characterized by order and sequence related to combining facts and conclusions resulting from cyclical phases of experience. Typical (simpler) teaching programs, in turn, should be applied at the level of basic knowledge, i.e. at the stage of familiarizing the student with the basics of the widely understood technique.

³ Publications of the Faculty of Electronics, Telecommunications and Informatics, Gdańsk University of Technology on *Evaluation of the implementation of simulation programs supporting ICT teaching*, <http://eti.pg.edu.pl/> 20¹⁶.

Many years of teaching practice and as lecturers suggest that young people choosing technical schools have some experience and basic technical skills. The choice of the school profile is therefore based on the conviction that the choice of the course in line with one's own interests is right. A certain regularity of the functioning educational system is also the thematic repetition of classes, e.g. in technical secondary schools and technical universities. Therefore, simpler didactic models are not widely used at the higher education level, but will be the domain of lower education levels. The nature of problem classes at the university level requires a basic thematic knowledge of the problem, without the need to explain its basics. Also at the technical secondary school level, especially in the senior ticket offices, young people show great interest and knowledge of the chosen specialization. Choosing a school with a targeted educational profile, he expects it to have a professional level of education, expand his existing knowledge, and enrich it with new experiences. Therefore, the education process must differ from the basic-general level, hence classical computer simulations take on a special meaning. They should provide answers not to how a given model works, but to show the details of its operation.

Thorough study will enable the student to develop and implement innovation in the model and use the acquired knowledge and skills in new problem situations. More importantly, the selection of the software should also depend, alternatively, on the control assessment of the abilities and knowledge of the participants. At this stage, we can mention the significant role of the teacher as the person organizing the classes, supervising their course and correcting the student's cognitive process. Preparation of classes based on the computer simulation method requires the teacher to make the student aware of the purpose of the classes, to present him with the expected results, work forms, methods and tools. Therefore, conducting the initial training in the field of software operation is absolutely justified and stimulates to further work. It should be mentioned that in vocational education there is a division of classes in a given subject into theoretical and laboratory classes. This division results from the specificity of classes and the expected effects of work (knowledge and skills). Theoretical classes are therefore a great moment to conduct such instruction and discuss the topics of the classes. The teacher can also prepare the materials in the online version, and thus introduce elements of asynchronous education. Preparation of documentation for exercises should also not be carried out in a strictly oriented (schematic) form, it may contain commands that give greater freedom and recommend selected literature.

Concluding remarks

The implementation of technical classes with the use of deterministic computer simulations is a didactic method that influences the increase in the didactic effectiveness of the education process. Information technology provides

new work tools, thanks to which the didactic process is perceived as an innovative model of education. The variety of computer software creates excellent conditions for the use of DSK in many classes, both at the level of high school and university with a technical profile.

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VIRTUAL LEARNING OF ELECTRONICS

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Abstract. *The development of computer technology has enabled the emergence of new teaching opportunities in an artificial, virtual environment. It is then possible to work with electronic systems without the possibility of physical access to them and without measuring equipment. Such teaching and work with electronic systems was possible in a laboratory with computer stations with appropriate software. Only the development of network technology, and in particular the Internet, made it possible to fully virtual work at a distance. Until now, virtual learning has only been an alternative to teaching in a real hardware lab. It was also a supplement to the work that was carried out in the course of practical teaching with students. It was only the emergence of the Covid-19 epidemic that made this type of remote work learning a necessity, but also the only alternative in the event of school closings and quarantines. The necessity of distance learning inspired the use and development of many programs and information systems for this purpose. The paper presents selected programs that can be used and are used to learn electronics at a distance while working remotely. Each of these systems has its own advantages and disadvantages and can meet specific requirements.*

Keywords: *remote work, simulation programs, virtual electronic systems.*

Introduction

The possibility of virtual learning appeared only with the development of computer technology and network technology. Initially, such an option was used in areas of such countries, where people were distant from each other. Pupils or students were separated from the school or university by considerable distances. Difficulties and travel costs were the reasons why a remote form of learning was established. Students and teachers communicated with each other only through devices connected to a computer network. They came to school or university only once every six months or once a year to pass exams. With the advent of the first personal computers in the 1980s, this form of communication could become commonplace. At the beginning, they were quite expensive devices, but with time their price decreased. The popularization of personal computers has also contributed to the popularity of this form of communication. Now it was no longer a necessity, but a possibility to choose this form of work. It also became possible to work in a task force. Pupils or students, thanks to the possibilities of network communication, could work together and exchange information and

share work (Winiiecki, 1997). Virtual work has become a complement to work in a real hardware laboratory. When teaching electronics, students and pupils could check whether the results obtained thanks to simulations in computer programs are similar to those obtained during measurements on real systems, after the classes in the laboratory (Noga, Olszewska, Ptak, Prauzner, & Migo, 2018). The development of remote work is also the development of software needed for this form of activity. There are simulation programs and software packages that are designed to best reflect the work of real electronic systems (Nawrocki, 2002). They can be built and changed as needed, and their operation can be simulated. The results obtained as a result can be compared with the results obtained in a real laboratory.

In this way, virtual work can complement lab work in two ways. It can be a form of earlier preparation for laboratory classes in order to become familiar with electronic systems and their operation (Ptak, 2018b). It can also be a kind of checking the results obtained in the laboratory after classes at school or university. It also makes it possible to carry out tests and measurements of electronic systems that could not be performed in a laboratory (Ptak, 2018a). Whether it's for hardware reasons or because of the limited time spent in the hardware lab. Over time, the verification of the actual results obtained from measurements with the results of simulation and modeling of electronic systems has become a frequently performed procedure (Prauzner, 2016).

Until now, virtual learning was only an option and a complement to classroom teaching in a real laboratory. With the outbreak of the Covid-19 epidemic, this made remote teaching of this kind a necessity. It has also become the only alternative in the event of school closures and quarantines.

Electronics simulation programs

There are a number of software solutions to support work and teaching electronics at various levels of education (Olszewska, Prauzner, Krupa, & Ptak, 2018). Among the various programs that were created, the following programs can be distinguished: NI Multisim, EasyEDA and Autodesk Eagle. Each of these programs has its own characteristics and can be used to perform different tasks. In each of these programs, the same electronic system was built and its operation was compared as well as the advantages and disadvantages of individual software solutions (Dobrowolski, 2014).

The NI Multisim software package enables the creation and simulation of electronic circuits. In this program package, the individual elements of the electronic circuit are represented by appropriate symbols (Swisulski, 2004). By connecting the individual symbols, an electronic circuit is created and the individual connections create paths for the flow of electricity and information (Szabatin, 2003). Both real elements corresponding to the existing electronic elements were built into the program in fact, as well as virtual elements, the

parameters of which can be changed in any way (Winiecki, 2001). There is a version of the Multisim Live program, which is a free version of the program that works in a web browser environment. It allows you to create your own circuitry of electronic components connections and share the created circuits and circuits online. Figure 1 shows the circuit for multiplying a 4-bit number by the number 9 in the NI MultiSim program.

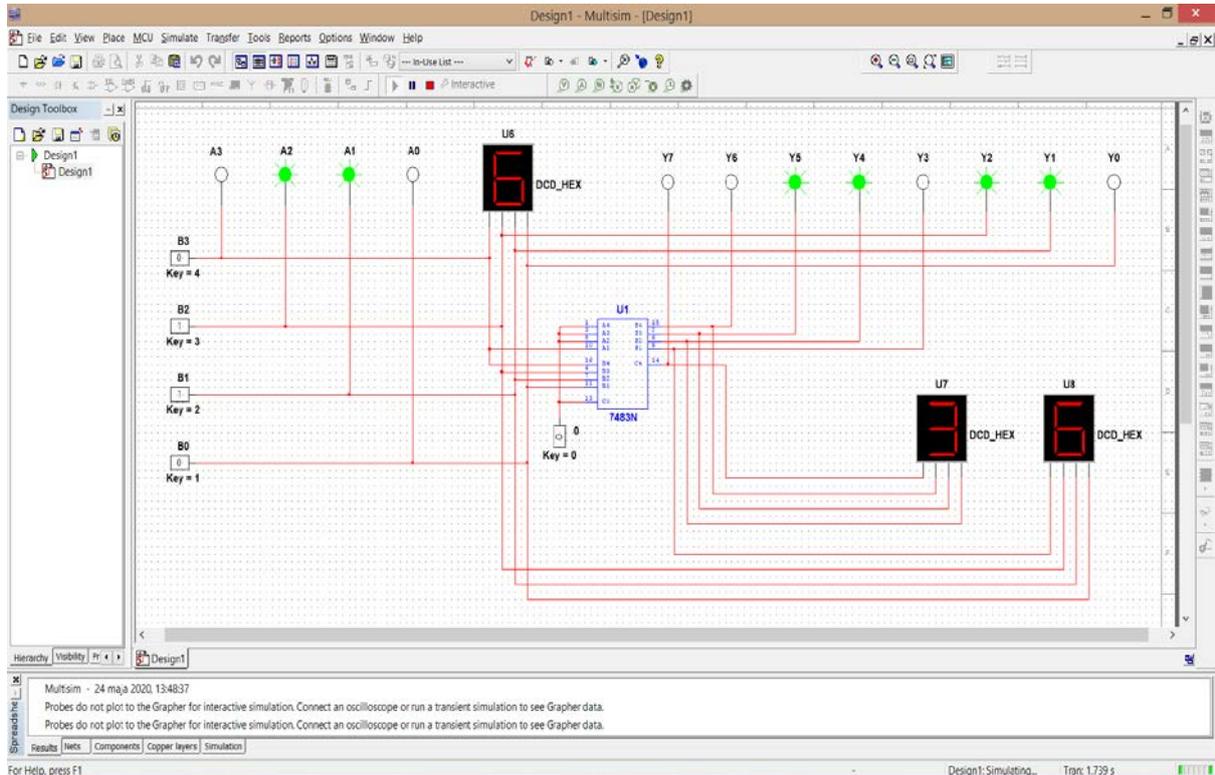


Figure 1 Circuit for Multiplying a 4-bit Number by 9 in NI MultiSim (Trajdos, 2020)

The EasyEDA software package is intended for the development and fabrication of low and medium complexity electronic circuits. This package works online and allows you to import data files from programs such as LTSpice, Autodesk Eagle, Kicad and Altium Designer. Figure 2 shows the system of multiplying the 4-bit number 6 by the number 9 in EasyEDA.

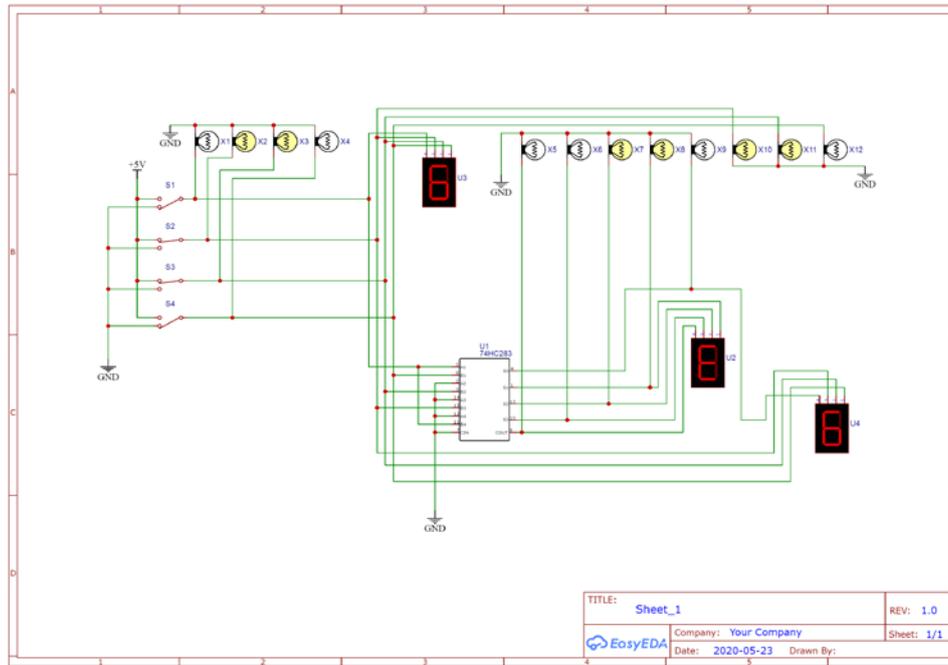


Figure 2 A system for multiplying 4-bit 6 by 9 in EasyEDA (Trajdos, 2020)

In the electronic diagram editor, you can create diagrams using the database existing in the program (Kapica & Scibisz, 2007). It is also possible to create new electronic circuit elements by modification and copying existing elements as well as creating them from scratch (Ptak & Prauzner, 2019).

During the commissioning of the electronic circuit, a variety of analyzes of analog, digital and mixed circuits can be performed. Any errors that arise during the program operation are displayed in text form in a separate program window. The finished simulation results can be exported as CSV files to other software packages. The EasyEDA program is free of charge and has no restrictions on the use of the software. It is also available in the Polish language version and the program itself contains many examples to learn and use in built electronic circuits.

The Autodesk Eagle software suite is primarily intended for electronic circuit design and not for simulation. It includes a schematic and PCB editor. The advantages of the software include simple operation and the possibility of using one version of the software for free, but only in the version for non-commercial applications. It can perform only two circuits of electronic circuits and two signal layers on a printed circuit board at the same time. In figures 2, 3 and 4 shows a layout designed from ready-made SPICE models that are shared in the program as examples. The constructed circuit does not reflect the real system of multiplying a 4-bit number by the number 9, but only imitates its operation. The model of the electronic circuit made consists of three models connected in a cascade. The first is a one-bit adder circuit, the second is a four-bit adder circuit, and the third is the multiplication circuit by 9.

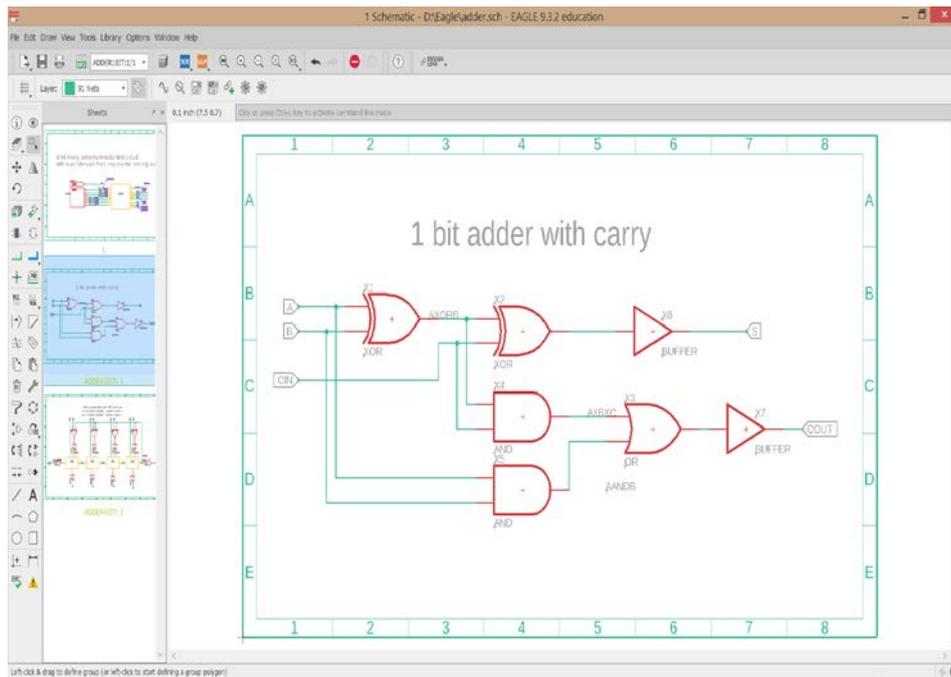


Figure 3 Single-bit adder circuit in Autodesk Eagle (Trajdos, 2020)

Based on the simulations performed, the following conclusions can be made. The best simulation program with the most possibilities is NI Multisim (Prazner, 2017). Taking into account the correctness of the simulation performed in the NI Multisim and EasyEDA programs, the obtained simulation results agree with the results obtained in real measurements of electronic circuits (Jedrzejczyk, 2017).

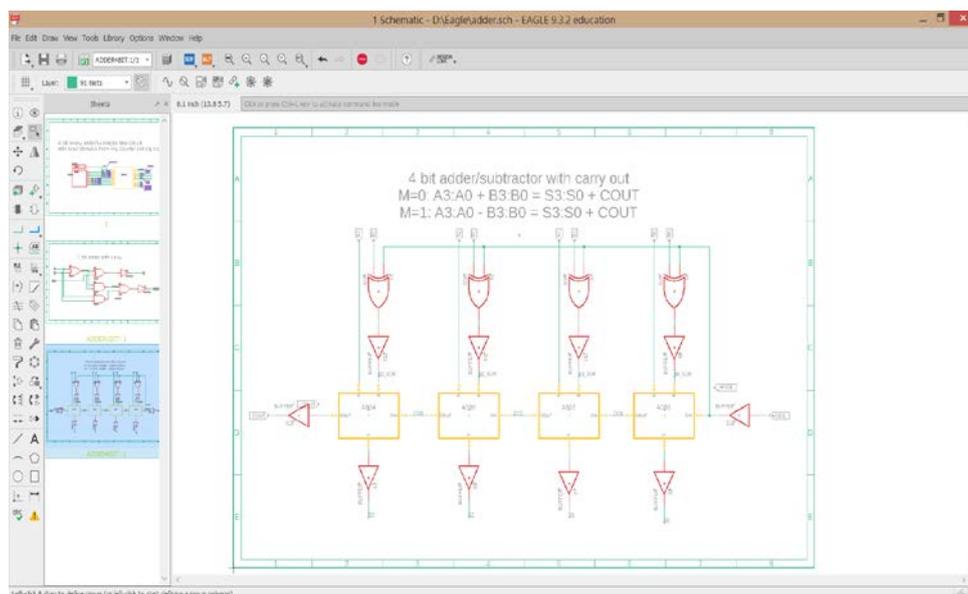


Figure 4 Four-bit adder circuit in Autodesk Eagle (Trajdos, 2020)

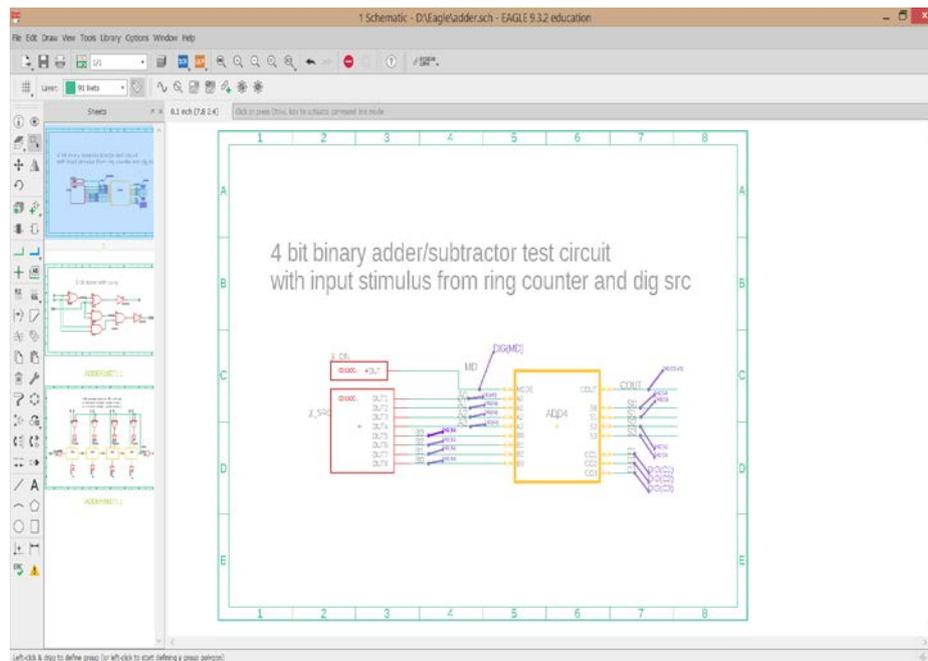


Figure 5 Multiply by 9 in Autodesk Eagle (Trajdos, 2020)

The worst simulation was made in Autodesk Eagle. Additionally, during the simulation in this program, erroneous jumps appeared on the logic diagrams. In terms of ease of use, the program EasyEDA has the most user-friendly interface. The NI Multisim and EasyEDA software packages have extensive libraries of examples and components that can be used to build your own electronic circuits. The worst program is still Autodesk Eagle, in which to perform simulations you have to create element models yourself, which is time-consuming and not easy. It is intended in principle only for low complexity electronic circuits and difficulties.

Conclusions

The possible use of the presented programs for distance learning electronics depends on what we intend to achieve. Each of these programs has different capabilities, and their operation may be easy or more or less problematic. An important factor is also the availability of software in Polish in the case of the EasyEDA program. If we do not have the financial resources to purchase a license for the NI Multisim program, which is the most expensive but has the greatest possibilities, the free versions of EasyEDA and Autodesk Eagle programs can be used. Considering the possibilities, the best program is NI Multisim, but it is the most expensive and does not have a Polish language version. Taking into account the Polish user interface and the free version, EasyEDA is the best program. Autodesk Eagle software is the most problematic software on this list, and the free version has serious limitations. It also does not have a Polish language version.

The use of individual programs depends on the tasks that we intend to achieve (Winiecki, 2014). It is the electronics teacher who decides how these programs will be used in distance learning during the Covid-19 epidemic and as support software for stationary work. In the case of working in quarantine or remote work, the problem remains to verify the data received in simulation programs. Since we do not have access to data from real electronic systems in this case, it can only be assumed that the data obtained as a result of the simulation are correct and largely identical to the real data.

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RESEARCH OF ROBOT - HUMANOID CONTROL METHODS USING HUMAN BODY MOTION RECOGNITION TOOLS

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Abstract. *The aim of the research is to investigate and evaluate the repetition indices of the displacements of the robot's kinematic nodes, using the means of identification human body movements, using a real robotic system. The article presents an analysis of human body motion recognition tools, identifies typical application criteria that meet the requirements of robotic systems control, describes the developed physical research stand "Robot - humanoid": the robotic system is identified with the human body with two of nine-kinematic degrees of freedom hands and a two degree of freedom robotic mechanism replacing the head on which the environmental video surveillance equipment is mounted. The publication presents systematized experimental data and suggestions for the integration of research results into the process of students' practical - applied teaching in a contact or distance way.*

Keywords: *identification of human body movements, robot – humanoid, robot's kinematic nodes, robotic system, students practical – applied teaching.*

Introduction

There are many areas of activity where a sequence of interactions between a human and a robot could be implemented - a collaborative effort that requires training the robot or robotic system to observe, record, and accurately reproduce the movements of the human body.

The aim of this study is to investigate the accuracy of the robotic system control method based on skeletal methods and machine learning algorithms to determine the repeatability indices of the robotic system manipulator using digital optical means of human body motion recognition, linking guidelines for the integration of an actual project directly related to students' after-school volunteer project activities. The research singles out the directions of self-learning developed by students and the results achieved during this project.

The project described in the article lasted for three years, the whole article is described later as a continuous extracurricular activity of students - project activities: The research methodology, the creation of the problem areas of the

research, the practical realization of the research, the performance of the experimental activities of the research and the presentation of the results are based on the report structure of the 1st - 3rd year students of Vilnius University of Applied Sciences.

Literature review

Learning is a priority in the educational process today, which is fundamentally changing the roles of all those involved in the educational process. The learner becomes a real and active participant in the educational process, i. y. he not only strives to master the study content and develop the competencies provided in the study program, but also actively participates in the development of the teaching process itself. This is fully in line with the essential provisions of learner-centered teaching: construction of the curriculum in response to the learner's interests, enabling him to learn according to his learning style and individual learning needs, etc., active position as an equal partner in all stages of the learning process training objectives, providing content, training methodology. The increased freedom and activity of the learner in the study process also emphasizes his greater responsibility for the study results, the need for stronger motivation and involvement in the teaching process.

One of the possibilities in this situation is the application of innovative learning methods that would focus on the student's independent lifelong learning, develop his creativity, critical analytical thinking and abilities and skills of independent work, striving to continuously integrate theory and practice in the study process. One such method is the project method. This innovative learning method enables the creation of an attractive and learner-friendly study environment, where theoretical knowledge is applied in practice in order not only to get to know it, but also to reconstruct and improve it.

Experience in the application of projects in educational practice demonstrates the versatility, innovation, openness, flexibility, focus on real and specific problems of this method and emphasizes the following advantages of the project method for the learner:

- each learner gains a different experience that is relevant to him or her;
- promotes the learner's confidence, provides an opportunity to reveal one's personality;
- the learner has the opportunity to influence the implementation of the project, to develop responsibility for their decisions and activities;
- use various sources of information in the learning process;
- it is possible to apply the theory in practice, and conversely - the obtained practical results allow to make theoretical generalizations;
- opportunities are created to generate ideas and implement them in practice;

- learning to be open to ideas, to take initiative, to promote innovation;
- the learner develops the ability to act in a rapidly changing environment;
- developing informal, natural links with the environment through activities;

The most important part of the students' development of the robot - humanoid motion control system was the software, which is less technical: the development of this system requires basic knowledge of electronics, mechanical engineering and programming to solve engine control, robot motion modeling and image recognition algorithms. The purpose of this system is to expand the robot's capabilities by creating an image recognition system for it, as well as to develop algorithms that allow the robot to respond to the respective image with the desired actions. The system is designed to be system-sharing, allowing flexibility to modify or improve other robotic systems without requiring any or minimal changes to the image recognition system (Pocevičienė et al., 2010).

Methodology

Project research covers two main areas: technical implementation and software implementation. After summarizing the problems of the task, the following main tasks were singled out and defined (Davies, 2017):

1. Development and programming of algorithm for visible image recognition and its interpretation.
2. Extract objects from the resulting image.
3. Development of object comparison algorithm.
4. Saving the object from the received image.
5. Identify the object from the saved image.
6. Motor control of robot vision mechanism.
7. Modeling of robot reactions (response).
8. Programming the robot's response to the corresponding image.

1. Technical implementation of the project

The open source "Inmoov" project was chosen as the basic model of the robotic system. The object of the study is a robotic system - a robotic system printed by a 3D printer is identified with the human body, having two robotic arms with nine kinematic degrees of freedom - manipulators, and a head representing a two degrees of freedom robotic mechanism equipped with environmental video surveillance equipment. Servo drives are used for motion motors. The initial repeatability tests presented in the article will be performed with the right-hand movements of the model.

The first stage of technical implementation is the design stage of the robotic system (Fig. 1), which improves the students' competencies to choose the appropriate three-dimensional design environment and its connection with further

design stages. In this project, the students chose a professional three-dimensional design tool “Solidworks CAD”. Simulations of the kinematic movements of the robot were also performed with this software package. Students also demonstrated knowledge in the field of mechanics.

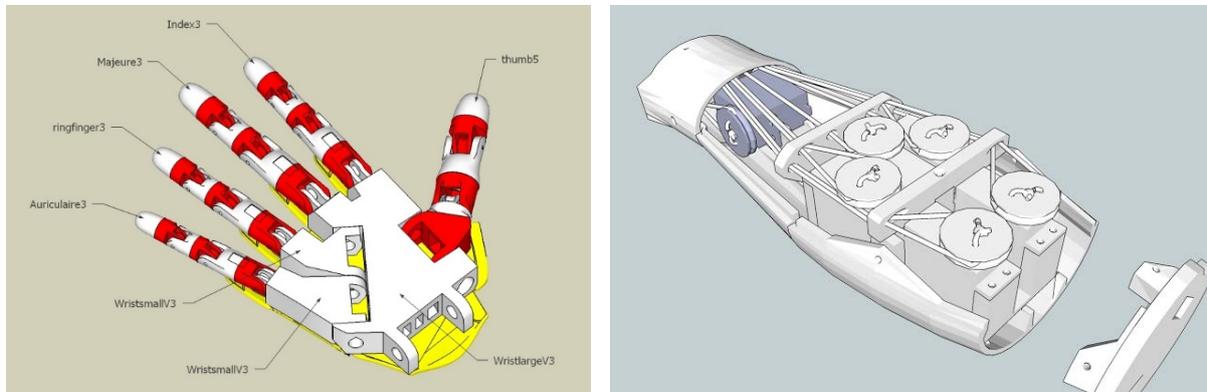


Figure 1 Robot – humanoid hand design (Langevin, 2017)

The second stage of technical implementation is the selection of the production method. At this stage, the competence of students to make appropriate production decisions was revealed, which would allow easy adjustment of the existing robot system design by improving the electromechanical part of the project. The chosen dynamic and modern production method - three-dimensional printing (Fig. 2). Middleware for print preparation for FDM printing was independently mastered: Cura, Simplify 3D, PrusaSlicer.

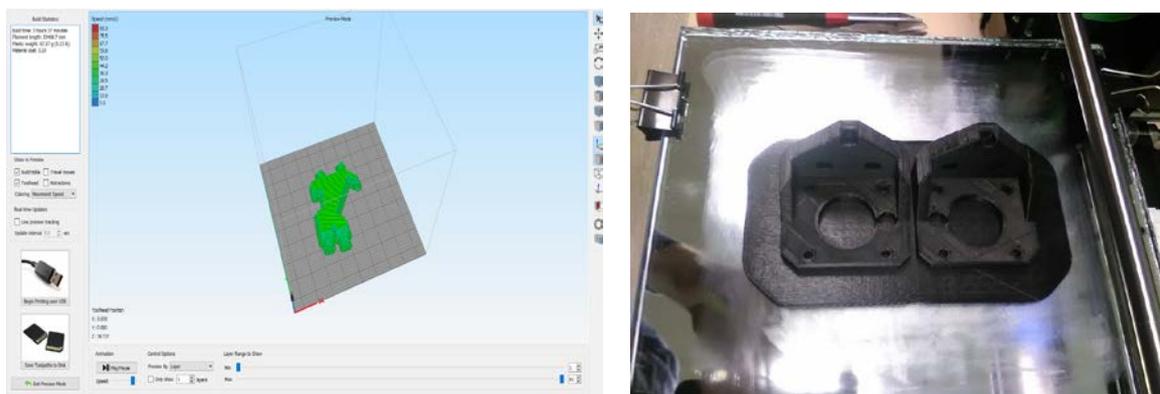


Figure 2 Robot – humanoid parts production by 3D FDM printing (created by authors)

The third stage of technical implementation is related to the selection of suitable electromechanical assemblies, assembly and assembly of individual parts of the robotic system (Fig. 3). At this stage, students demonstrated competencies and independently deepened their knowledge in the fields of electronics, electrical signal processing, electronic control systems, technical design. This allowed the ideas to be put into practice. Servo drives with feedback, programmable logic

controller "Arduino Mega", 3 Mpx web-cameras for image recognition are used to ensure the kinematic movements of the robot.

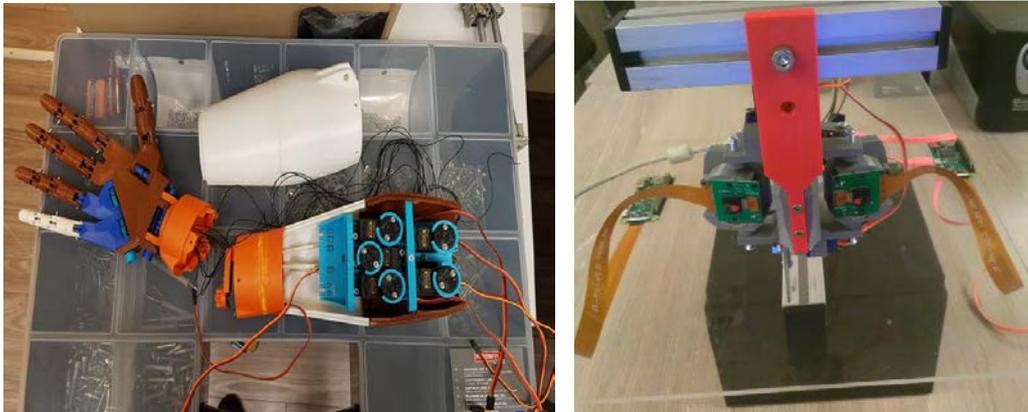


Figure 3 Robot - humanoid assembling process (created by authors)

2. Software implementation of the project

Because the image recognition algorithm and the control of the robot's visual mechanism can be interpreted and defined very broadly, it is important to know exactly what type of software implementation is required to be developed.

In summary, taking into account the functional requirements of the given task, it becomes necessary to create a graphical user interface that can see the visible image of the robot, control the robot's movements and similar types of actions. Depending on the functional requirements, most of the program for object recognition would be controlled automatically or minimally by the graphical interface (Stitilis, 2014). Examining the functional requirements separately, it is very clear that the program will have to receive the video and be able to broadcast it to the user in real time. This streaming should not interfere with other functionality of the program, but it should be possible to modify it to show the recognized objects to the user. The program should be able to retrieve frames from the video and save the frames as photos, and be able to create frame templates from them for comparison with other frames or photos to identify objects. This type of process could be integrated into the graphical user interface, but is much more important at the stage of modifying and recognizing the image itself. Therefore, this type of process is more likely to be more internal without giving the user much functionality to use it. It is also important for the program to be able to select the recognition accuracy in order to recognize different types of objects faster or easier. This would be done by changing the modes of the recognizable colors, reducing the quality of the photo or frame, or otherwise. As a result, this process is likely to be internal, allowing the user to select the appropriate parameters in the graphical user interface.

Analyzing the non-functional requirements, we can observe the same as in the functional requirements: the system is developed for more automatic use and there are few criteria for user functionality. Non-functional requirements mean

that the program is written to allow the use of an external webcam, although this does not prohibit the use of an internal computer camera, but reduces the functionality, which is not very important when creating or testing program code. The programmer is also given the freedom to display the camera image: whether the image is displayed when the user instructs it or at all times, although the modified camera image is required to be displayed only at the user's request. This allows the robot camera to be used as a surveillance tool and allows it to be used as an object recognition tool. It also allows the programmer to choose how object recognition should work: whether using a file system or storing files in dynamic memory as the program runs (Rokicki, 2010).

The control of the robot mechanism is defined by specifying that the Arduino Mega controller is to be used, the mechanism is expected to be servo-driven, and the aim is to obtain different robot responses to the respective objects. This specifies the capabilities of the task, but gives a specific idea of what kind of program code would need to be developed or what environments and libraries might need to be used to accomplish this task. The Arduino application consists of one class of Arduino controller. The purpose of this class is to provide communication and rotate the appropriate engines according to the parameters of the incoming message. This class has horizontal and vertical servo objects (servHor and servVer), vertical and horizontal servo connection contact numbers (servoHor and servoVer), and the current positions of the first and second servos (pos1 and pos2). This class also has the basic setup and loop methods required for the controller, which allow the initial objects to be identified before starting work and perform an ever-repeating cycle of reading messages, evaluating and generating responses, and rotating servo drives accordingly (Chaminade & Cheng, 2009). Additionally, this class has a moveTo function to control the position of the servo as a parameter, specifying the current position, target, and rate of turn.

The following are the main steps in the calculation of motion detection and conversion to servo turn angle (Formulas 1-3):

1. Finding vector differences:

$$\vec{b} = \vec{a}_1 - \vec{a}_2$$

2. Multiplying the obtained features of the three coordinate vectors to match the coordinate:

$$A * B = x_1x_2 + y_1y_2 + z_1z_2$$

3. To calculate the turning angle of the servo motor, we convert the obtained scalar product to the angle:

$$\alpha = A * B * 180/\pi$$

An optional RaspberryPi 3 microcomputer is available for the video recognition transmitter to generate signals for the Arduino Mega servo controller. A typical motion recognition-shaping diagram is shown in Figure 4.

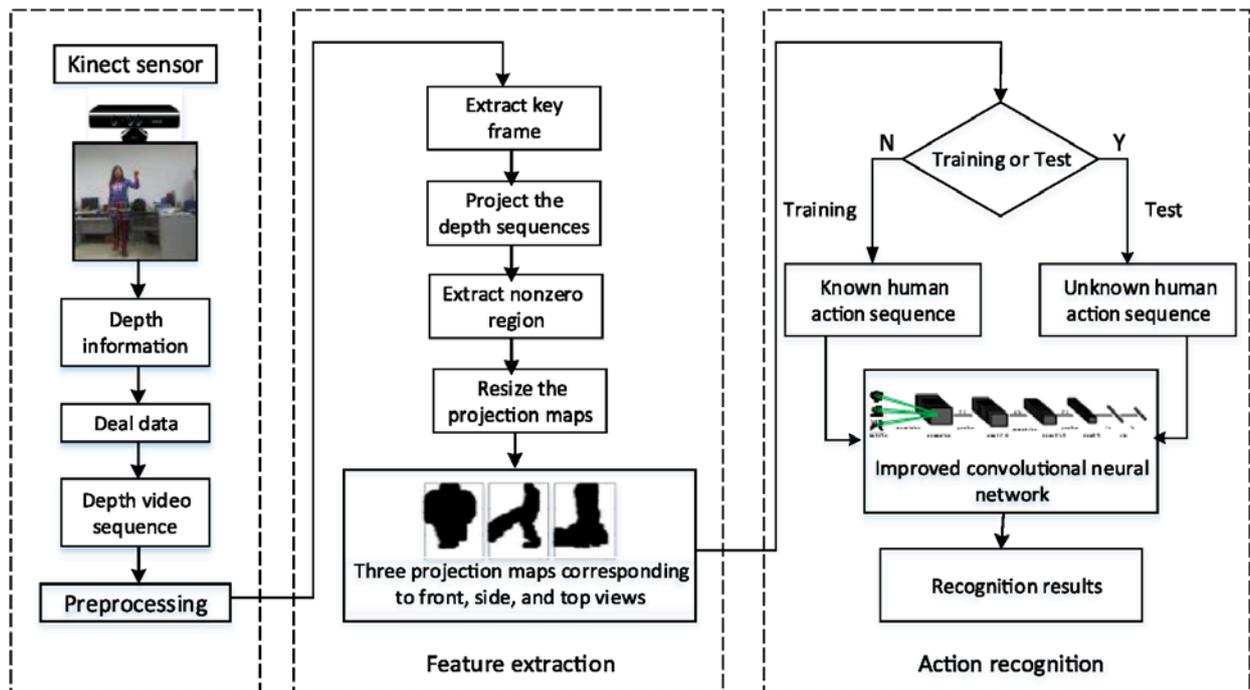


Figure 4 Typical motion recognition-shaping diagram (Lingin & Xiaolin, 2018)

After completing the software implementation, students improved their competencies in software management and software development. Improving interpersonal skills through consultation with project colleagues who were responsible for the implementation of the technical part.

Research results

After the technical and software implementation of the project, a diagram of the research process was created (Fig. 5), on the basis of which the ability of the system to recognize human finger movements and repeat them with the help of a real robotic system was investigated. The generation of the results is performed by calculating the coordinate determined by the video camera, sending the signal corresponding to the required turning angle, comparing it with the real maximum calculated turning angle signal received from the feedback circuit of the servo drive. The test is repeated 20 times with each bending of the robot finger.

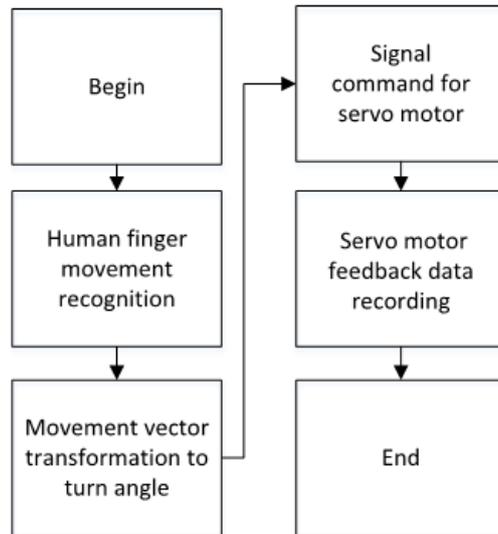


Figure 5 *Experimental part flow chart* (created by authors)

The diagram (Fig. 6) shows the averaged values of the rotation angle of each finger servo drive obtained from the feedback circuit.

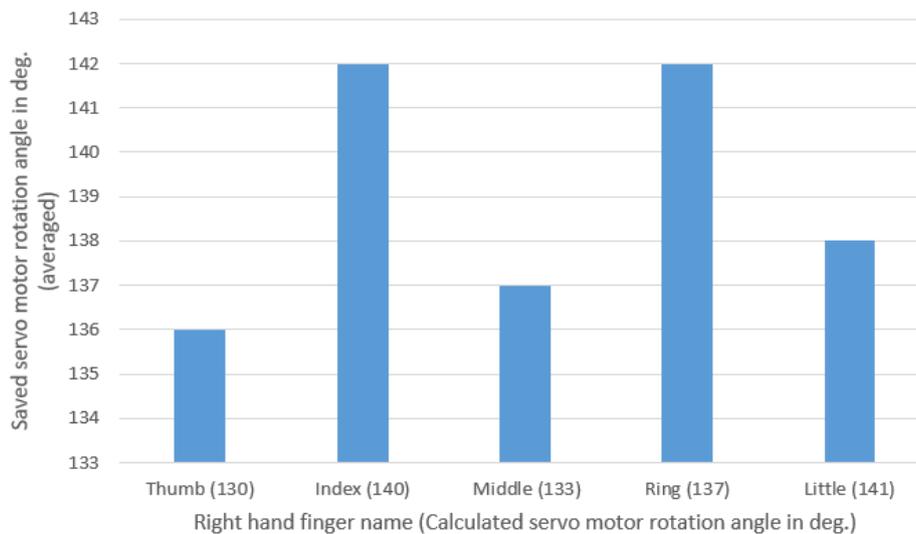


Figure 6 *Experimental results* (created by authors)

Conclusions

The completed project is complex and integral. Therefore, the activities performed in the project description are smoothly related to both the technical and programmatic implementation of the project and the integrity of the results obtained during and at the end of the project in the teaching and learning processes of students:

- A project was carried out, during which a robot-humanoid model with software control of right-hand finger movements by recognizing the

movements of the corresponding human hand fingers was implemented;

- 1-3 year students participated in the extracurricular activities project, divided into two parts according to the study programs studied, who realized the technical and software parts of the project, respectively;
- During the experimental study, the deviations between the program-calculated and real-measured servo gear rotation angles were investigated. The minimum deviation was 2 degrees, the maximum 6 degrees;
- Students independently improved their competencies and deepened their knowledge in the fields of programming, electronics, three-dimensional design, modeling and 3D printing, as a result of which the knowledge was reflected in the subjects studied directly with their study program, students' motivation knowledge with other subjects studied. Emphasis should also be placed on the increased ability of students to work in a team by performing practical classes in a group of students.

In the future, it is planned to expand the project by conducting experimental research with other robot-humanoid kinematic nodes, while defining the same experimental task, but repeating them individually with students of individual courses.

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THE RESULTS OF THE USE OF CLOUD TECHNOLOGIES IN THE EDUCATIONAL PROCESS OF PEDAGOGICAL UNIVERSITIES IN A PANDEMIC

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Abstract. *The research relevance ties with the necessity to form future teachers' digital competence under forced blended learning conditions due to COVID-19 preventive quarantine measures implementing. The purpose of the article is to reveal the content and analyze the results of the study on the experience in cloud technologies usage while teaching pedagogical courses to students in a modern pedagogical higher education institution. The methods are: theoretical analysis of the cloud technologies usage in higher education institutions, documentation analysis in the European Higher Education Area, information collection, questionnaires for students and lecturers, observation, evaluation, systematization of the results. The results are: the experience in cloud technologies usage while teaching pedagogical courses to future teachers is determined; issues with the information and communication technologies usage are identified: constant access to the network, poor service, lack of equipment. It has been clarified that students gained an enough experience in cloud technologies usage before the quarantine same as during it, identified the factors that contributed to it (inclusion in distance learning, studying the course "Digital Technologies", testing of cloud services and technologies). It has been established that the lecturers used to have small experience in cloud technologies usage before the quarantine because there was no special necessity, but during it, these indicators have changed (forced distance learning and the conditions for its implementation contributed to the rapid capture of cloud services, attending courses, testing the experience in cloud technologies usage). The most popular cloud technologies are Classroom, Zoom, Meet, Moodle have been lined out.*

Keywords: *cloud technologies, future teachers, lecturers, teaching pedagogical courses.*

Introduction

The concept of the digital economy and Ukrainian society development for 2018–2020 proclaims that in Ukraine the problems of society digital transformation are urgent today (Про схвалення Концепції..., 2018). One of the main goals of the "Digital Agenda – 2020" project is the digital technologies' availability; creating new opportunities for the human capital

realization, development of innovative, creative and “digital” industries and businesses; development and global leadership in digital products and services exporting. This document grounds not only the basic principles on which Ukraine should develop in the digital environment, but also the necessary steps on various fields of digitalization (Proekt "Cifrovoï adzhendi Ukraïni - 2020", 2016).

The New Ukrainian School Concept states that the digital division between teacher and student is widening. Many teachers do not know how to investigate problems with modern facilities, work with large data sets, make and present conclusions, collaborate online in educational, social and scientific projects etc. (Nova Ukraïns"ka shkola, 2016).

Higher pedagogical educational institutions play an important role in the context of this problem. Thus, the purpose of “The Concept of the Pedagogical Education Development” (executive order of the Ministry of Education and Science of Ukraine №776 of July 16, 2018) isto improve the system of pedagogical education to create a base for training new generation of teachers (Pro shvalennja Koncepcii .., 2018). The formation of key competencies, skills of independent work with information technology, especially the search, analysis and filtering of important and necessary information is possible only through the usage of new methods and elements of various modern educational technologies. The main aspect of the efficient future teachers training considering requests of “The New Ukrainian School” and modern educational challenges, as well as a guide to new promising specialties including “andragogue”, “tutor”, “moderator”, “facilitator”, “E-learning manager”, “teacher's assistant”, is a change in the approach to the educational process organization in higher education institutions. It can be possible by updating the content of education and training programs, improving educational forms and methods, using gamification, etc.. Therefore, the usage of information resources in the higher education pedagogical courses teaching becomes an urgent need. According to digital technology constant development emerges the necessity for a broader study of various aspects of the various cloud technologies and services usage (Canva, Padlet, Classroom, Zoom, Meet, Moodle, etc.) in future teachers training, which is possible through the active usage in future teachers training these technologies and resources.

Today there are digital technologies in education, which include information and pedagogical technologies. These technologies are inextricable, moreover, there is digital literacy of the society and digital competence of a teacher, which includes the skills that allow one to use in the classroom both types of technologies (DigCompEdu teacher digital competence); (Brolpito, 2018); (Aimaletdinov, Baimuratova, Zaitseva, Imaieva, & Spiridonov, 2019).

This means that it is important to involve pedagogical courses students in the digital technologies’ usage, in particular, cloud technologies, and to apply modern pedagogical technologies in Computer science classes. However, the analysis of pedagogical courses lecturers’ information technology awareness, including cloud technologies was not performed, so it is important to know how to help a modern

lecturer present and future teacher to acquire modern digital technology based on clarification of the digital pedagogical competence level, experience in cloud technologies usage as those that are available to everyone and have significant potential for application at all stages of learning and teaching.

Literature review

Note here that the problem of cloud-oriented resources implementation to educational institutions of different levels in Ukraine and is the subject of modern educational theory. Thus, the US National Standards Institute (The NIST Definition of Cloud Computing) has defined the concept of “cloud computing” (Cloud Computing), which should be understood as a model of convenient network access to a common fund of computing resources (for instance: networks, servers, data files, software and services), which can be provided quickly with minimal management effort and interaction with the supplier (Yatsyshyn et al., 2019). Cloud technologies can be defined as a set of methods, tools and techniques used to collect, organize, store and process remote servers, transmit through the network and submit through the client program all kinds of messages and data (Markova, Semerikov, & Striuk, 2015). We share the opinion of O. Markova, S. Semerikov, A. Striuk, according to whom cloud technologies are such information and communication technologies of training that involve the cloud technologies usage. The latter can be simply defined as network information and communication technologies that provide centralized network storage and processing of data (program execution), in which the user acts as a client (user of services), and “cloud” – a server (service provider). T. Vakaliuk, H. Prysiazhniuk also emphasize that the cloud technology usage stimulates professional growth of a teacher, prompts search for new forms, methods and means of training (Vakaliuk & Prysiazhniuk, 2016). Educators need to understand how digital technologies can support communication, collaboration, creativity and innovation; understand their functional characteristics, limitations, consequences and risks of the usage in learning, while at different stages of assimilation and with the students of different ages, as well as general principles, mechanisms and logic that put in the basics of digital services that are constantly evolving; know the basics of operation and usage of various digital devices, computer programs and networks (Genseruk, Morze, & Ovcharuk, 2019).

Analyzing the domestic experience of cloud technologies usage in the higher educational process of higher, T. Vakaliuk considers that higher education has considerable prospects for development (Vakaliuk, 2014).

Scientific research of modern scientists, N. Bolshakova, Z. Mitchenko dedicated to the use of the platform Moodle in the teaching of humanities, which identified the advantages and disadvantages of using electronic resources in higher education (Bolshakova & Mitchenko, 2020, pp.414-425). In the study O. Granichina, S. Surikova outlined such problems of distance learning in

pedagogical universities of the Russian Federation in the training of future teachers, as: organization of the educational process, the use of special technical and programmable means of organizing distance learning, insufficient readiness of subjects for the educational process in distance form, etc. (Granichina & Surikova, 2021, pp.144-152). A. Radin, N. Shlat analyzed the online learning environment (synchronous and asynchronous modes) in higher education institutions in comparison with the traditional environment (Radin & Shlat, 2021, pp.524-536).

Authors note here that before the pandemic cloud technologies usage used to be teachers' private affair because according to the Law "On education" teacher chooses forms and methods of teaching. But during the quarantine, the question about the necessity of effective distance learning and the mandatory cloud technologies usage emerged, which not all lecturers were ready for, especially of pedagogical courses, for which digital competencies are new and not all have acquired them. On the other hand, not all higher pedagogical education students were ready for distance learning, especially non-humanity and mathematical specialties.

So interesting and not enough research is the cloud technologies usage by higher educational institutions lecturers, including pedagogical courses lecturers in the context of mastering these technologies by future teachers.

Thus, the purpose of the article is to analyze the experience in cloud technologies usage while teaching pedagogical courses to future teachers.

The aims of the article are:

- 1) to find out the experience in cloud technologies usage by pedagogical courses lecturers or future teachers while learning pedagogical courses;
- 2) to identify problems in cloud technologies usage by pedagogical courses lecturers or future teachers (students), to identify the most popular cloud technologies.

Methodology

The study used theoretical analysis of sources on the cloud technologies usage in higher education institutions, analysis of documentation of the European Higher Education Area, information collection, questionnaires of students and lecturers (oral and written), observation, evaluation, analysis and systematization of the results.

Materials for the study were: the legal framework and government documents for professional training at the current stage of national education development, the Concept of the New Ukrainian School, the Law of Ukraine "On Higher Education", the rules on innovative educational activities (ed. 31.10.2017), the Concept of teacher education development, the Concept of digital economy and Ukrainian society development for 2018-2020 years, scientific sources on cloud technology usage by teachers (T. Zhornytska, S. Litvinova, D. Soga (Dosvid

uchiteliv Ukraïni ... , 2016), the cloud technology usage by lecturers in higher education institutions (N. Gnedko, I. Deynega, E. Romanenko, A. Iatsyshyn N. Hnedko, 2018). The model of future teacher training for professional activity using cloud technology in educational institutions)), research on digital population literacy and digital pedagogical competence of Russian lecturers level determination (Aimaletdinov, Baimuratova, Zaitseva, Imaieva, & Spiridonov, 2019).

Authors consider necessary to define competence in the cloud technology usage as a kind of digital competence. Thus, the lecturer's digital competence must ensure numerous components' development: from media literacy to the information data processing and critical evaluation, security and cooperation on the Internet to knowledge of various digital technologies and devices, the ability to use open resources and technologies for professional development, formation in students the skills to efficiently use digital technology and services in educational and life situations for solving various problems and tasks, to apply innovative techniques for evaluating the results of their training activities, understanding the concept of coding, elements of artificial intelligence, virtual and augmented reality and solving professional problems through the digital technologies' usage (Genseruk, Morze, & Ovcharuk, 2019). So, competences in cloud technologies' usage include the ability to organize and use within the learning process, filter, evaluate, project and distribute the variety of cloud technology to improve the quality of learning based on the letters' opportunities.

Research results

The research was conducted at H.S. Skovoroda Kharkiv National Pedagogical University during 2020 education year. The study involved 90 students of the H.F. Kvitka-Osnovianenko Ukrainian Language and Literature School and 104 students of the faculty Primary Education School. The selected majors are related to the fact that the authors of the article directly teach the disciplines "Pedagogy", "Fundamentals of pedagogical skills", "Pedagogy of the New Ukrainian School" and others at these schools. It should also be noted that we have specially chosen the Primary Education School because future primary school teachers in their professional activities must not only be confident digital technologies users, but also use and modify cloud educational resources today in the New Ukrainian School. Selection of respondents studying at the H.F. Kvitka-Osnovianenko Ukrainian Language and Literature School can be grounded by the fact that according to the State Standard of Basic Secondary Education (the Cabinet of Ministers of Ukraine Resolution No. 898 of 30.09.2020) (Derzhavnij standart..., 2020) the first key competence is fluency in the state language, which includes a number of skills, including the skill to acquire and process information from various (print and digital, including audiovisual) sources in various educational fields and contexts, critically interpret it and use it for communicating

orally and in writing, to defend their personal views, beliefs, social and national values. Teachers (starting with the pedagogical internship) will be able to form this competence in students, who themselves have sufficiently developed competencies in the state language and the cloud technologies usage. All the students study for a bachelor's degree on the major specialty “014 Secondary Education”. Also, 53 lecturers of departments that teach pedagogical courses were interviewed.

The research methods were: survey of lecturers and higher education students through questionnaires, theoretical analysis of sources, interviews, synthesis, and generalization of the results. All the lecturers of pedagogical courses of H.S. Skovoroda Kharkiv National Pedagogical University and higher education students were asked to fill in the questionnaire anonymously. The questionnaire had monitoring nature to improve the educational process quality, was developed according to the regulations of the educational quality internal monitoring (required by the National Agency for Higher Education Quality Assurance for the higher educational institution accreditation, the Law on Higher Education, the Department of Education Quality Monitoring at H.S. Skovoroda Kharkiv National Pedagogical University). To monitor the level of lecturers’ competence in the cloud technology use of while teaching pedagogical courses were given a questionnaire consisted of closed and semi-closed questions. We wondered to determine the competence of pedagogical courses lecturers before the quarantine and during it, as the pandemic significantly influenced educational process, transferred it into online mode and blend-learning and the main medium of instruction was the Internet and cloud technologies.

Table 1 Questionnaire for lecturers (created by the authors)

Question	Before the quarantine	After the beginning of the pandemic
Do you know what “cloud technology” is?	Yes	Yes
	No	No
	Partially	Partially
Do you have (did you have) an experience on cloud technologies usage?	Yes	Yes
	No	No
	Partially	Partially
What online forms of communication with do you use (have used) with your students while teaching pedagogical courses? (several options can be chosen)	Online lectures	Online lectures
	Online seminars	Online seminars
	Online consultations	Online consultations
	Online exams	Online exams
	Online tests	Online tests
How often do you use cloud technology?	Each lesson	Each lesson
	It depends on the topic of the lesson	It depends on the topic of the lesson
	I do not use	I do not use
	Other	Other

What forced you to cloud technology usage?	Administration requirements	Administration requirements
	Personal desire to be modern	Personal desire to be modern
	Material incentives	Material incentives
	Students' desire	Students' desire
	Other	Other
What exactly was difficult about using cloud technology?	Insufficient self-awareness	Insufficient self-awareness
	Insufficient awareness of students	Insufficient awareness of students
	Lack of information	Lack of information
	Lack of digital skills	Lack of digital skills
	Other	Other
How did you master digital competencies? (several options can be chosen)	Self-education	Self-education
	Training courses	Training courses
	There was no such a necessity	There was no such a necessity
	Other	Other
Do we need to improve our competence in the cloud technologies usage?	Yes	Yes
	No	No
	Difficult to answer	Difficult to answer
	Other	Other
Which cloud services are appropriate for the study of pedagogical courses? (several options can be chosen)	Microsoft Excel	Microsoft Excel
	Microsoft Word	Microsoft Word
	Microsoft PowerPoint	Microsoft PowerPoint
	Zoom	Zoom
	Meet	Meet
	Google Drive	Google Drive
	Social Media	Social Media
	Moodle	Moodle
	Skype	Skype
	Kahoot!	Kahoot!
	Jamboard	Jamboard
	Classroom	Classroom
	Edpuzzle	Edpuzzle
	Canva	Canva
	Padlet	Padlet
	Flipgrid	Flipgrid
	iLearn	iLearn
Coursera	Coursera	
Coursera for Campus	Coursera for Campus	
Have higher pedagogical education students formed digital competencies?	Yes	Yes
	No	No
	Partially	Partially
Name the disadvantages of the cloud technologies usage.	Constant access to the network	Constant access to the network
	Poor service	Poor service
	Lack of technical support	Lack of technical support
	Time for class preparing	Time for class preparing
	Other	Other
Are the possibilities of cloud technologies usage at different stages of development known to you?	Yes	Yes
	No	No
	Partially	Partially

Table 2 **Questionnaire for applicants** (created by the authors)

Question	Before the quarantine	After the beginning of the pandemic
Do you know what “cloud technology” is?	Yes	Yes
	No	No
	Partially	Partially
Do you have (did you have) an experience on cloud technologies usage?	Yes	Yes
	No	No
	Partially	Partially
What online forms of communication do lecturers use (did use) while teaching pedagogical courses? (several options can be chosen)	Online lectures	Online lectures
	Online seminars	Online seminars
	Online consultations	Online consultations
	Online exams	Online exams
	Online tests	Online tests
How often do teachers of pedagogical courses use (did use) cloud technologies in the classroom?	Each lesson	Each lesson
	It depends on the topic of the lesson	It depends on the topic of the lesson
	They do not use	They do not use
	Other	Other
Do you consider it appropriate to use cloud technologies in the study of pedagogical courses?	Yes	Yes
	No	No
	Partially	Partially
What was difficult for you in cloud technologies?	Insufficient self-awareness	Insufficient self-awareness
	Insufficient awareness of students	Insufficient awareness of students
	Lack of information	Lack of information
	Lack of digital skills	Lack of digital skills
	Other	Other
How did you master digital competencies? (you can choose several answers)	Self-education	Self-education
	Courses in higher education institution	Courses in higher education institution
	There was no such a necessity	There was no such a necessity
	Other	Other
Do you need to improve your digital skills?	Yes	Yes
	No	No
	Difficult to answer	Difficult to answer
What cloud services are you already familiar with while studying pedagogical courses? (several options can be chosen)	Microsoft Excel	Microsoft Excel
	Microsoft Word	Microsoft Word
	Microsoft PowerPoint	Microsoft PowerPoint
	Microsoft Office	Microsoft Office
	Zoom	Zoom
	Meet	Meet

	Google Drive	Google Drive
	Social Media	Social Media
	Moodle	Moodle
	Skype	Skype
	Kahoot!	Kahoot!
	Jamboard	Jamboard
	Classroom	Classroom
	Edpuzzle	Edpuzzle
	Canva	Canva
	Padlet	Padlet
	Flipgrid	Flipgrid
	iLearn	iLearn
	Coursera	Coursera
	Coursera forCampus	Coursera forCampus
Have pedagogical courses lecturers formed digital competencies?	Yes	Yes
	No	No
	Partially	Partially
Name the disadvantages of cloud technologies usage.	Constant access to the network	Constant access to the network
	Poor service	Poor service
	Lack of technical support	Lack of technical support
	Time for class preparing	Time for class preparing
	Other	Other
Are you ready for cloud technologies usage on your own during your lessons?	Yes	Yes
	No	No
	Partially	Partially

Questionnaires were composed under various conditions of cloud technology usage: in a usual classroom before the quarantine and during the quarantine as a result of the Coronavirus pandemic, when all higher education institutions shifted to the forced distance learning.

The results of the questionnaire on the first question show that the vast majority of both lecturers (67%) and students (44%) only partially knew what “cloud technology” is before the quarantine. After the pandemic, the answer “yes” was given by lecturers (94%) and students (100%). This can be explained by the forced transition to distance learning, which has led not only to familiarization, but also the daily usage of cloud technologies.

Regarding the second question about the experience of cloud technologies usage, we have such results that before the quarantine pedagogical courses lecturers (98%) and students (99%) did not use cloud technologies. But the situation has changed, and we can say fundamentally, these technologies have been widely used by lecturers (89%) and students (96%). This generally indicates the flexibility and ability to adapt to new conditions in almost all lecturers and

students at a high level. Those who said they did not use cloud technology, have problems with technical support and therefore the inability to get out to the Internet.

The results of answers on the use of online communication forms of within the teaching pedagogical courses of are presented in Figure 1.

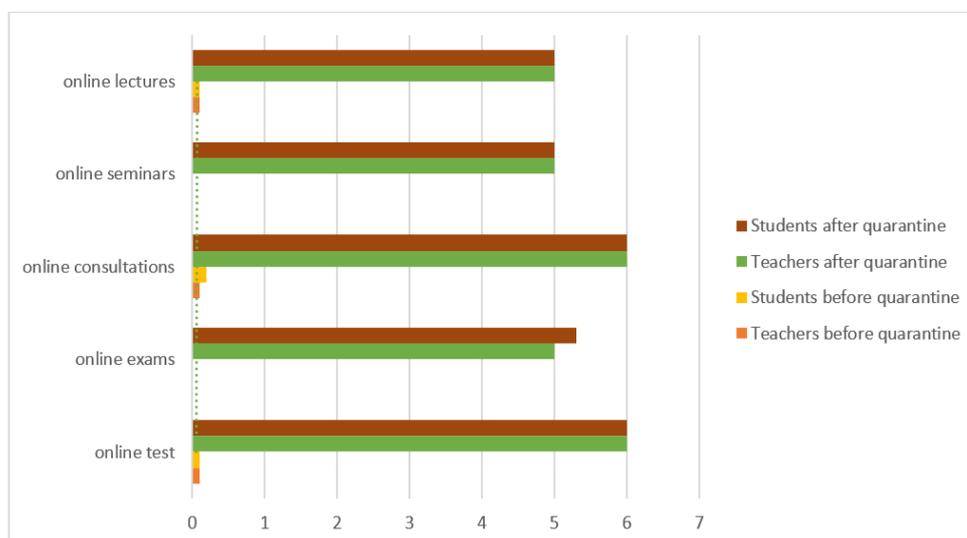


Figure 1 Results about online communication forms (created by the authors)

Thus, these results indicate that after the pandemics, unlike how it used to be before the quarantine became popular all online forms of communication between lecturers and students during the pedagogical courses teaching that all respondents showed.

As to, how often faculty and higher pedagogical education students use cloud technology, they clearly said that they had not used those before the quarantine. After the beginning of the pandemic 78% of lecturers and 86% of students used cloud technologies at every lesson. In our opinion, this is a fairly high indicator of the existing competence in the cloud technologies usage. During the conversation with the lecturers, it was clarified that in a short period of time they were forced to master modern information and communication technologies in order to quickly and efficiently become engaged with the educational process of distance format.

Having used cloud technologies while studying pedagogical courses and evaluating their potential, 87% of lecturers and 79% of students consider the current usage to be relevant.

The main difficulties in the cloud technologies usage pedagogical courses lecturers noted: 78% - insufficient self-awareness; 64% - lack of information; 81% - lack of digital skills. In the proposed option to indicate another reason, the following results were obtained: fear of the unknown, disbelief in their own strengths and capabilities, lack of practice, imperfect technical support.

Students identified the following difficulties: 36% - insufficient self-awareness; 24% - lack of information; 35% - lack of digital skills.

These figures in the responses of future teachers are explained by the fact that since the first year at all schools they study the course “Digital technology” which reveals the nature of information and digital competence of a future teacher, educational opportunities of network education technology, basic approaches to electronic educational resources’ creation, basics of mobile, distance and blended learning, informational technologies in project activity of a future teacher. Therefore, the students have gotten much fewer difficulties with cloud technology usage than lecturers.

This can be seen in the answers to question whether digital competences have been formed by the students; when teachers have answered the following before the quarantine: yes (55%) no (29%), partially (65%), and after the pandemic: yes (87%)no (11%), partially (34%).

Teachers, in turn, mastered digital competencies mainly through non-formal education and self-education (65%) (webinars, refresher courses, trainings, educational marathons) and in the offered courses in higher education institutions (89%). According to the students, pedagogical courses lecturers have formed digital competencies before the quarantine: yes (17%), no (88%), partially (34%); after the beginning of the pandemic: yes (70%), no (22%), partially (45%).

With the fact that digital competences should continuously be improved agree (95%) of lecturers and (100%) of students. This is due to the understanding that information technology is rapidly evolving and changing rapidly, and this necessitates the mastery of the highest level of digital competencies for the successful pedagogical activities’ implementation.

The results of the answers to the question “what cloud services are you already familiar with while studying pedagogical courses?” are presented in Table 3.

Table 3 The results of the cloud services usage within the study of pedagogical courses (created by the authors)

Services, technologies	Teachers before the quarantine %	Teachers after the beginning of the pandemic %	Students before the quarantine %	Students after the beginning of the pandemic %
Microsoft Excel	100	100	100	100
Microsoft Word	100	100	100	100
Microsoft Power Point	87	98	100	100
Microsoft Office	92	99	97	100
Zoom	0	87	1	97
Meet	1	95	1	99
Google Drive	5	65	56	89
Social Media	2	67	45	76
Moodle	35	98	38	100

Skype	57	93	86	99
Kahoot	17	95	87	100
Jamboard	12	76	58	86
Classroom	2	94	3	97
Edpuzzle	23	56	34	68
Canva	2	58	19	95
Padlet	18	89	100	100
iLearn	2	57	34	78
Flipgrig	1	46	3	88
Coursera	0	23	3	45
Coursera for Campus	0	21	2	34

Our analysis of the results showed that the lecturers before then quarantine slightly used mostpopular cloud services. And after the beginning of the pandemic during distance learning, theyhave not only got acquainted, but also mastered and used modern cloud technologies. In the answers of students there is a higher percentage of the information and communication technologies usage, which indicates the presence of prior knowledge. But the results show thatsince the beginning of the pandemic, the percentage of such students has also increased significantly. During the conversation with the lecturers it was found out that, carrying out the procedure of topical tests within pedagogical courses, they confidently organized the work ofstudents using Moodle, Canva, Padlet, and Kahoot, the fact that teachers are aware of the cloudtechnologies usage possibility in various stages of comprehending, (78%) responded unequivocally that they are aware, (10%) – can use partially.

Regarding the results of students' answers on whether they are able to use cloud technologiesin different lessons, the following data were obtained before the quarantine: Yes - 47%;No - 12%; Partially - 41%. After the quarantine, the results are more confident:Yes - 84%; No - 0%; Partially - 16%.

This can be explained by the fact that during the period of the quarantine in lecturers and in students had created all the necessary conditions for the development of practical skills in thecloud technologies usage, namely: training sessions and consultations in the online mode, holding online lessons during the pedagogical internship, implementation of various forms ofeducational work in the online format both synchronously and asynchronously, passing tests, exams, etc.

It was quite interesting for us to find out what main disadvantages of cloud technologies usagewill be determined by lecturers and students. The results are presented in Table 4.

Table 4. The results of the lecturers and students survey on the disadvantages of the cloud technologies usage (created by the authors)

Disadvantages of cloud technologies usage	Teachers before the quarantine %	Teachers after the beginning of the pandemic %	Students before the quarantine %	Students after the beginning of the pandemic %
Constant access to the network	55	56	68	51
Poor service	45	57	56	43
Lack of technical support	87	52	48	34
Time for class preparing	-	-	-	-

Thus, the significant disadvantages, as can be seen from the results presented in the table, have not changed much before the quarantine and after the pandemic.

Discussion

In terms of the discussion can say that all higher education institution lecturers in Ukraine forcibly mastered distance learning technologies, including cloud technology, as evidenced by the seminar Icon-MaSTEd 2020 (<https://ichtml.org/icon-masted/2020/>). It should be noted that the Coronavirus influenced the process of digital competences mastering by all lecturers, but still no one have compared the impact of the pandemic and distance learning on lecturers' and students' digital competences at the same time, no one have analyzed their problems and difficulties.

Conclusions

The conducted study suggests that:

1. The chosen research topic is relevant in the context of solving the identified contradictions and problems of the Ukrainian and world higher education theory and practice, is insufficiently studied scientific and pedagogical issue of the theory of pedagogy. The existed researches basically reveal the necessity to form digital competence and grounds for the cloud technology usage in general by higher education institution lecturers, certain areas of training, but pedagogical courses lecturers were not trained as owners of digital competence and those who can teach it based on their own working experience. In the paper, we revealed the content and analysis of the results of the research at H. S. Skovoroda Kharkiv National Pedagogical University according to the experience in cloud technologies usage while teaching pedagogical courses to future teachers in modern pedagogical university.
2. Having measured the experience of lecturers' and future teachers' competence in cloud technologies usage while teaching pedagogical

courses, we have the following: the higher education students' experience in the cloud technology usage is at a high level as before the quarantine because of having studied the course "Digital Technology" and as during the quarantine, due to their inclusion in distance learning in all courses and testing various cloud services and technologies. Before the quarantine, the lecturers had little experience in cloud technologies usage, because there was no special necessity, but during the quarantine these indicators changed significantly for the better. Forced distance learning and the conditions for its implementation contributed to the rapid capture of cloud services, the passage of refresher training, approval of the experience within cloud technology usage in the classroom teaching disciplines.

3. The most popular cloud services, which are used after the quarantine by pedagogical courses lecturers and future teachers, are: Canva, Padlet, Classroom, Zoom, Meet, and Moodle.
4. Common difficulties with information and communication technologies usage by pedagogical courses lecturers and future teachers during the quarantine and were the same and at the same level: constant network access, poor service, lack of proper technological support. This is a matter of state educational policy to create conditions for distance learning in the country.

Prospects for further research are the development of recommendations for changing curricula based on the results of the study, familiarization and testing within pedagogical courses of other modern educational cloud services and technologies.

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PARAMETERS IN FORMULATIONS AND SOLUTIONS OF INTRODUCTORY PROBABILITY PROBLEMS

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Abstract. *Mathematical problems with parameters offer a higher semiotic complexity level of mathematical activities. The topicality of the research is determined by the fact that there are no studies on types of parameters in formulations and solutions of probability problems. The study aims are to analyse the current literature and propose an approach to classify parameters depending on their nature. Methodology - qualitative content analysis of probability problems from published textbooks and research papers. The main result - a parameter classification and interpretation scheme for introductory probability problems. The proposed parameter classification can help differentiate and individualise the study of probability theory and statistics.*

Keywords: *combinatorics, higher education, probability theory, problems with parameters, school education.*

Introduction

A mathematical problem becomes more challenging when parameters are introduced because the inclusion of one or more parameters implies a higher degree of algebraization and a higher semiotic complexity level for mathematical activities (Drijvers, 2003; Godino, Neto, Wilhelmi, Ake, & Etchegaray, 2015; Sedivy, 1976). Parameters act as meta-variables and have a hierarchically higher position compared to variables in mathematics (Drijvers, 2003).

The article aim is to analyze the current literature and propose an approach to interpretation and classification of parameters depending on their nature in introductory probability problems.

The research method is a qualitative content analysis of probability problems from published textbooks and research papers.

In general, problems with parameters are commonly used in mathematics courses. A common type of problem with parameters is equations and systems of equations. One can mention linear and polynomial systems over real, integer, or finite fields. The introduction of parameters in combinatorics problems corresponds to the possibility of generalizing these problems for any number of elements (Krastina, Sondore, & Drelinga, 2015). In courses on linear algebra, one finds problems involving matrix operations, the rank of matrices, and the

computation of determinants as a function of parameters. Number theory is an area where problem complexity and the nature of the solution depend strongly on the parameters. For example, one can mention problems related to integer factorization. In polynomial algebra, there are problems related to finding roots and factorization of polynomials whose coefficients depend on parameters. A considerable number of problems in probability theory used in school and college courses are problems with given parameters. Moreover, a probability problem without parameters in its formulation can be easily transformed into a *probability problem with parameters* (PPP). Thus, one can ask the question about possible types of parameters in probability problems.

The main result of the research- the authors propose to consider primary and secondary parameters, each of which can be divided into two classes. This work is a continuation of the study on identifying different types of parameters for combinatorics problems (Sondore & Daugulis, 2018). Several examples (some examples were created by the authors) are analyzed in this article to illustrate the classification presented by the authors. The correspondence of these examples to other published classifications is determined. First, PPP's are compared with a classification of probability problems according to the six levels of algebraic reasoning given in (Burgos, Batanero, & Godino, 2022). Second, it is determined how the four levels of understanding and interpretation of the concept of parameters in algebra (Drijvers, 2003) correspond to parameters by authors' classification.

The research is relevant because no articles analyzing the role of parameters in PPP are accessible to college professors and teachers (the target audience of this work). The parameter classification proposed by the authors indicates ways to select problems for both generalization and individualization of the university study of probability theory and statistics.

Literature review

The parameters in a mathematical problem are denoted by letters. The use of letters is a fundamental step on the way from arithmetic to algebra, as pointed out by (Furinghetti & Paola, 1994). The use and meaning of letter symbols (signs, something that denotes something else) is one of the basic problems in learning algebra since letters and numbers have different roles in the algebraic context (Bardini, Radford, & Sabena, 2005; Heck, 2001). Studies on the use of parameters mostly analyze the main methods for solving problems with parameters and the effects of changing parameters for some families of functions, for solving equations and inequalities with parameters. Students' misunderstandings of using parameters in these objects affect their learning of mathematics (Bardini et al., 2005; Chow, 2011; Drijvers, 2003; Godino et al., 2015; Sedivy, 1976).

Although there are no articles that directly analyze the classification of parameters in probability problems, there are classifications that can be related to

it. Probability problems have been studied by authors (Burgos et al., 2022) to classify tasks according to algebraic levels of reasoning - from proto-algebraic levels of mathematical activity to higher levels of algebraization and formalization. A description of these levels according to (Burgos et al., 2022) is as follows. Proto-algebraic level 1 is characterized by the introduction of some simple algebraic objects or processes. At proto-algebraic level 2, probabilities are calculated and the simple inverse proportional equation is formulated and solved. At the strictly algebraic level 3, in addition to these processes, systems of equations are set up symbolically and the linear equations are solved by substitution. Level 4 is characterized by the first appearance of parameters in the determination of probability, level 5 - by operations with parameters and statistical inference, but level 6 - by working with algebraic structures - operations with sets and with probability functions. PPP's correspond at least to the fourth level of algebraic reasoning. Looking more closely at the nature of the parameter, one finds a description of four levels of understanding and interpretation of the concept of the parameter in algebra - the parameter as a placeholder, changing quantity, generalizer, and unknown, but the role of the parameter can change during the problem-solving process (Drijvers, 2003). The authors concluded that the concept of a parameter in PPP corresponds to all classes of this classification. Since each possible parameter value defines a specific, simpler problem, the parameter in PPP is a placeholder. The parameter as a changing quantity in PPP means that the solution formula changes significantly. The parameter as a generalizer in PPP means that it is necessary to obtain a general parametric solution with a reification of the formulae. Consider the following example: find parameter values for which the probability of an event is 0. In this case, the parameter is unknown.

Methodology

In probability theory, parameters are used to describe distributions such as the binomial or normal distribution. In this paper, the authors use parameters in a different application sense - this study is concerned with parameters in formulations and solutions of introductory probability problems. These problems are concerned only with procedures such as: finding the number of combinations without repetitions; calculating simple and composite probabilities with the product rule or the sum rule.

Remark. The total number of subsets of n distinct objects taken k at a time can be calculated by combinations C_n^k . The notation of combinations is taken from the standard learning materials in Latvia, see (Krikis & Steiners, 2001; Smotrovs, 2004; Uzdevumi.lv, 2022), where the parameters n and k are non-negative integers $n \geq k$. Therefore, it must be taken into account that, for example, the

value C_6^7 is not defined. Although one could extend the bounds on the parameters n and k to define the number of subsets by $C_n^k = 0$ if $n < k$.

The authors conducted a qualitative content analysis of introductory probability tasks. A number of these tasks was selected and then solved. Solutions were investigated if they were given. The problems studied correspond to the level of knowledge of the last year of secondary school, but mainly to the level of university probability theory and statistics. Formulations and solutions of probabilistic problems were studied in published textbooks and research papers (Aigner, 2007; Anderson, 2004; Andreescu & Feng, 2004; Conroy, 2018; Gusak, & Brichikova, 2002; Krikis & Steiners, 2001; Krikis, Zarins, & Ziobrovskis, 1996; Meshalkin, 1973; Ross, 2010; Roussas, 2007; Smotrovs, 2004; Steiners, 2001). Other resources were also analysed, for example (Uzdevumi.lv, 2022) and an online calculator for dice probabilities (Sas, 2021).

Parameters in formulations and solutions of introductory probability problems are classified according to the type of parameter. By this, the authors mean the following aspects of the problems:

- presence or absence of explicit parameters in the problem formulation;
- introduction goals for parameters, if they are introduced in the solution process;
- description of the parameters and their ranges of values.

A parameter classification scheme

The authors propose to consider two classes of parameters for introductory PPP, each of which can be further subdivided into two subclasses. If the probabilistic problem already has a lettered parameter in its formulation, the authors suggest that it be called the *primary* parameter. A parameter is called *secondary* if it is introduced in the problem-solving process.

It is noted that there are two types of primary parameters depending on whether the parameter specifies the number of elements or the probability of an event. An *enumerative primary parameter* is a variable that takes values in a subset of the non-negative integer set N_0 . Accordingly, a *probabilistic primary parameter* is a variable that takes values in the interval $[0;1]$. Secondary parameters can be divided into two classes, depending on the purpose of their introduction. If several subcases have to be considered in the solution, the answers for these cases are very different and no simple single formula is possible, it is necessary to code these subcases with *hidden parameters*. If the purpose of introducing a parameter is to facilitate the process of solving the problem, such a parameter can be called an *auxiliary parameter*.

In the following, the authors give examples with different parameters. The research results (Sondore & Krastiņa, 2018) indicate that students have difficulties solving combinatorial problems related to real situations. Therefore,

the problems included are related to experiments and games. Note that in any introductory PPP, the challenge is to identify special cases (extreme points) in the parameter domain and divide them into sub-domains so that all parameter values for a given sub-domain have the same solution formula.

Ex.1. gives an experience of interval splitting for the primary parameter domain and the need to check the answers to the solution given in the textbook. PPP from Ex.1. and Ex. 2 can be used for constructing multiple individualised tasks using different specific parameter values.

Ex.1. There are n tickets in a lottery, of which m are winners. How large is the probability of a win for a person holding k tickets? The answer is $1 - \frac{C_{n-m}^k}{C_n^k}$ (Meshalkin, 1973).

The textbook answer is without specifying conditions for the enumerative primary parameters n, m, k . The solvers themselves must recognise possible values of the parameters. n, m , and k are non-negative integers and $n \geq k, n \geq m$. However, the review showed that not all conditions were found. The given answer $1 - \frac{C_6^7}{C_{10}^7}$ is false for values $n=10, m=4, k=7$. This numerical test makes it possible to find the not-so-obvious condition $k \leq n - m$, the number k of tickets cannot be greater than the number of tickets without winning. The correct answer to Ex.1 can be found in Table 1. Ex.1 corresponds to algebraic reasoning level 4. The roles of the parameters n, m , and k can change during the solution process. n, m , and k are placeholders when the probability for a certain number of lots (number of tickets) is found; they are generalizers - when the general solution is constructed. The parameter k is unknown, but n and m are placeholders at the same time when the solver asks for which values of k the probability of winning is greater than 0.5. The parameters are changing quantity if, for example, the solver realises that for values $n=10, m=4, k=7$ the formula given in the textbook is wrong.

Table 1 *The answer of Ex.1 (created by the authors)*

Global condition $n \in N_0, m \in N_0, k \in N_0$; interval splitting for k and m	the probability
$k \leq n - m; n \geq m$	$1 - \frac{C_{n-m}^k}{C_n^k}$
$n \geq k > n - m; n \geq m$	1

Ex.2. A password is any 10-digit number. What is the probability that a digit k occurs exactly m times in a password?

There are two enumerative primary parameters k and m . The global condition for k : $k \in N_0$, but the possible values of the parameter k are distinguished into two subdomains - k is zero and k is non-zero ($0 < k \leq 9$). After checking the answer for possible values of parameter m , the range of m is divided into three intervals. The global conditions and sub-domains for the parameters and the answer with brief explanations can be found in Table 2. For all other cases, the answer is 0. Ex. 2 corresponds to algebraic reasoning level 4.

Table 2 *The answer of Ex.2 (created by the authors)*

$k, m \in N_0$	$k = 0$	$0 < k \leq 9$
$m = 0$	$\frac{C_9^m \cdot 9^{10-m}}{9 \cdot 10^9} = \left(\frac{9}{10}\right)^{10-m}$ 10-digit number does not have a digit 0,	$\frac{C_9^m \cdot 8 \cdot 9^{9-m}}{9 \cdot 10^9} = \frac{8}{9} \cdot \left(\frac{9}{10}\right)^{9-m}$ 10-digit number does not have a digit k ($k \neq 0$),
$0 < m < 10$	$\frac{C_9^m \cdot 9^{10-m}}{9 \cdot 10^9}$ The digit 0 occurs exactly m times but 0 is not in the first position,	$\frac{C_9^{m-1} \cdot 9^{10-m} + C_9^m \cdot 8 \cdot 9^{9-m}}{9 \cdot 10^9}$ The digit k ($k \neq 0$) occurs exactly m times;
$m = 10$	0 The digit 0 occurs exactly 10 times	$\frac{C_9^{m-1} \cdot 9^{10-m}}{9 \cdot 10^9} = \frac{1}{10^9}$ If the digit k ($k \neq 0$) occurs exactly 10 times then the number is $kkkkkkkkkk$

Ex.3. An infinite sequence of independent trials is to be performed. Each trial results in success with probability p and a failure with probability $1 - p$. What is the probability that (a) at least one success occurs in the first n trials; (b) exactly k successes occur in the first n trials; (c) all trials result in successes? (Ross, 2010)

This exercise has three parameters with the following domains: an interval $[0; 1]$ for a probabilistic primary parameter p , the set N for n and a subset of N_0 for k (both n and k are enumerative primary parameters). The answer to part (a) is $1 - (1 - p)^n$ where $(1 - p)^n$ is the probability of the complementary event (no successes in the first n trials). The probability to part (b) for a Bernoulli trial if $n \geq k$ is given by $C_n^k \cdot p^k \cdot (1 - p)^{n-k}$. To answer part (c), at first, the probability of the first n trials all resulting in success is found p^n . To calculate the limit $\lim_{n \rightarrow \infty} p^n$ the domain $[0; 1]$ is divided into subcases. If $p=1$ then $\lim_{n \rightarrow \infty} p^n = 1$. If $p \in [0; 1)$ then $\lim_{n \rightarrow \infty} p^n = 0$. Ex. 3 corresponds to algebraic reasoning level 5. The role of the parameter p can change when a problem solver uses different approaches: p is a placeholder for certain numerical values; p is a generalizer - when the general solution is constructed from solutions for specific p values; p is

an unknown when the problem is to find out for which values of p the probability that all trials result in successes is 1. The parameter p as a changing quantity means that the problem solver recognises that for $p=1$ and $p=0.4$ the probability that all trials result in successes is different.

Ex.4. A participant in the lottery "Latloto 5 no 35" has sent two completed cards to the same lottery. Determine the probability that the participant will win two minimum prizes in the current draw (for each card exactly three numbers of the "Latloto 5 no 35" lottery results match).

Table 3 *The answer of Ex.4* (created by the authors)

$n \in N_0$	the number of favorable cases	the probability
$n=0$ or $n \geq 6$	0	0
1	$C_4^2 \cdot C_4^2 = 36$	0.0001
2	$C_3^1 \cdot C_3^1 \cdot C_{27}^1 + C_2^1 \cdot C_3^2 \cdot C_3^2 = 261$	0.0008
3	$C_3^1 + C_3^2 \cdot C_2^1 \cdot C_2^1 \cdot C_{28}^1 + C_{28}^2 = 717$	0.0022
4	$C_4^2 \cdot C_{29}^1 + C_4^3 \cdot C_{29}^2 = 1798$	0.0055
5	$C_5^3 \cdot C_{30}^2 = 4350$	0.0134

For a description of the "Latloto 5 no 35" lottery, see (Latvijas loto, 2022). Ex.4 has no primary parameters. $C_{35}^5 = 324632$ is the number of possible filling combinations. The probability of getting two minimum wins depends on the number of matching numbers in these two cards. Therefore, the hidden secondary parameter $n \in N_0$ is introduced for the number of matching numbers in two cards. If $n=0$ or $n \geq 6$, then the probability of the participant receiving two minimum wins in the current draw is 0, but for other values, the number of favourable cases is calculated by different formulae given in Table 3. Ex. 4 corresponds to algebraic reasoning level 4. The hidden secondary parameter n is a placeholder for the cardinality of the matching numbers in these two cards. The parameter n has the role of a changing quantity when the solver realises that the answers for different values of n involve very different forms and no simple single formula is possible.

Ex.5. Find the probability of rolling an exact sum n out of the set of four six-sided fair dice (Sas, 2021).

This example demonstrates the solution process with an auxiliary secondary parameter. The sum n satisfies the global condition $n \in N$, but there are a number of non-zero cases only for $4 \leq n \leq 24$. Let U be the set of sequences of x_1, x_2, x_3, x_4 which satisfy the equation (1). The cardinality $|U| = C_{n-1}^3$.

$$x_1 + x_2 + x_3 + x_4 = n. \tag{1}$$

where n – sum of four six-sided fair dice,

x_i - positive integer for each index $i \in \{1; 2; 3; 4\}$

For each index $i \in \{1; 2; 3; 4\}$ one introduces two sets of sequences x_1, x_2, x_3, x_4 which satisfy the equation (1), A_i additionally satisfies the inequality $x_i > 6$, but \overline{A}_i - the inequality $x_i \leq 6$. Using the stated notions one must find the cardinality $|\overline{A}_1 \cap \overline{A}_2 \cap \overline{A}_3 \cap \overline{A}_4|$, see (Sondore & Daugulis, 2018).

Table 4 *The answer of Ex.5 (created by the authors)*

$n \in N$	the probability of rolling an exact sum n out of the set of four six-sided fair dice
$n \leq 3$ and $25 \leq n$	0
$4 \leq n \leq 9, k=0$	$\frac{C_{n-1}^3}{1296}$
$10 \leq n \leq 15, k=1$	$\frac{C_{n-1}^3 - 4 \cdot C_{n-7}^3}{1296}$
$16 \leq n \leq 21, k=2$	$\frac{C_{n-1}^3 - 4 \cdot C_{n-7}^3 + 6 \cdot C_{n-13}^3}{1296}$
$22 \leq n \leq 24, k=3$	$\frac{C_{n-1}^3 - 4 \cdot C_{n-7}^3 + 6 \cdot C_{n-13}^3 - 4 \cdot C_{n-19}^3}{1296}$

In this step, an auxiliary secondary parameter k is introduced, k being the maximum number of roots (which are greater than 6) of equation (1). The aim of this step is to simplify the explanations of the problem-solving process.

Case $k=0$ determines subdomain $4 \leq n \leq 9$ because it is not possible that some integer x_1, x_2, x_3, x_4 is greater than 6 but the sum $x_1 + x_2 + x_3 + x_4$ still belongs to the interval $[4;9]$. Therefore for each index $i \in \{1; 2; 3; 4\}$ the cardinality of the set A_i is zero and $|\overline{A}_1 \cap \overline{A}_2 \cap \overline{A}_3 \cap \overline{A}_4| = |U| - 0 = C_{n-1}^3$.

Case $k=1$, the equation (1) may have at most one root $x_i > 6$ that determines subdomain $10 \leq n \leq 15$. The solution for placeholder $n=10$ is analysed in more detail below. At first the explanation of finding cardinality $|A_1|$ is given. For this set of sequences A_1 the root $x_1 > 6$. Assume that integer $z_1 = 6$, it is the maximal possible value for fair dice. Then $n - z_1 = 10 - 6 = 4$, the rest of the sum 4 is expressed as the sum of four terms $y_1 + y_2 + y_3 + y_4 = 4$, (where y_i are positive integers for each $i \in \{1; 2; 3; 4\}$). The root x_1 of the equation (1) will be $x_1 = z_1 + y_1 > 6$ but each y_i is not greater than 6. $|A_1| = C_3^3 = C_{n-7}^3$. Any of the other roots x_i may be greater than 6, therefore the number of redundant possibilities for $n=10$ is $\sum_i |A_i| = 4 \cdot C_{n-7}^3$. The answer for other values of n within the range $10 \leq n \leq 15$ is calculated arguing similarly. Therefore

$$|\overline{A}_1 \cap \overline{A}_2 \cap \overline{A}_3 \cap \overline{A}_4| = |U| - \sum_i |A_i| = C_{n-1}^3 - 4 \cdot C_{n-7}^3.$$

The case $k=2$ determines a subdomain $16 \leq n \leq 21$ but the case $k=3$ determines a subdomain $22 \leq n \leq 24$. The solution for these cases is analysed in more detail in (Sondore & Daugulis, 2018). The number of all possible cases is 1296. The obtained formulae are summarized for six subdomains of the parameter n in Table 4. The general formula for probability is quite complex. Ex. 5 corresponds to algebraic reasoning level 6. In this problem, the auxiliary secondary parameter k determines the number of summands in the formula of the Inclusion-Exclusion principle. The parameter k is a placeholder and its role does not change during the solution process. The role of the enumerative primary parameter n changes during the problem-solution process (placeholder, changing quantity, and generalizer). Ex. 5 also provides a way to individualize the learning process by choosing different values for the parameter n for different students.

Conclusions

A considerable number of introductory probability problems with higher-order variables - parameters have been analysed. The authors have obtained a classification of the parameters for the probability problems, which have the following characteristics: determination of the number of combinations; calculation of simple and compound probabilities. The classification depending on the type of parameters in introductory probability problems is as follows:

- primary parameters: enumerative or probabilistic;
- secondary parameters: hidden or auxiliary.

When selecting an introductory PPP with the desired parameter types and algebraic reasoning levels, a teacher can design tasks with different difficulty levels by using different parameter values. In this way, the proposed parameter classification can be useful in differentiating and individualizing the college-level study of probability theory and statistics required in the current period of distance learning. PPP's provide experience and skills in partitioning parameter ranges and finding general formulae for subcases. Reviewing the answers to the solved PPP in the textbook provides the experience to check the permissible values (domain) of the parameters.

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FORMATION OF ECOLOGICAL COMPETENCE OF FUTURE PRIMARY SCHOOL TEACHERS BY MEANS OF ENVIRONMENTAL PROTECTION

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Abstract. *The ecological crisis on a global scale (melting glaciers, explosions at nuclear power plants, pollution of rivers, seas, deforestation, harmful emissions into the atmosphere) requires radical changes in the process of its elimination. Volitional actions related to the cleansing, restoration and preservation of the natural environment are not enough, much emphasis is placed on educating a humane, environmentally conscious population capable of establishing harmonious relations with the natural environment. That is why higher education institutions face an important task – to form the environmental competence of future primary school teachers, to prepare students for the organization of environmental activities in working with younger students as a basis for shaping their environmental worldview. The article analyzes the theoretical foundations of the formation of environmental competence of future teachers, focuses on important summits, meetings, conferences, which rapidly and purposefully promote the preservation of the natural environment, stimulate the education of environmentally conscious younger generation. The aim of the article is to conduct an experimental study and establish the levels of formation of environmental competence of future teachers, based on its results to identify a model of formation of environmental competence of future teachers of higher education.*

In the course of the research we have singled out the main components (motivational, cognitive, activity, reflexive) of the formation of ecological competence of future teachers, as well as the corresponding criteria and levels. We conducted an experimental study to establish the level of environmental competence of future teachers among the leading pedagogical institutions of Ukraine: Vinnitsia Mykhailo Kotsiubynskyi State Pedagogical University, Kamianets-Podilskyi National Ivan Ohienko University and T.N. Shevchenko National University "Chernihiv Colehium". The study made it possible to complete the model of formation of environmental competence of future primary school teachers by means of environmental

activities (stages of implementation, priorities, pedagogical conditions, tools, forms). The study outlined new areas for further work.

Keywords: *ecological competence, ecological crisis, future primary school teachers, model of organization of educational process, nature protection activity.*

Introduction

The ecological crisis, from which the whole world suffers, poses a number of priority tasks to humanity, including the preservation, restoration and increase of natural resources; overcoming the consequences of environmental hazards; education of humane ecologically conscious population. All these tasks are of paramount and urgent importance, as they affect the quality of life and health of the population of the entire planet. In this regard, a deep reform policy in the field of ecology and education, special emphasis is placed on the formation of environmental competence of future primary school teachers, because their activities lay the foundations of environmental thinking of students, form an idea of natural behavior and environmental management worldview, empathy for nature. Pedagogical institutions of higher education in Ukraine are looking for effective ways, means, means of forming the environmental competence of future primary school teachers, because it is a complex process. However, we are convinced that participation in environmental activities will optimize it, make it more efficient and focused, because it brings future teachers closer to the natural environment, allows a clear understanding of environmental issues, build their own strategy to combat the environmental crisis. We believe that participation in environmental activities should be implemented during classroom, extracurricular activities, independent work of students and their pedagogical practice.

The aim of the article is to conduct an experimental study and establish the levels of environmental competence of future teachers, based on its results to identify a model of environmental competence of future teachers of higher education.

Research methods: observation of future teachers during the educational process and pedagogical practice, questionnaires, surveys, analysis of creative work, experiment.

Literature review

Domestic scientific and pedagogical experience and the experience of scientists from near and far abroad have become valuable for building an effective model for the formation of environmental competence of future primary school teachers. The Law of Ukraine "On Education" states the need to integrate the educational process for the ecological growth of students. The State Standard of Higher Education in the specialty 013 Primary education for the first (bachelor's) level emphasizes the relevance of environmental competence for future teachers.

Leading scientists made a significant contribution to the formation of ecological competence in Ukraine: K. Guz studied the formation of natural scientific picture of the world (Guz, 2004, p.123), V. Ishchenko researched the process of environmental protection and ecological safety of the population (Ishchenko, 2009, p.20), N. Kazanishena studied the preparation of teachers for ecological education of students (Kazanishena, 2011, p.87), I. Mozul researched the process of preparation of future teachers for the formation of natural science competence of students (Mozul, 2017, p.32), S. Sovhira studied the involvement of future teachers in the organization of environmental activities (Sovhira, 2008, p.54).

A special place in the system of formation of ecological competence of future teachers is given to the contribution of V. Sukhomlinsky, who in his works “School under the blue sky”, “100 tips for teachers”, “Sun Flower” gave instructions on educating children to care for nature (Sukhomlinsky, 1976).

In the Resolution adopted by the Council of Ministers of the European Union identifies the following priorities for environmental education, namely: raising public awareness of environmental safety; suggested possible ways to overcome environmental pollution, including the education of environmentally humane population; laid the foundations of full, active participation of each individual in preserving the environment (Resolution of Council of Ministers of the European Union). In 1993, the European Parliament stressed the need to introduce an environmental component in all areas of education and to prepare teachers for the environmental education of the younger generation. One of the tasks of the Fifth European Community Environment Program was to integrate environmental policy ideas into all spheres of life (The European Community Programme of policy and action in relation to the environment and sustainable development, 2005). Analysis of the educational policy of Germany, Denmark, Spain, Sweden, Finland and the United Kingdom revealed the fact that in these countries the importance of environmental education to all sectors of the population, special attention is paid to training teachers in environmental education. J. Castéra, P. Clément, F. Munoz, F. Bogner investigated the features of the influence of bachelor's education of future teachers on the formation of key competencies, including environmental attitudes, consciousness, value systems, behavior and more. The authors emphasize that environmental education plays an important role in learning, develops environmental awareness (Castéra, Clément, & Munoz, Bogner, 2018, p. 8). In his research, Forstner-Ebhard draws attention to the course of Green Pedagogy, which is spreading in Europe, and points out that the educational process should provide a holistic view of environmental issues, to form a caring attitude towards the environment (Forstner-Ebhard, 2011, p.123). According to S. Schmidt, the following teaching methods deserve special attention for the implementation of the Green Pedagogy course: problem-based learning, excursions and travel, research, use of media and elements of interactive learning, case studies, and reflective assessment of each task (Schmidt, 2005, p. 18). D. Shepardson believes that the formation of environmental competence

should begin with the study of the environment, understanding the relationships in it, empathy for animate and inanimate nature (Shepardson et al., 2007).

In accordance with the agreement on cooperation between Ukraine and the European Union, a number of agreements of famous conferences and summits were adopted and ratified (Johannesburg Declaration on Sustainable Development, 2002; the United Nations Conference on Sustainable Development, 2012; Tbilisi Communiqué – Educate Today for a Sustainable Future, 2012; UN Summit on Sustainable Development, 2015, etc.), whose priorities were not only radical action to preserve the environment, but also training teachers to educate environmentally conscious people, promoting environmentally sound behavior.

The European Union's environmental policy is aimed at restoring, preserving the environment, biodiversity and minimizing risks to the environment. The European Green Deal aims to make Europe an environmentally safe and convenient continent for the population (Environment Europe). In the course of European integration, Ukraine is trying to bring its educational and environmental policies closer to European standards.

Methodology and organization of the research

From October 2020 to December 2021, we conducted a study aimed at determining the levels of environmental competence of future primary school teachers by means of environmental protection. The research was conducted on the basis of Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University, Kamianets-Podilskyi National Ivan Ohiienko University and T.N. Shevchenko National University “Chernihiv Colehium”, it was attended by 112 future teachers of specialty 013 Primary education, fields of knowledge 01 Education / Pedagogy.

The main indicators for determining the criteria, goals and levels of environmental competence of future primary school teachers were the knowledge, skills, abilities, practical experience of working with children in the environmental field, internal conscious desire to engage in environmental activities and understanding of the need to improve their skills in this area.

In the course of the research we singled out the components and criteria for the formation of environmental competence of future teachers.

Motivational component.

Criteria: value attitude to their future professional activity; internal motivation for the organization of environmental activities in primary school.

Indicators: desire to engage in pedagogical activities; desire to perform their duties in a highly professional manner; positive attitude to the natural environment; internal need for environmentally sound behavior; the presence of a stable system of environmental motives.

Cognitive component.

Criteria: knowledge of professional disciplines; worldviews of the natural environment.

Indicators: availability of a set of knowledge in professional natural sciences; availability of a set of knowledge in psychological and pedagogical disciplines; formation of a holistic scientific picture of the world; knowledge of methods of teaching natural education and the peculiarities of its implementation in the educational environment of the primary school.

Activity component.

Criteria: ability to productive pedagogical activity; ability to methodically competently organize environmental activities in primary school

Indicators: availability of practical skills and abilities to work with children of primary school age; ability to introduce innovative pedagogical technologies in the educational process of pupils; ability to integrate educational subject areas; availability of practical skills to independently provide the educational process; ability to conduct regular and extracurricular work with pupils in the process of environmental activities; ability to carry out ecological education of pupils.

Reflective component.

Criteria: ability to creatively organize the education of primary school pupils; reflective analysis of their pedagogical activities.

Indicators: ability to creatively organize the educational process; ability to creative self-development in the process of organizing environmental activities; ability to reflect on pedagogical thinking; ability to build a strategy for the organization of environmental activities in primary school; ability to find ways of self-improvement, self-development, self-education, etc.

In accordance with the identified components, criteria and indicators, we have determined the levels of environmental competence of future teachers:

- *Low* (students' motivation to study is low, they are pragmatic about the natural environment and its needs, have consumer and entrepreneurial motives. Knowledge is fragmentary, incomplete. Future teachers use ready-made lesson outlines, act as passive observers during pedagogical practice; they do not think about further professional growth, do not reflect, do not seek acmeological growth).
- *Average* (future teachers are as positive about the organization of environmental work as they are about other pedagogical tasks. Students have knowledge of professional disciplines, but there are gaps in their scientific picture of the world. It is difficult for future teachers to apply the acquired knowledge in practice. Students have an idea of appropriate environmental behavior, but do not always do so. Future teachers are responsible for the organization of environmental activities in primary school, but can not always implement with younger students all planned. Students are aware of the need for professional growth).

- *Sufficient* (students have a strong motivation to organize environmental work in primary school. Future teachers have in-depth knowledge of psychological and pedagogical, natural sciences, methods of teaching natural education, but there are some minor gaps. Future teachers are happy to conduct science lessons, organize environmental activities. They are aware of their environmental behavior, have a well-established environmental position. Future teachers strive for self-development and self-education).
- *High* (Future teachers have a constant interest in the organization of environmental activities in working with children. Students have deep knowledge of professional disciplines. They have a stable environmental position, valuable environmental orientations, so focused and consciously carry out environmental activities. Students independently develop methodological products (summaries of lessons and extracurricular activities, didactic games, visual aids) for environmental activities. Future teachers feel the need to rethink their professional activities, engage in introspection, self-development).

To diagnose the formation of environmental competence of future teachers, we used such methods and diagnostic techniques as observation, questionnaires (diagnosis of motives for studying the disciplines of natural education) (adapted from the method of G. Kazantseva), diagnostics of pedagogical ability to organize environmental activities of future teachers (according to the adapted method I. Mozul); survey (definition of ecological installations “EkO30” (according to the method of I. Kryazh), “Ways of development” (according to the adapted method of V. Ursky)); solving ecological situations “Strategy of behavior in nature” (by O. Prutsakova and N. Kazanishena); analysis of student work, analysis of pedagogical activities of future teachers during pedagogical practice, etc. We offered these diagnostic methods to students at the ascertaining and final stages of the experiment, the tasks did not change, but the answers at the final stage in the experimental group differed significantly.

Results of the research

The study of the state of environmental competence of students took place in two stages: the first (statement stage) – from October to December 2020 and the second (final stage) – from October to December 2021 at Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University, Kamianets-Podilskyi National Ivan Ohienko University and T.N. Shevchenko National University “Chernihiv Collegium”. Students were divided into two groups: experimental (62 respondents) and control (60 respondents).

At the concluding stage of the study, we identified the importance of each component of the formation of environmental competence of future teachers and summarized the results. The final results of the study are presented in table 1.

Table 1 Formation of ecological competence of future teachers at the ascertaining stage of the experiment (created by the authors)

Groups	Low	Average	Sufficient	High
Control group	13 (21.7%)	24 (40.0%)	15 (25.0%)	8 (13.3%)
Experimental group	14 (22.6%)	26 (41.9%)	15(24.2%)	7(11.3%)

The obtained results showed that the indicators of both groups did not differ much. Most students were dominated by the average level of environmental competence (experimental group – 41.9%; control group – 40.0%); indicators of sufficient (experimental group - 24.2%; control group – 25.0%) and low (experimental group – 22.6%; control group – 21.7%) levels were almost at the same level. High-level indicators were characteristic of a small number of students (experimental group – 11.3%; control group – 13.3%). With the improvement of the results of the formation of environmental competence of future teachers, we have developed a model (Figure 1).

The model consists of a number of blocks. The aim of the model is the effective formation of ecological competence of future primary school teachers by means of environmental protection. The model consists of a number of blocks. The aim of the model is the effective formation of ecological competence of future primary school teachers by means of environmental protection.

The formation of environmental competence should be based on the following principles of learning: student-centeredness, science and connection with life, the unity of theoretical and practical training, continuity, concentricity, integration.

Formation of ecological competence of future teachers should be carried out through the following stages: value-motivational (formation of sustainable motivation and value orientations to study a set of disciplines of teaching methods of natural education), semantic-cognitive (formation of ability to search, analyze, rethink, compare information), procedural-activity (formation of the ability to use the acquired knowledge in the organization of environmental activities), creative-reflexive (ability to creatively apply the acquired knowledge in practice, finding ways of self-education).

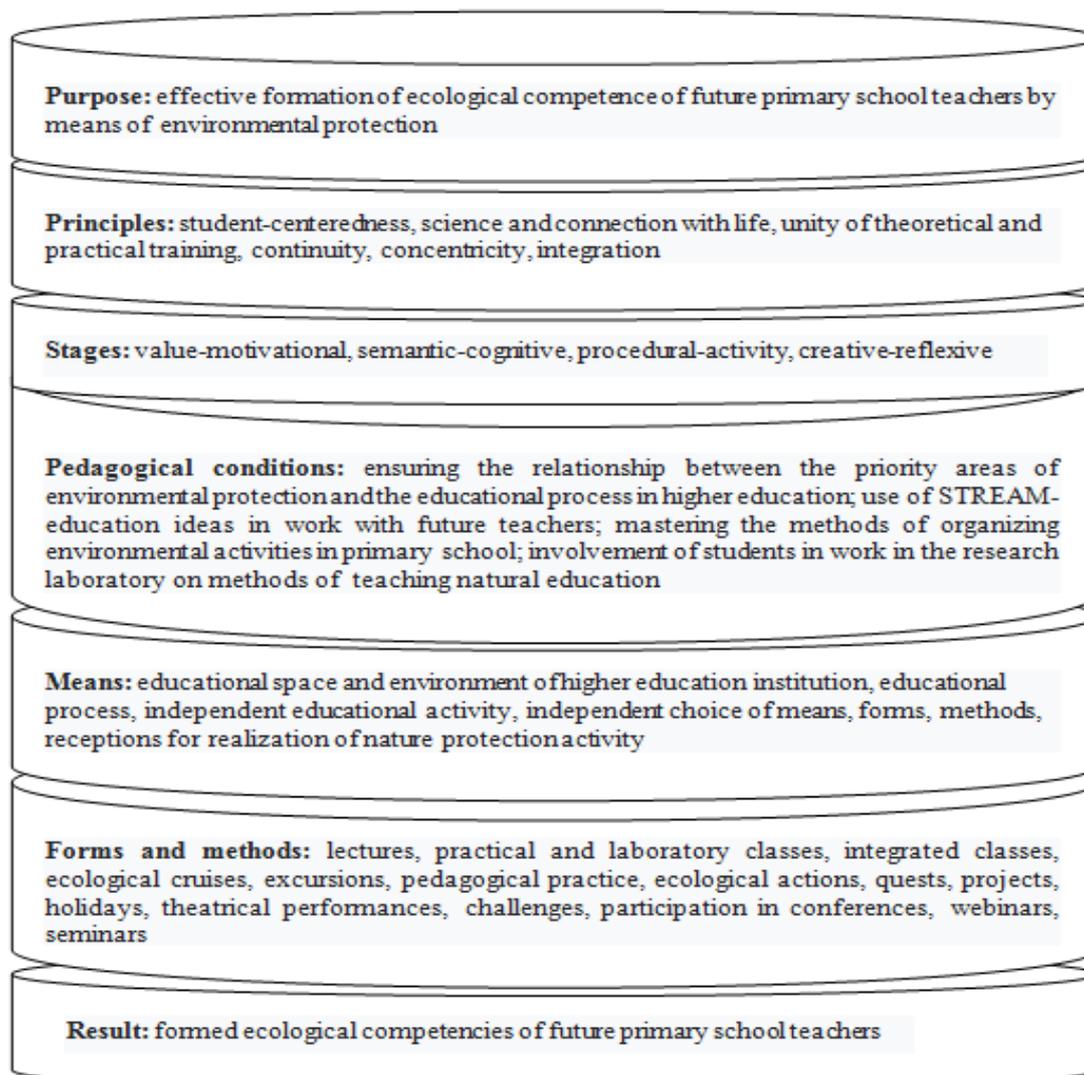


Figure 1 Model of formation of ecological competence of future primary school teachers (created by the authors)

In the course of the research we singled out the following pedagogical conditions. The first condition – *ensuring the relationship between the priority areas of environmental protection and the educational process in higher education*. Create a favorable educational space for environmental activities, encourage future teachers to find new ways to solve environmental problems; to create quasi-professional situations for students to acquire professional skills in the organization of environmental activities in working with younger students. The second condition – *use of STREAM-education ideas in work with future teachers*. STREAM-education (acronym Science, Technology, Reading + WRiting, Engineering, Art, Mathematics). Scientists K. Krutii & I. Stakhova argue that STREAM education is a new integrative approach to the education of future teachers. The use of STREAM-education ideas allows to form a holistic and complex scientific picture of the world of the future teacher (Krutii & Stakhova, 2018, p. 391). Forming environmental competence, the teacher should

offer students new productive knowledge, use innovative technologies, encourage future teachers to express their opinions, develop environmental measures with younger students, clearly build an algorithm for environmental protection in primary school and calculate its results mathematically and competently. through the works of artists, empathize with the environment. The third condition – *mastering the methods of organizing environmental activities in primary school*. It is important for a teacher to have interactive technologies and appropriate techniques (“Brainstorming”, “Associative Bush”, “Openwork Saw”, “Carousel”, “Fish Bowne”, “Two – Four – All Together”, “Teaching – Learning”, “Circle of ideas”, “Loan position”, “School of Thoughts”, “Debate”, etc.) for a better understanding of the problems and the state of the environment); information and communication technologies to illustrate educational material, create animated environmental products (e-books, booklets, websites, blogs, cartoons); project technologies (for the creation of environmental projects), game technologies (for the interest of younger students in environmental activities), etc. The fourth condition – *involvement of students in work in the research laboratory on methods of teaching natural education*. Such a laboratory can be organized in the auditorium of any educational institution and filled with appropriate equipment. In our opinion, such a laboratory must have a corner of wildlife, located taking into account the peculiarities of life of all its inhabitants (plants, animals, reptiles, insects, etc.). Also, the laboratory for methods of teaching natural sciences may contain a set of literary sources (scientific, methodological, periodicals, recommendations) that will help future teachers to fully understand the whole world of science. Poetic works of famous writers and poets, reproductions of paintings by famous artists, audio recordings of musical works by composers, schemes, posters, tables, models of environmental issues can be added to the created library. Laboratory of methods of teaching natural education provides for the presence of a center for experiments, practical work, project tasks. One of the components of the laboratory can be an exhibition of student works (natural history notebooks, encyclopedias, dictionaries, calendars, crossword puzzles, scanwords for junior high school students in science, etc.).

The following tools can be used to form the environmental competence of future teachers: educational space and environment of higher education institution, educational process, independent educational activity, independent choice of means, forms, methods, receptions for realization of nature protection activity.

In the process of forming the environmental competence of future teachers, we offered lectures, practical and laboratory classes on: “Environmental problems of Ukraine and the world”, “Directions of environmental education of primary school children”, “Features of environmental activities in working with primary school students”, “Environmental activities as a means of educating the careful attitude of younger students to the natural environment”; ecological trails “Step to meet nature”, “Nature is our home”; excursions to the park, forest, pond,

botanical garden, zoo, terrarium; quests: “The Magic World of Nature”, “Vinnytsia”; training practices, field meetings; ecological actions “Save the planet”, “Save your home”, ecological auctions “Help animals in winter”, “Plant your tree”, etc.; webinars “Tips for teachers on environmental protection of students”, “Environmental education of students”, etc.

Using the proposed model, it is possible to achieve effective results in the formation of environmental competence of future teachers. Proof of this is the final stage of the study, which was launched in October 2020. From October 2020 to October 2021, the model of formation of ecological competence proposed by us was implemented in the educational process of students of the experimental group, and future teachers of the control group studied according to the usual curricula. Due to the COVID-19 pandemic and blended learning, some forms of work for the students of the experimental group were conducted online, but their goal was fully realized. The results of the final stage of the experiment are presented in table 2.

Table 2 Formation of ecological competence of future teachers at the final stage of the experiment (created by the authors)

Groups	Low	Average	Sufficient	High
Control group	11 (18.3%)	22 (36.7%)	17 (28.3%)	10(16.7%)
Experimental group	5 (8.1%)	27 (43.5%)	18(29.1%)	12(19.3%)

The obtained results showed that the indicators of the experimental group qualitatively exceeded the indicators of the control group at the final stage of the experiment, so the low level of environmental competence was characteristic of 18.3% of students in the control group and 8.1% of the experimental group; the average level was 36.7% of future teachers of the control group and 43.5% of the experimental group; a sufficient level was typical for 28.3% of students in the control group and 29.1% of the experimental group; a high level was characteristic of 16.7% of the control group and 19.3% of the experimental group.

The obtained results showed that the low rate of formation of environmental competence decreased in the students of the experimental group at the final stage of the experiment by 14.5%, while the rate of the control group by only 3.4%; the average of the experimental group increased by 1.6%, while the control group decreased by 3.3%; the indicator of sufficient level in the experimental group increased by 4.9%, and the control group by 3.3%; the high level in the experimental group increased by 8.0%, and in the control group by only 3.4%. Comparative analysis of student performance at the ascertaining and experimental stages of the experiment is presented in figure 2.

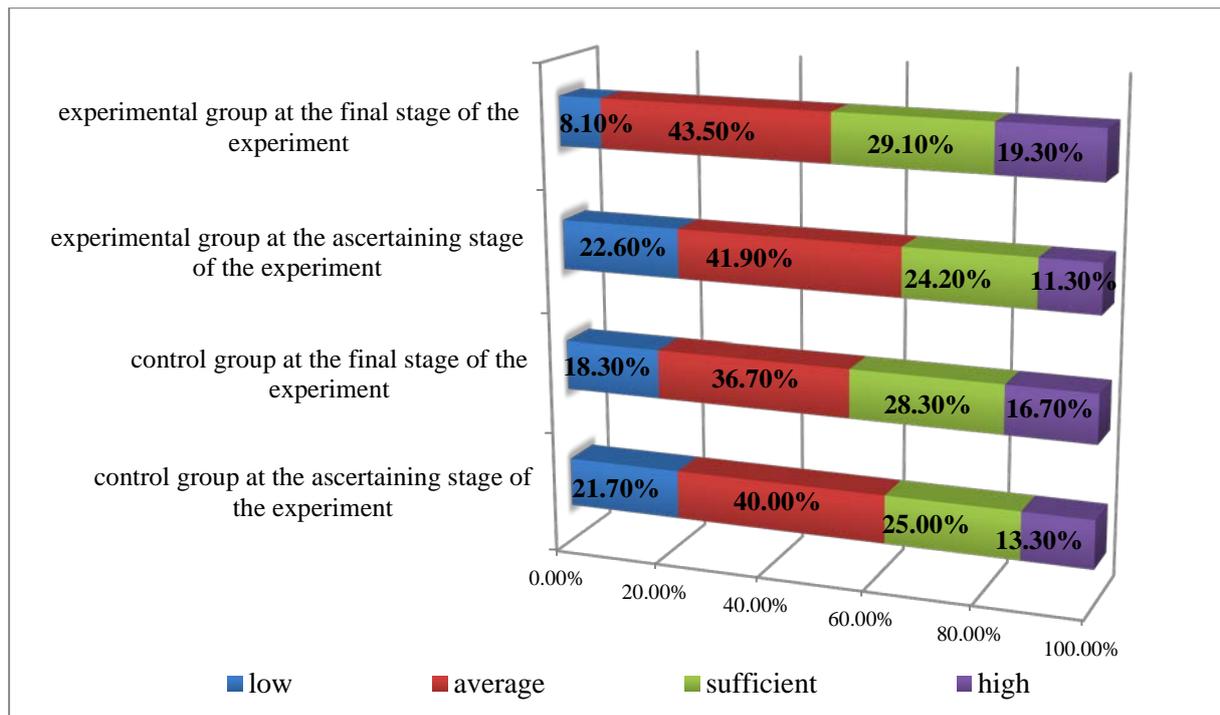


Figure2 Comparative diagnosis of the levels of formation of environmental competence of future teachers (created by the authors)

The obtained results showed that our proposed model of forming the readiness of future teachers to form the environmental competence of future teachers is effective.

Conclusions

The formation of environmental competence of future teachers is a complex process that is relevant to the entire planetary community. It has been studied by domestic and foreign researchers, this issue has been repeatedly raised at European and world summits, conferences and seminars. Ecological competence of a teacher is the ability to effectively apply the acquired knowledge, skills, acquired experience in order to humane environmental education of students. Participation in environmental activities (actions, trails, quests, patrols, seminars, conferences, etc.) will help to quickly understand environmental problems, will stimulate the search for solutions to solve them.

We have developed a model for the formation of environmental competence of future teachers by means of environmental protection. It consists of the basic principles of teaching, stages, pedagogical conditions, tools, forms and methods. We proved its effectiveness in an experimental study, which consisted of two stages – a statement and a final one. The results obtained by the experimental group exceeded the results of the control group at the final stage of the experiment. Thus, we can say that by implementing our proposed model in the educational

process of future teachers can increase their environmental competence, and this will be the basis for the education of a humane conscious population.

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PEDAGOGICAL IMPROVISATION IN FORMING PROFESSIONAL COMPETENCE OF THE FUTURE TEACHERS-PHILOLOGISTS

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Abstract. *The article analyzes the concept of pedagogical improvisation, clarifies its content, functions and types, determinates its role in developing professional competence of students-philologists. During the research we used the following methods: observation, analysis, interviews, mathematical statistics. The aspects of preparation of future teachers-philologists for pedagogical improvisation are highlighted, and their preparedness criteria are defined. The methodological tools of research into the level of students' ability to pedagogical improvisation are selected. The relevance of the topic is confirmed by the results of the survey of the students-philologists who are diagnosed with the level of ability to pedagogical improvisation both in the conditions of the traditional form of education and in the distance learning mode. 205 students of the specialties 035 «Philology» and 014 «Secondary Education» (Ukrainian language and literature) of Vinnitsia Mykhailo Kotsiubynskyi State Pedagogical University took part in the experiment. By means of experimental activities, the features of the influence of the pedagogical improvisation on the formation of professional competence of future teachers-philologists have been identified. It was found that the level of ability to pedagogical improvisation of students-philologists in the conditions of traditional education is higher than in the conditions of excessive stay in the virtual educational space. A step-by-step algorithm of using improvisation for development of the future teachers-philologists' professional competence in the context of blended learning is developed.*

Keywords: *creativity; intuition; pedagogical improvisation; professional competence; teacher education.*

Introduction

The state innovative development processes are aimed at the formation of the humanitarian elite, improving the quality and competitiveness of national education, its integration into the international scientific and educational space, as well as preservation and dissemination of national, cultural and educational traditions. Fiction literature as a factor of identity and civilizational development

of the nation contributes to meeting human needs in socio-cultural, intellectual, spiritual and creative development. According to this the role of teachers of Ukrainian language and literature is growing. They are deeply aware of their national roots, educate young people by means of artistic literature, able to transform the study of literary works into the process of turning students into creative individuals with clear worldviews, develop their high moral values and intellectual qualities, form the students' wide range of emotional and sensory sphere. Therefore, the requirements to the level of professional competence of the teachers-philologists are getting higher. The integral part of this competence is pedagogical improvisation which contribute to self-actualization and assertion of individual style of work.

Future teachers of Ukrainian language and literature need to develop the ability to respond promptly to unpredictable situations, the ability to "show flexibility in class and, when required, to restructure and adapt quickly to better perform their tasks" (Kutsevol, 2006, p.114). The teacher interacts with the ever-changing world of his/her students and is often forced to make instant decisions (Kutsevol, 2006). Unplanned, unexpected situations for the teacher can arise both in the process of educational activities and in the field of educational interaction and personal communication with students. This requires teacher-philologist to respond and react quickly to new circumstances and relationships.

Multifactorial dynamic circumstances of the education, as well as individual and creative capabilities of the philologist, become determinants of one of the important components of his/her creative methodological activity, namely improvisation, which is fully realized at the stage of conducting the lesson.

The aim of the article is to analyze the concept of pedagogical improvisation, characterize its content, functions and types, determinate its role in developing professional competence of students-philologists, and to diagnose the level of students' ability to pedagogical improvisation.

Research methods include observation, analysis, interviews, mathematical statistics.

Literature Review

The need for improvisation was emphasized by domestic scientists (Bashmanivska, 2016; Lavrinenko, 2009; Semenoh & Bazyl, 2008; Sukhomlynska, 1990; Sukhomlynska, 2002). Many methodists (Buhaiko & Buhaiko, 1963; Holub, 2008; Kutsevol, 2006; Miroshnychenko, 2000; Pasichnyk, 2000; Pentyliuk, 2014; Stepanyshyn, 1995; Voloshyna, 1995) underlined the need for improvisation during Ukrainian language and literature lesson. However, this phenomenon has not yet been the subject of special research by scientists or methodists, and thus it is relevant for scientific research.

V. Kan-Kalyk and V. Kharkin made a certain contribution to the understanding of the problem, considering some aspects of pedagogical improvisation, its stages and varieties (Kan-Kalyk, 1978; Kharkin, 1992).

O. Ben-Horin investigated the problem of theoretical and practical knowledge about strategies and techniques for training teachers for pedagogical improvisation (Ben-Horin, 2016). The author provided insights on how a theoretical model can be developed and how future trainings on improvisation in the classroom might be based on it. O. Ben-Horin summed up the importance of improvisation as an integral part of teacher education and the need of its professionalization (Ben-Horin, 2016).

H. Borko and C. Livingston state that there is a relationship between teachers' knowledge structures and the improvisational characteristics of their interactive teaching, and that it is helpful for understanding the process of learning to teach (Borko & Livingston, 1989). The researchers draw our attention to relating improvisational performances of expert and novice teachers to specific differences in their knowledge structures (Borko & Livingston, 1989). A. Jagiello-Rusilowski provided insights on how improvisation experiences work with particular types of personality and agency of the authors (Jagiello-Rusilowski, 2016) and it can be used in forming professional competence of the future teachers-philologists.

In R. Sawyer opinion, teaching is an improvisational activity (Sawyer, 2011). The researcher proclaims that finding the balance of structure and improvisation are the essence of the art of teaching, so it's the challenge for every teacher and every school and that can optimize student learning (Sawyer, 2011).

S. DeZutter examines the problem of importance of an improvisational view of teaching to the educational needs of the twenty-first century (DeZutter, 2011). The author outlines the strategies that "teacher educators can use to help their students think productively and professionally about the improvisation that teachers do" (DeZutter, 2011, p.28). One more important statement is that teaching should be improvisational because "to teach effectively teachers must improvisationally scaffold evolving students thinking" (DeZutter, 2011, p.28).

R. Beghetto and J. Kaufman outline the problem of how creativity and disciplined improvisation are related, and how a teacher might plan a lesson so that opportunities to improvise naturally arise (Beghetto & Kaufman, 2011).

T. Philip assures that improvisation is inextricably connected to practice and illustrates that the marginalization of improvisation limits opportunities for novice teachers to learn the relational aspects of teaching (Philip, 2019). The author developed the concept of principled improvisation and demonstrated its unique affordances for particular forms of novice teacher learning (Philip, 2019).

K. Holdhus et al. consider the concept of improvisation as a professional skill for teacher educators (Holdhus et al., 2016). Several researchers differentiate four different aspects of improvisation, which appear to be of crucial importance in

any discussion about improvisation as a key concept in education. They are communication and dialogues; structure and design; repertoire; context (Holdhus et al., 2016). K. Mæland and M. Espeland agree with such differentiation of four specific characteristics of improvisation in teaching (Mæland & Espeland, 2017). They attract the attention to the severe problems that appear in teachers' improvisational practices, e.g. with regard to their knowledge base, the accountability agenda and teacher autonomy. The researchers state that improvisation should be part of teacher education (Mæland & Espeland, 2017).

L. Higgins and R. Mantie point out the great role of improvisation in the classroom, especially on music lessons (Higgins & Mantie, 2013). According to the extensive examination of scholarship about improvisational practices, the authors propose such three conceptualizations as ability, culture, experience, that can serve to guide the teaching of improvisation (Higgins & Mantie, 2013).

Thus, according to the analysis of scientific papers, the professionalization of pedagogical improvisation has significant potential in forming professional competence of future teachers-philologists. But despite the interest of scientists in pedagogical improvisation requires further researches. The analysis of scientific publications proves that there is the inefficient use of improvisation in practice; the teachers resort to it sporadically and spontaneously, without taking into account the real need and objective conditions of the educational process, as well as the level of their own training. Unfortunately, the attitude to improvisation as an accidental rather than a natural phenomenon of pedagogical activity is widespread, so it is ignored, deliberately avoided or perceived as a sign of teacher's poor preparation for the lesson, something harmful and unacceptable. Therefore, it is important to study methodologically and pedagogically appropriate ways of effective training of students-philologists with the help of pedagogical improvisation.

Methodology

To summarize the results of the study used analysis, description of the current state of the research problem, generalization of theoretical approaches to understanding the basic terms.

The formation of the readiness of future teachers for pedagogical improvisation was performed during the study of disciplines "Methods of teaching literature", "Methods of teaching Ukrainian language", "Fundamentals of pedagogical skills". Diagnosis of the level of ability of future teachers to pedagogical improvisation both in the conditions of the traditional form of education and in the distance learning mode was carried out during the passage of students of philology pedagogical practice in secondary schools in Vinnytsia and Vinnytsia region. 205 students of the specialties 035 "Philology" and 014 "Secondary Education" (Ukrainian language and literature) of Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University took part in the

experiment. To determine the level of ability to pedagogical improvisation used observation of conducted lessons by students, standardized interviews and surveys of students-philologists and their teachers-curators at schools. The research methods used were aimed at studying the level of components of future philologists' readiness for improvisation (motivational and axiological; professional and pedagogical; individual and creative). Statistical methods of processing the research results were used.

Discussion and Results

A. Jagiello-Rusilowski referred to the results in Keith Johnstone works on improvisation and gave its definition as "suspended disbelief" spontaneous actions and dialogues (Jagiello-Rusilowski, 2016). V. Kharkin characterizes improvisation as "an act in the course of which the performance coincides or immediately follows the creation of an objectively or subjectively new thing, being one of the elements of the teacher's activity and at the same time a peculiar mechanism of transformation of pedagogical knowledge, skills, and techniques in pedagogical creative action" (Kharkin, 1992, p.4). In our opinion, V. Kan-Kalyk's concept is quite exhaustive: "Improvisation is the teacher's ability to assess the situation and actions of students quickly and correctly, to make decisions immediately, sometimes without prior logical reflection, based on experience, pedagogical and social knowledge, erudition and intuitive search, and to embody it in communication with children organically, sensitively reacting and correcting his/her actions" (Kan-Kalyk, 1978, p.242).

Pedagogical improvisation is defined as "the activity of a teacher or educator carried out during pedagogical communication without prior comprehension or reflection", its essence is to respond quickly and flexibly to the emergence of pedagogical tasks (Kutsevol, 2006, p.277).

Thus, the analysis of theoretical studies and pedagogical experience gives grounds to claim that pedagogical improvisation is an integral part of methodical activity, which is impossible without the ability to organically implement the lesson project and quickly adjust the implementation of planned learning situations depending on the circumstances and teachers' creative mood.

The improvisation fundamental is a creative dominant containing the emotional excitability and sensitivity, developed intuition, inspiration, attention, imagination, empathy, observation, as well as the ability to generate original solutions. We define intuition as the basis of the improvisation mechanism, the process of direct acquisition of knowledge through a holistic comprehension of a problem situation without discursive inference and proof.

Several researchers (Aadland, Espeland, & Arnesen, 2017) describe the concept of improvisation as a professional teaching skill. In their article they categorized a tentative typology, of what professional improvisation in teaching and teacher education might be. The researchers state that a tentative typology of

professional improvisation should include sequential, dialogic and exemplary improvisation, and that a description and introduction of such a typology could be a first step towards making improvisational skills accessible to the future teachers (Aadland, Espeland, & Arnesen, 2017).

Scientists (Kan-Kalyk, 1978; Kharkin, 1992; Lavrinenko, 2009) highlight the following types of improvisation:

- a) by the form of embodiment – verbally (remarks, monologue, dialogue, conversation), physical (gesture, facial expressions, dance, look), verbal-physical (game, staging);
- b) by preparation structure – natural (unprepared), artificial (based on preliminary preparation), mixed;
- c) by source: external – caused by external factors (unexpected class reaction, atypical learning situation); internal – the result of an unexpected association, analogy, memory related to the teacher’s personal and professional experience; identification of the dependencies and connections in the logic of the material presentation that were not updated and taken into account in the course of preparation of the draft lesson; motivated by self-analysis, which occurs in parallel with the learning process and necessitates its adjustment; the result of an intuitive search for the best solution to the learning situation;
- d) by the degree of novelty – standard (in the implementation of which involves the methods and actions from the generally accepted educational paradigm), creative (containing innovative methods and techniques of educational activities or a non-standard combination of already known methods);
- e) by connection with the main components of the educational process, aimed at adjusting the methodological structure of the lesson; at the transformation of its content; at adjusting the purpose of the lesson.

Embodying and adjusting the lesson project, pedagogical improvisation performs the following functions (Holub, 2008; Kan-Kalyk, 1978; Kharkin, 1992):

- 1) communicative-organizational, thanks to which the teacher establishes contact with students, organizes, directs and controls the educational process;
- 2) motivational and cognitive, which is reflected in the enrichment of the lesson project content, increases and maintains students' interest in the subject by assimilating additional information that deepens their knowledge;
- 3) professional and activity, which allows the teacher to overcome confusion, awkwardness in complex, multifactorial situations of pedagogical communication, helps to master and direct them, promotes

the formation of individual style of the teacher's activity, his/her professional skills and culture.

We are convinced that the future teachers-philologists need to prepare for improvisation. A pedagogical improvisation consists of the following components:

- 1) motivational and axiological – needs and motives;
- 2) professional and pedagogical – professional and pedagogical knowledge, erudition, skills and abilities, general cultural thesaurus;
- 3) individual and creative – mental processes and personal qualities, ability to creativity.

Analysis and comparison of empirical data on the level of preparedness of future teachers-philologists to pedagogical improvisation was carried out on the basis of pedagogical practice both in the conditions of the traditional form of education (1st semester of 2021-2022 academic year) and in the distance learning mode (2nd semester of 2020-2021 academic year).

Based on the identified components of readiness for pedagogical improvisation, we have identified the criteria, indicators (Table 1) and levels of the future teachers of Ukrainian language and literature preparedness for pedagogical improvisation.

Table 1 Criteria and indicators of students-philologists' preparedness for pedagogical improvisation (created by the authors)

	Criteria	Indicators
1.	Motivational and axiological	- the desire to evoke students' interest in literature, to develop their skills of a qualified reader, capable of adequate perception of the author's position and a subtle sense of the beauty of the poetic word; - the desire to improve the content and methodological structure of the lesson; - organization of work with students on the terms of co-creation, not just the transfer of off-the-shelf knowledge.
2.	Professional and pedagogical	- intellectual readiness (knowledge of history, theory of language and literature, literary criticism and comparative studies, pedagogy and psychology) and the ability to operate with this knowledge during the lesson; - fluency in innovative teaching methods and technologies; - the ability to manage the future teacher-philologist's own emotional well-being and the feelings of his / her students; - the ability to evaluate the results of improvisation correctly and to make appropriate adjustments to his / her pedagogical activities.
3.	Individual and creative	- focus on creative performance of professional activity; - a certain level of personal qualities (ingenuity, balance, emotionality, self-criticism, tact, tolerance, sensitivity, sense of humour, ability to overcome stiffness, tension, fear, lack of time). - the ability to assess the situation on the lesson quickly and adequately, and willingness to make decisions to solve the learning problem on the basis of experience, knowledge, erudition and intuition.

Each of the above criteria has the following levels: low; medium; high.

The following Table 2 shows a variant of verification of the obtained data on the level of preparedness of future teachers to pedagogical improvisation in the conditions of the traditional form of education (1st semester of 2021-2022 academic year). The percentage score for each of the criteria and its levels was calculated as the arithmetic mean of the scores obtained for each above-mentioned diagnostic (determined level of each student according to the criteria based on observation of lessons, counted results of interviews and surveys of students-philologists and their teachers-curators in secondary schools). Thus, the percentage in Table 2 is obtained.

The analysis of the research results made it possible to derive the average indicators of the levels in table 2. Thus, the level of preparation of future teachers-philologists for pedagogical improvisation in two analyzed learning mode was different. The obtained results indicate that according to the traditional form of education, future teachers-philologists have sufficiently developed levels of preparation for pedagogical improvisation.

Table 2 Verification of the Obtained Data on the level of students-philologists preparedness to pedagogical improvisation, in % (created by the authors)

Conditions / Levels	Traditional form of education (1st semester of 2021-2022)			Distance learning mode (2nd semester of 2020-2021)		
	High	Medium	Low	High	Medium	Low
Motivational and axiological	55,1	36,2	8,7	23,1	50,3	26,6
Professional and pedagogical	19,4	59,3	21,3	14,5	45,8	39,7
Individual and creative	28,8	59,4	11,8	14,2	48,6	37,2
Average indicator	34,4	51,6	14	17,3	48,2	34,5

But during the distance learning mode the level of preparation of students-philologists for pedagogical improvisation has decreased and has become insufficient to solve current problems on lessons. The obtained data can be clearly seen with the help of Figure 1.

In the distance learning mode, the future teacher-philologist is deprived of live communication and is not able to fully realize the individual's need for emotional contact. This is one of the main reasons that the level of ability to pedagogical improvisation of students in the conditions of the traditional form of education is higher than in the conditions of excessive stay in the virtual educational space.

It is worth to say that today the virtual educational space is not something ephemeral, but increasingly become a reality and encourages educational institutions to find new solutions. One of such solutions may be blended learning, which is the integration of real and virtual educational environments and can

create the conditions for effective formation of future teachers' professional competence during Covid-19.

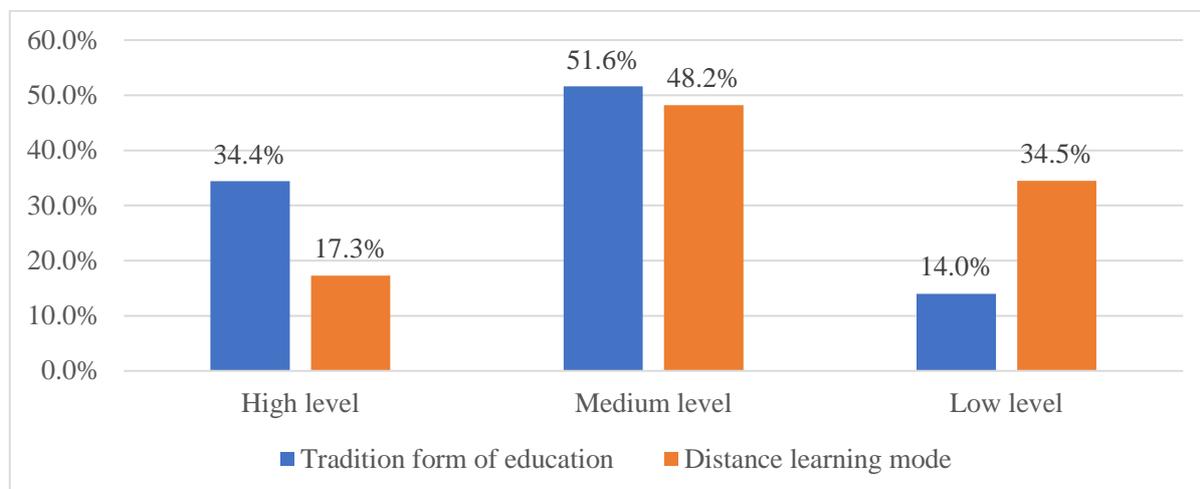


Figure 1 Changes in levels of future philologists' preparedness to pedagogical improvisation under different learning mode (in %) (created by the authors)

Considering the above, a step-by-step algorithm of using pedagogical improvisation for the development of future teachers-philologists' professional competence in the context of blended learning may be as follows:

- 1) profound comprehension of theoretical knowledge about the phenomenon of pedagogical improvisation, its structure and stages;
- 2) analysis of the lessons conducted by teachers or students with the use of improvisation;
- 3) self-diagnosis of the level of students' own improvisational skills and psychophysical preparedness to improvise;
- 4) retrospective analysis of own lessons (conducted during pedagogical practice or during the study the above-mentioned disciplines) on the expediency of improvisation;
- 5) training of creative qualities required for the improvisation and ability to methodical creativity of the future teacher-philologist.

Given the aphorism that the best impromptu is prepared one, future teachers are advised to develop improvisational skills, starting with the preparation of artificial, and then mixed improvisation, which can later grow into a fluent natural improvisation.

Conclusions

Thus, pedagogical improvisation is not an accidental impromptu. No matter how instantaneous the reaction to a new situation is, it rises on the basis of accumulated data and a conscious search for a solution to the problem like the hidden tip of an iceberg. Creative teachers, in whose arsenal improvisation is a

frequently used technique, recognize the dialectical combination of prior logical training and intuitive enlightenment in it. Pedagogical improvisation not only does not contradict the project of the lesson, but is its integral component, form and means of embodiment, a prerequisite for accurate hitting the target.

Thus, the study of the content, functions, and types of pedagogical improvisation naturally leads to the conclusion that pedagogical improvisation as a creative component of the teacher's work exists only in conjunction with established, standard, normative elements of the educational process.

The experimental results clearly indicate the advantages and disadvantages of distance learning mode, and the main reasons for changes in levels of students-philologists' ability to pedagogical improvisation. A step-by-step algorithm of using pedagogical improvisation for development the future teachers-philologists' professional competence in the context of blended learning are proposed.

Thus, a significant role on the formation of professional competence of future teachers-philologists plays his/her improvisational skills. It is worth to say that effective pedagogical improvisation is based on a strong scientific and theoretical basis, teacher's fluency in literature, good psychological, pedagogical and methodological training, knowledge of the current programs, textbooks, manuals, and the best pedagogical practices. So, fluent pedagogical improvisation is possible only in the activities of a highly qualified future teacher who has a thorough knowledge of Ukrainian and foreign literature, provides factual richness and variability of the lesson content, drawing parallels, examples from the works of domestic and world literature.

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TVET TEACHER TRAINING IN SOUTH AFRICA: LITERATURE REVIEW

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Abstract. *In the light of the annually increasing TVET learners' enrolment numbers, TVET lecturers are central in TVET institutions. However, TVET teachers' training in South Africa is under-explored. The research aim is to analyse literature on TVET teachers' training in South Africa underpinning the elaboration of directions of further research. Literature review served as the research method was implemented in November-December 2021. The obtained data were structured in accordance with the previously established criteria. Summarising content analysis was performed. The conclusion is that the research done in the field of TVET lecturers' training programmes in South Africa is fragmentedly presented to the scientific community. The structuring content analysis allows finding that the research in the field of TVET lecturers' training programmes does not address TVET lecturers' digital skills despite their impact on human being everyday life in the light of COVID-19 pandemic. Another finding is the entrepreneurship education is not embedded into TVET lecturers' training programmes, too. Future work will include the implementation of empirical studies in the field of the analysis of TVET training programmes in South Africa. The novelty of the research is reflected in the directions of further work.*

Keywords: *Competences, Literature review, Technical and Vocational Education and Training (TVET), TVET lecturer, training programme, types of learning, South Africa.*

Introduction

The often-cited statistic of TVET graduate unemployment in South Africa is 33% (Mama, 2019). The unemployment rate amongst Business and Engineering graduates in South Africa is even 47% (Mama, 2019). The COVID-19 pandemic has exacerbated South Africa's labour market woes. Figure 1 shows the official unemployment rate among young people aged 15 – 34 years in South Africa in 2021 (Statistics South Africa [Stats SA], 4 June 2021). Figure 2 demonstrates the number of young people aged 15-24 who were not in employment, education and training (NEET) in South Africa (Stats SA, 4 June 2021).

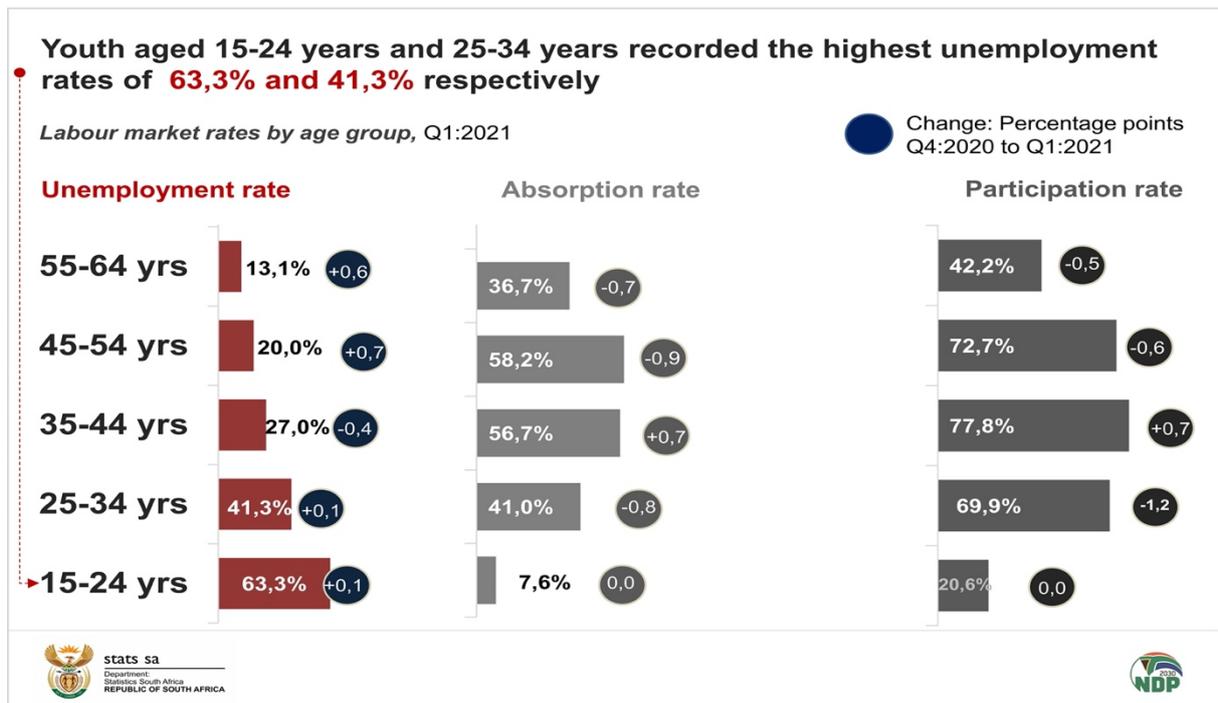


Figure 1 The official unemployment rate among young people aged 15 – 34 years (Stats SA, 2021)

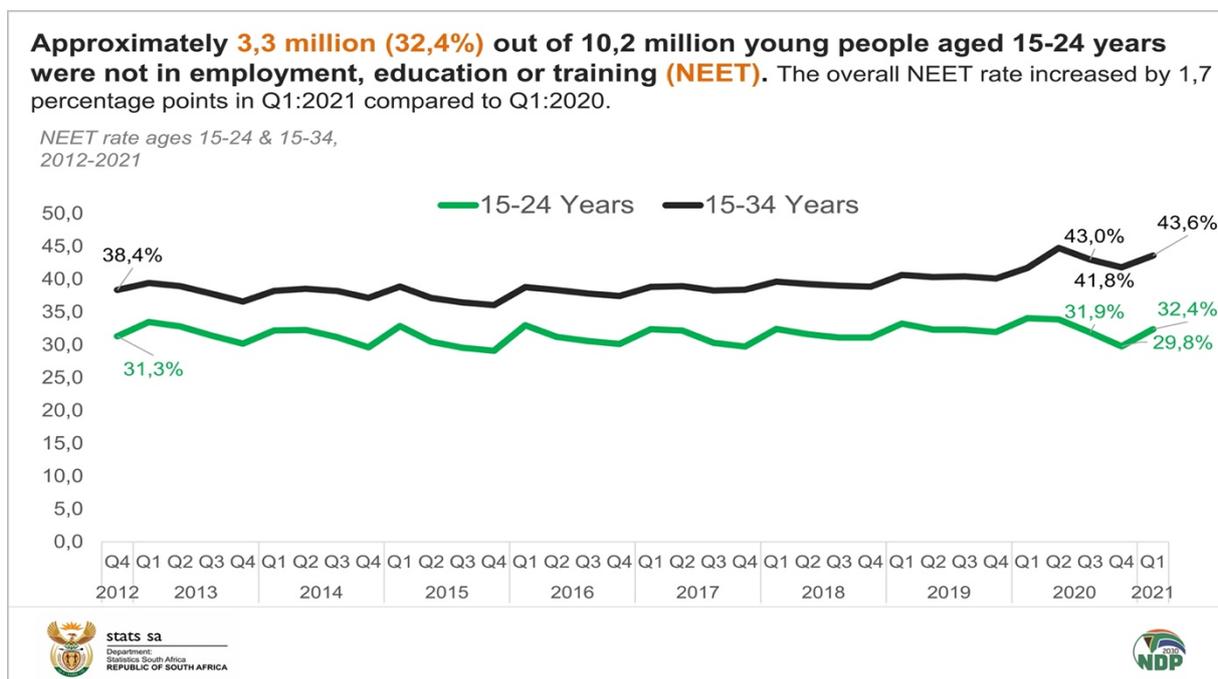


Figure 2 The number of young people aged 15-24 who were not in employment, education and training (NEET) (Stats SA, 2021)

The expansion of TVET has long been advocated as a solution to the problem of youth employment (Department for Higher Education and Training [DHET], 2021).

Thus, TVET in South Africa is a key policy priority as TVET plays a pivotal role in developing a knowledgeable and skilled citizenry who are able to contribute effectively to the social and economic development of the country (DHET, 2013).

Since the demographic development in South Africa is positive (Stats SA, 19 July 2021), Technical and Vocational Education and Training (TVET) in South Africa is attracting concerted efforts from policy-makers, scientists and practitioners, employers and other stakeholders. Hence, TVET sector is to rise the enrolment numbers from 688.028 students in 2017 to 2.500.000 students in 2030 (DHET, 2019). In these conditions, TVET teachers, also known as lecturers, are central to educational activity in institutions that offer TVET (DHET, 2013). However, TVET teachers' training in South Africa is under-explored and requires more researchers' attention.

The research aim is to analyse literature on TVET teachers' training in South Africa underpinning the elaboration of directions of further research in the field of TVET training programmes for TVET lecturers.

The research method is literature review. Literature review was selected as it serves as the grounds for future research and theory (Snyder, 2019) in the field of TVET lecturers' training programmes. The obtained data will be structured in accordance with the previously established criteria. Summarising content analysis will be performed.

The novelty of the research is reflected in the directions of further work.

Literature Review

A vision is required in order to build a TVET teacher training programme. (Oluwajodu, Blaauw, Greyling, & Kleynhans, 2015). South African Policy on Professional Qualifications for Lecturers in Technical and Vocational Education and Training (DHET, 2013) serves as a framework of training programmes for lecturers in the TVET system.

According to DHET (2013), a training programme results in TVET lecturers' competences reflected in Table 1.

Table 1 TVET lecturers' competences (DHET, 2013)

Nr.	Competence	Sub-competence
1.	Subject knowledge	-How to teach -How to select, sequence and pace content in accordance with both subject and learner needs -How to integrate teaching of knowledge, practice and affective attributes
2.	Understanding of the TVET context in South Africa	-Policy environment -Contextual realities -Practice adjustment

3.	Knowledge of who their learners are	-Socio-economic background -Age -Culture -Life and work experience -Learning styles and aspirations -Special education needs -Accommodation of learner diversity
4.	Effective communication in the language of learning and teaching	-Speaking - Reading -Writing
5.	Effective management of teaching and learning environments	-Learning enhancement
6.	Learner assessment in varied and reliable ways	-To use the results of assessment to improve learner's learning -A variety of types of feedback - Improvement of their (TVET lecturer) own practice
7.	ICT literacy	-Competent user of ICTs -To integrate ICTs in an effective manner in teaching and learning
8.	Workplace knowledge demands	-To equip learners with the subject knowledge to meet the workplace demands
9.	Positive work ethics	-Appropriate values -To enhance and develop the vocational teaching profession
10.	Critical reflection	-To reflect in theoretically informed ways - In conjunction with their professional community and colleagues, -To reflect on their own practice in order constantly to improve it and adapt it to evolving circumstances

For the enhancement of TVET lecturers' competences, training programmes are to be based on different types of learning described in Table 2.

Table 2 Types of learning in TVET training programmes (DHET, 2013)

Nr.	Type of learning	Learning components
1.	Disciplinary learning	-The study of education and its foundations: philosophy, psychology, politics, economics, sociology and history of education; cross-cutting themes (professional ethics related to knowledge and relationships between, self and others in the life) -The study of specifics and specialised subject matter relevant to academic, occupational or vocational fields
2.	Pedagogical learning	-Principles, practices and methods of teaching -General pedagogical knowledge (learner, vocational education, learning, curriculum, instructional and assessment strategies, etc)

		<ul style="list-style-type: none"> -Specialised pedagogical content knowledge (how to represent concepts, methods, rules and practices, etc) -Inclusive education - Barriers to learning
3.	Practical learning or Work Integrated Learning (WIL)	<ul style="list-style-type: none"> -Skills, techniques and practices in Work Integrated Learning (WIL) -Learning from practice (case study, video records, lesson observation, etc) -Learning in practice (teaching in authentic and simulated lecturing environment) -Workplace or industry practice (technical skills associated with the subject)
4.	Situational learning	<ul style="list-style-type: none"> -Situation -Context -Environment -Prevailing policy, political and organisational contexts -Diverse challenges
5.	Fundamental learning	<ul style="list-style-type: none"> -Official African language -ICTs -Academic literacies -Basic life skills

After having finished a TVET training programme, TVET lecturers’ learning achievements, or in other words, the development of their competences is formally recognised and certified as a qualification by an accredited institution (DHET, 2013).

Methodology

The literature review was carried out in November - December 2021.

Umbrella review was implemented. Umbrella review refers to review compiling evidence from multiple reviews into one accessible and usable document (Grant & Booth, 2009). It focuses on broad condition or problem for which there are competing interventions and highlights reviews that address these interventions and their results (Grant & Booth, 2009). Umbrella literature review allows defining gaps between known and unknown as well as proposing recommendations for further research (Grant & Booth, 2009).

The search for literature with the google was based on the use of the key words “TVET”, “training”, “teachers”, “South Africa”.

The type of articles that were selected for the literature review are theoretical papers, review articles, and empirical research articles (Ramdhani, Ramdhani, & Amin, 2014). Choosing literature with conflicting theoretical positions and findings along with the position or prediction empowers the analysis and synthesis for formulating the research findings (Ramdhani, Ramdhani, & Amin, 2014).

Analysis of literature is based on the criteria, namely TVET lecturers' competences and types of learning, shown in Table 1 and 2. Structuring and summarising content analysis was founded on the collected data interpretation. The researcher is the interpreter (Ahrens, Purvinis, Zascerinska, Miceviciene, & Tautkus, 2018).

Research Results

The literature analysis assisted in revealing the context of TVET training programmes for TVET lecturers' training. The selected literature investigation disclosed that, despite the TVET teachers are the key actors, only 4% of staff as fully qualified, and only 15% of staff are deemed to be academically and professionally qualified (DHET, 2021). In 2015 only 131 TVET teachers were trained, in 2016 – 19 TVET teachers, in 2017 – 36 TVET teachers, in 2018 – 201 TVET teachers, and in 2019 – 36 TVET teachers (DHET, 2021). The data about the number of trained TVET lecturers' shows the situation with the development of the TVET lecturers' competences formally recognised and certified as a qualification.

The literature analysis assisted in identifying two levels of TVET training programmes for TVET lecturers' training:

1. TVET lecturers or, in other words, individual level
2. TVET teacher education or, in other words, institutional level. It should be pointed that the institutional level of the creation and implementation of TVET training programmes also includes business and industry as well as other stakeholders.

Table 3 illustrates the results of the structuring content analysis of the literature review on TVET training programmes at the individual level.

*Table 3 Review of TVET training programmes at the individual level
(created by the author)*

Nr.	Type of learning	A short description of the investigation	A short description of the investigation results	Reference
1.	Disciplinary learning	Knowledge in the subject	Cooperation with local companies	Zinn, Raisch, & Reimann, 2019
2.	Pedagogical learning	-Teaching skills - The theory and method of reflection levels	Cooperation with local companies - Reflection is a good tool for analysis, planning, and development of complex learning situations	Zinn, Raisch, & Reimann, 2019 Hartmann, 2016

3.	Practical learning or Work Integrated Learning (WIL)	-Integrating the world of work into initial TVET Teacher Education - Regular exposure of lecturers at public VET institutions to industry	-The development of a comprehensive curriculum framework for the industry-WIL component of the qualifications - The development of TVET lecturers' technical and pedagogical competence	Bijl, 2021 Duncan, 2016
4.	Situational learning	-To shape the assessment of the state of innovation in TVET colleges in future - The policy recognition of the unique identity of TVET teachers and the relationship they should have with industry	-There are pockets of innovation practice in the TVET colleges -Innovation leaders may mentor those that are lagging -There is a willingness, and a need, to engage -The recognition of TVET as an essential actor - Training in pedagogy, in their subject knowledge, and have industry exposure/experience	DHET, 2021 Papier, 2016
5.	Fundamental learning	-Fundamentals of the development of Vocational Education and especially of the Further Education of VET teachers motivated	-The shaping-/competence-based and networked teaching and learning	Eicker, 2016

The structuring content analysis allows finding that the research in the field of TVET lecturers' training programmes does not address TVET lecturers' digital skills despite their impact on human being everyday life in the light of COVID-19 pandemic. Another finding is the entrepreneurship education is not embedded into TVET lecturers' training programmes, too.

Table 4 describes the results of the structuring content analysis of the literature review at the institutional level.

*Table 4 Review of TVET training programmes at the institutional level
(created by the author)*

Nr.	Topic	A short description of the investigation	A short description of the investigation results	Reference
1.	University-based Further Education Programmes (FEPs) models	The search for models and the prospect of their use in upskilling VET practitioners	Four models, namely -Formal Apprenticeship, -Dual System, -Modularized, and -Viaduct	Ogwo, 2016

2.	Technology-assisted, structured networking competency based Further Education among VET institutions	-Technology-assisted (cloud computing, intelligent tutors and software applications), - Structured networking (supported by regional bodies like African Union) competency	Technology-assisted and structured networking competency provides collective growth, shared resources, institutional/professional mentoring; which will be cheaper to fund and will promote transferability of knowledge/skills given the commonality in socio-cultural heritage	Ezekoye, 2016
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Summarising content analysis allows finding that the design of TVET training programmes requires the synthesis of two levels:

- TVET lecturers' individual level, and
- TVET institutional level.

Conclusions

The literature review allows concluding that the research in the field of TVET lecturers' training programmes in South Africa is an emerging area. Another conclusion is that the research done in the field of TVET lecturers' training programmes in South Africa is fragmentedly presented to the scientific community.

Literature analysis allows making a conclusion that in the light of the annually increasing TVET learners' enrolment numbers, TVET teacher training and its programmes of different qualification types are to become attractive for TVET lecturers. One of the ways for the creation of an attractive TVET lecturers' training programme is to put the emphasis on the enhancement of TVET lecturers' digital skills. TVET lecturers' digital skills are vital in the conditions of the COVID-19 pandemic. Entrepreneurship education in TVET training programmes could also enable the development of TVET lecturers' competences.

The presented research has some limitations. The inter-connections between TVET training programmes at individual and institutional levels, types of learning in TVET training programmes, TVET lecturers' competences and qualifications have been set. Another limitation is the only literature review was carried out. If other methods have been applied, then, different results could be attained. Also, the focus of the literature review referred to South Africa only. The researchers' data interpretation was limited by the researchers' previous research experience in the field of TVET training programmes.

Future work will include the implementation of empirical studies in the field of the analysis of TVET training programmes in South Africa. Examination of efficiency of TVET training programmes of different types of qualification is proposed. Integration of the development of TVET lecturers' digital skills and

entrepreneurship skills within TVET training programmes in South Africa will be considered, too. The empirical studies to be carried out in South Africa intend to involve TVET lecturers, TVET teacher education institutions' administration as well as business and industry stakeholders. Comparative studies of their views and opinions on TVET training programmes are of great research interest.

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SKOLAS PEDAGOĢIJA.
PIRMSSKOLAS PEDAGOĢIJA.
School Pedagogy. Preschool Pedagogy.

SOCIAL SELF-DETERMINATION OF A SECONDARY SCHOOL STUDENT IN THE CONTEXT OF HUMANIZATION OF THE EDUCATIONAL PROCESS

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Abstract. *We regard the social self-determination of senior secondary school students as the basis for their education as citizens of Latvia and citizens of Europe. This underpins the need to actualize the problem of social self-determination. The aim of the research is to determine the essence and structure of social self-determination of senior secondary school students and to identify the conditions for the development of social self-determination in secondary school students in the process of education. Research methods include observation, questionnaire, survey, comparison, experiment, and mathematical statistics. Research results are the following:*

- *as a result of the study, there was determined the content and structure of social self-determination as a systemic personal formation, representing the relationship of two components: citizenship and intercultural identity;*
- *the conditions for the development of social self-determination have been identified, including the humanization of the educational process based on a certain system of moral values and beliefs;*
- *the key strategy for organizing the educational process has been suggested: changing the content of education by introducing a cultural component, which would contribute to a change in all structural components, from the goal to the result;*
- *this implies a change in the procedural aspect of education: the organization of a personal cultural dialogue; the dialogue is regarded as the basis for communication in the pedagogical process;*
- *the key values of secondary school students were determined in the process of a fact-finding experiment.*

Keywords: *citizenship, intercultural identity, social self-determination.*

Introduction

Research topicality. The study presents the pedagogical foundations for the development of social self-determination in secondary school students in accordance with the principles of the Council of Europe (Council of Europe, 2016). It defines the context and structure of social self-determination - a complex personality trait of a high-school student, which makes it possible for a teacher to work out a technology for the educational process in order to develop social self-determination in secondary school students.

The object of the research is the conditions for the development of social self-determination in a senior secondary school student in the process of education.

The subject of the research is the development of social self-determination in secondary school students in the process of education.

The aim of the research is to determine the essence and structure of social self-determination of a senior secondary school student and to identify the conditions for the development of social self-determination in secondary school students in the process of education.

Research methods include observation, questionnaire, survey, comparison, experiment, and mathematical statistics.

The essence and structure of social self-determination

Serious socio-political changes in the European Union have led to the development of a new culture. This is due to the development of the integrity of European culture where national identity becomes the basis for intercultural identity. It has become necessary to educate European citizens on the basis of a system of universal key values, which thereby implies a single educational space with regard to meanings, values, and communication (Chehlova, 2006). The search for an optimum model of education in Europe, corresponding to a new type of culture and meeting the current needs of modern civilization: the development of intercultural identity, civic responsibility, and professional self-determination, has intensified (Matsumoto, 2007).

In the aspect of social-political changes, the issue of social self-determination has acquired a particular relevance. The methodological foundations of self-determination were laid in the works of L.S. Vygotsky (Vygotsky, 1972). According to Vygotsky, the self-determination of personality is regarded as an important factor in the mental development of an individual, and it is a new formation at the period of adolescence. Vygotsky's conclusion that self-determination is a complex personality trait, an integrative personality formation is important. The senior secondary school age when students can solve problems concerning the relationship between 'I' and 'society' to define

themselves in society, which is only possible on the basis of values and personal meanings, is a sensitive period for social self-determination (Vygotsky, 1972). Modern researchers consider self-determination as a process and result of a person's choice of goals and means of self-determination in specific circumstances of life (Dubrovina, 1987; Elkonin, 1989; Gilbukh, 1995; Neimatov, 2002; Ross, 2006).

Self-determination is the central mechanism for the formation of personal maturity, which involves a person's conscious choice of his/her place in the system of social relations. The ultimate goal of personal self-determination is individual's ability and willingness to actively make moral choices. However, self-determination is not only a process of choice, but also a continuous process of acquisition, formation, and development of a person and, consequently, their life trajectory. Vygotsky singles out three aspects of self-determination in adolescence: personal self-determination, professional self-determination, and social self-determination. The subject of our research is social self-determination. Researchers distinguish two components in the content of social self-determination: citizenship and intercultural identity (Alijevs, 2021).

Citizenship represents the socio-political aspect of social self-determination. As a systemic formation, citizenship includes the following personality traits: civic engagement, political culture, civic duty, civic responsibility, patriotism, and internationalism.

Intercultural identity expresses the moral and legal aspects of social self-determination and includes the following properties: a positive attitude towards national culture, the culture of the Latvian people, and the European culture. The components of social self-determination are interrelated and interdependent.

Each structural component of social self-determination has its own characteristic features. In their real functioning, all components are in dialectical interconnection and interdependence. Integration of the components of social self-determination allows individuals to adapt to the changing conditions of their lives. Citizenship and intercultural identity are complex systemic formations. In this regard, it is necessary to analyze criteria for their formation.

Criteria for the formation of citizenship are the following:

- the cognitive criterion – knowledge about civic responsibility and the state, understanding of one's responsibilities, understanding of one's legal and moral obligations to society and the state;
- the axiological criterion - the attitude to oneself and other as a value, respect for the state and society;
- the behavioral criterion – the ability to comply with moral and legal norms, to fulfil social and moral obligations in accordance with one's civic position. The ability to engage in a dialogue with other citizens and professional activity for the benefit of society are the indicators of conscious citizenship.

Based on these criteria, we conclude that citizenship is an integrative personality trait that reflects moral and legal culture, expressed in a harmonious combination of patriotic, national, and international feelings, in self-esteem, respect and trust in other citizens and the state, the desire to work for its prosperity. Senior secondary school students are aware of themselves as the citizens of Latvia and are proud of their status.

Intercultural identity is seen as an integrative formation (Ginzburg, 1994). Criteria for the formation of intercultural identity are the following:

- the cognitive criterion - ideas and notions about the specific features of Russian and Latvian cultures in Latvia, about the common and distinctive features in the customs and cultural traditions of Russians, Latvians and other ethnic groups in Latvia;
- the axiological criterion – a positive attitude towards the Russian culture, a positive attitude towards the Latvian culture, the need to deepen one’s emotional and evaluative attitude to various cultures of the world;
- the behavioral criterion – the need and ability to participate in the cultural life of Latvia, to use dialogue in communication with the representatives of other cultures.

Intercultural identity is viewed as a personality trait that characterizes a person’s need and ability to understand and accept the rich diversity of Latvian culture, Russian culture, cultures of the world, as well as various forms of self-expression and ways of manifesting human individuality. The importance of this personality trait is underpinned by the fact that it is focused on the preservation and development of both positive cultural identity and cultural tolerance (Ross, 2006; UNESCO, 1995).

The statuses of cultural identity:

- diffuse identity or loss of identity, when a person loses some significant reference points and ceases to feel the certainty of his/her “self”. The system of consumer values focused on material goods, their acquisition and consumption prevail. The moral norms and their assessments have not been fully formed yet. There can be observed insufficient level of knowledge about the culture of the Russian and Latvian peoples and no desire to expand it.
- achieved identity, when a person has a certain system of values and beliefs about himself/herself and his/her life. Value orientations are based on universal humane principles, where the dominant values are freedom, personal autonomy, respect for the rights of other people and the desire for self-actualization. A student seeks to expand his/her knowledge about Russian and Latvian cultures, participates in cultural events in Latvia, communicates with the representatives of other nationalities in extra-curricular activities, at concerts or while jointly

developing research projects. We regard intercultural identity as achieved identity. In the contemporary historical and cultural situation, dialogue is becoming a universal way of the existence of culture and a person in culture (Kernberg, 2004).

It can be concluded that conscious citizenship and achieved intercultural identity are indicators of developed social self-determination.

The process of self-determination of senior secondary school students in the process of learning:

1. A student is aware of himself/herself as part of a society in which social norms, values and assessments operate;
2. correlates the requirements of society and the norms of his/her own life; civic responsibility is formed;
3. compares himself/herself with others and evaluates himself/herself, thereby forming an adequate self-esteem;
4. chooses a social role, civic position, values, and profession in accordance with his/her abilities and moral attitudes;
5. The experience of social interaction and the culture of communication are formed in business and interpersonal communication; life values are also formed.

Conditions for the humanization of the educational process for the development of social self-determination

One of the conditions of humanization is a change in the content of education. The educational process should be organized based on a humanitarian model of education, where a student is a value (Čehlovs, 2011). This implies the introduction of a multicultural component into the content of education, which will contribute to the change of all structural components from the goal to the result (Čehlovs, 2011).

The second pre-condition is a change in the way communication takes place in the educational process. Communication is based on dialogue (Alijevs, 2021). Dialogue is regarded as the key form of communication in the pedagogical process, a way of the existence of culture and a person in culture.

Analysis of social self-determination in senior secondary school students

A fact-finding experiment was conducted within the framework of the study. The aim of the experiment was to explore the life priorities of a secondary school student as the basis for social self-determination. There was used the personal maturity test questionnaire developed by Gilbukh (Gilbukh, 1995). The

experiment was conducted in Riga Classical Gymnasium (RCG, 20 participants) and in Riga State Technical College (RSTC, 20 participants).

To study the motivational component of social self-determination, senior secondary school students were offered the questionnaire “Your Life Priorities”. They were asked to answer the question “What would you like to achieve in life?”

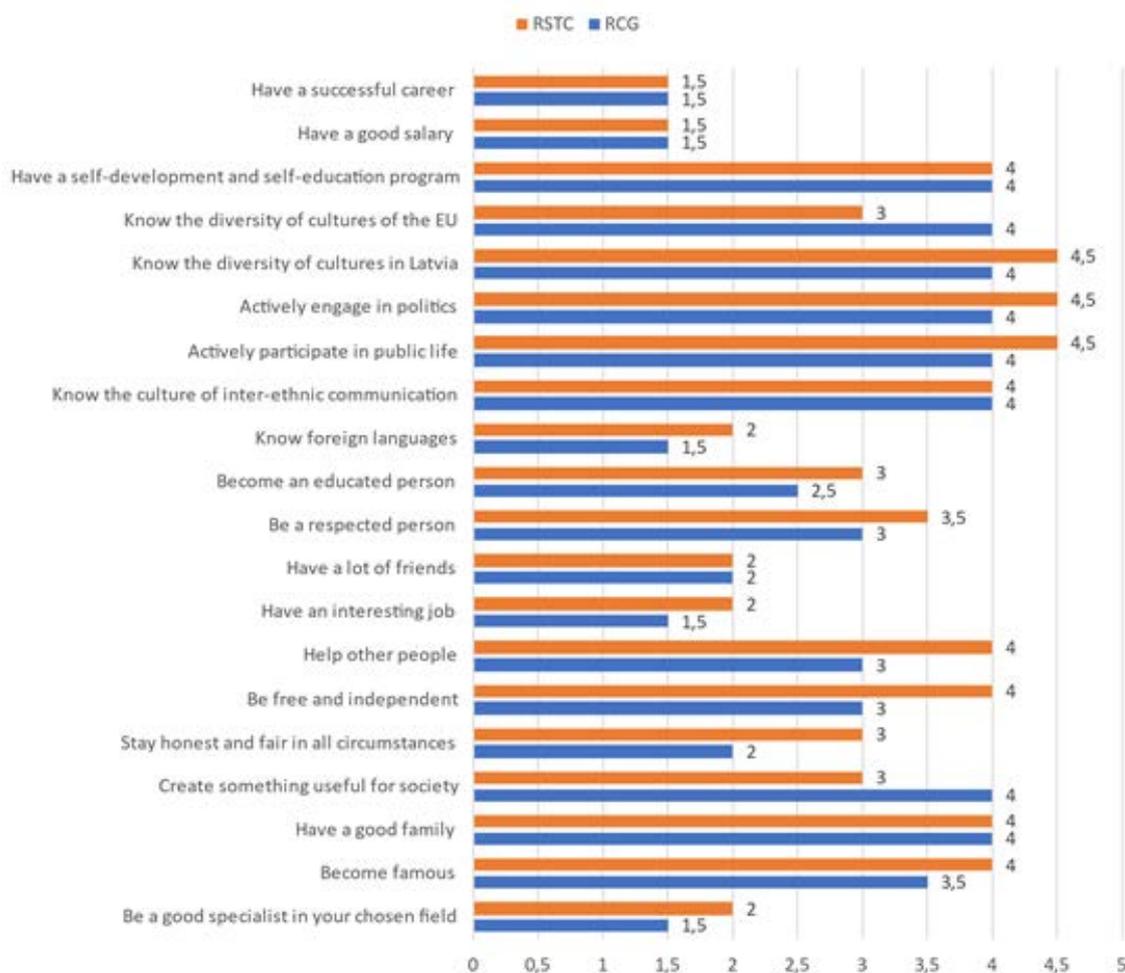


Figure 1 *Life priorities of the surveyed students (created by the authors)*

The analysis of the survey data showed that personal well-being, career, and a good salary are dominant priorities for the secondary school students. Civic responsibility and community service are not among their priorities.

As to the choice of a profession, the public orientation and the realization of one’s abilities for the benefit of society turned out to be low priorities for the surveyed secondary school students. The analysis of the results of the questionnaire “Your life Priorities” showed that secondary school students have insufficiently developed civic responsibility.

The students were also offered the questionnaires “Where would you like to study and work?” and “Where would you like to live?” (see figure 2).

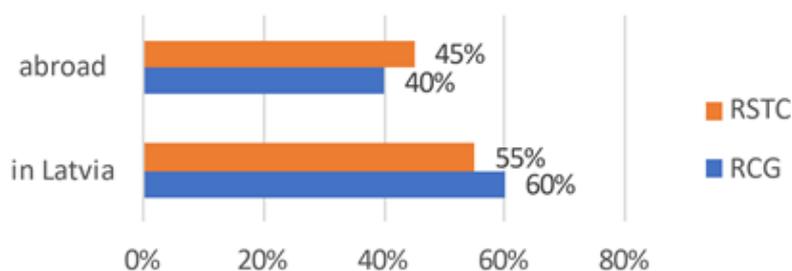


Figure 2 Respondents' preferences where to study, live and work (created by the authors)

The analysis of the results of the questionnaire “Where would you like to work and study?” showed that most of the students from Riga State Technical College (55%) would like to work abroad, whereas 45% intend to work in Latvia. In Riga Classical Gymnasium, on the other hand, 60 % of senior secondary school students intend to work in Latvia, while 40% would like to work abroad. Unfortunately, the trend of young people leaving the country is continuing. After finishing secondary school, the respondents intend to study in different countries, depending on their interests and the knowledge of languages.

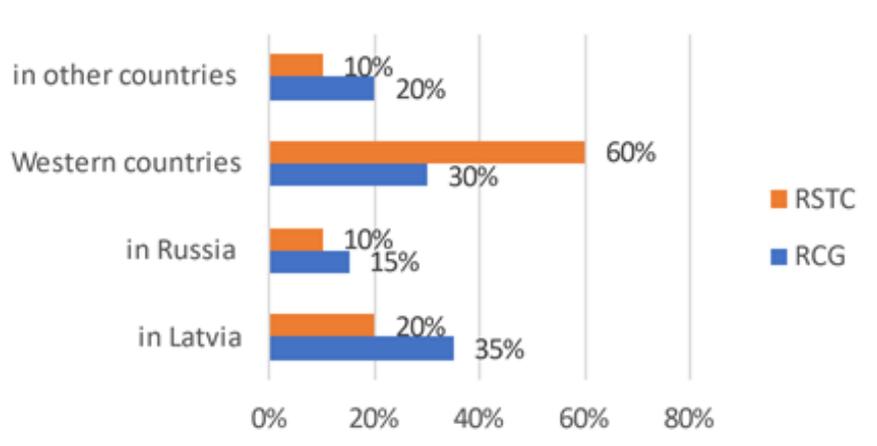


Figure 3 Respondents' preferences concerning the place of residence (created by the authors)

When asked about the possibilities to choose a place of residence (see Figure 3), we see that in total 45% of respondents would prefer to live in Western countries, 28% of respondents choose to live in Latvia, 15% would like to live in other countries, but 12% would choose to live in Russia. The answers show the students' desire to take control of their lives by choosing a place and environment that suits their values and needs. This means that students develop self-determination skills.

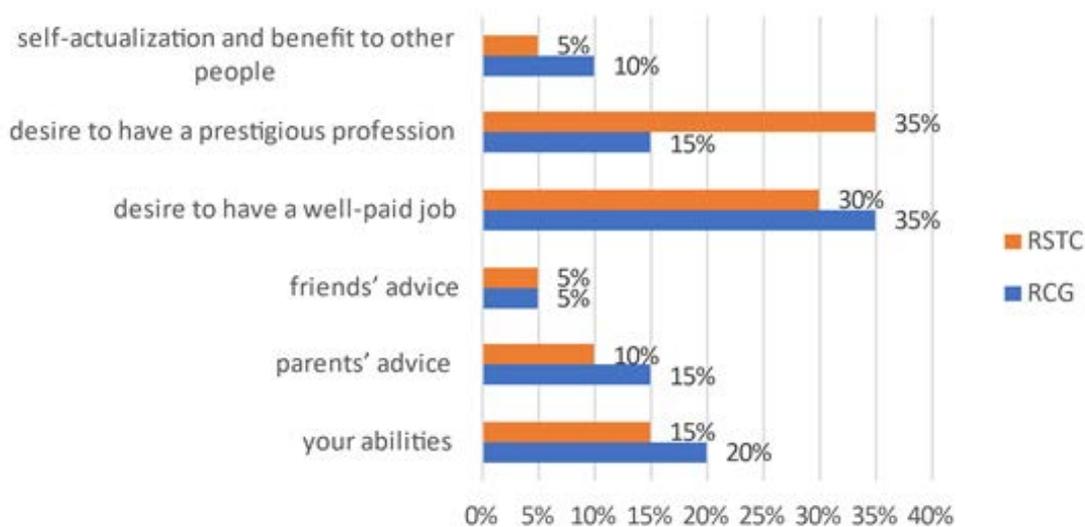


Figure 4 Respondents' criteria concerning the choice of study profile (created by the authors)

The theory of self-determination focuses on internal sources of motivation, such as the need to acquire knowledge or independence (known as essential motivation) (Sainte, 2022). The answers to the question about the choice of study direction (see Figure 4) also show that students develop self-determination skills, which are expressed in the desire to acquire an education and a profession in which it is possible to create a quality personal life.

The essence of personality values and meanings is fully revealed from the point of view of existential analysis, substantiating the existence of personality self-determination, determining the formation and maturity of value meaning entities (Pochtareva, 2021). The students were offered a questionnaire “Attitude Towards Other as a value (Tolerance)”, which aimed to determine pupils' attitudes towards other people.

In order to determine the students' attitude towards people of other nationalities, they were asked about the mutual relations and where these relations take place (see Figure 5).

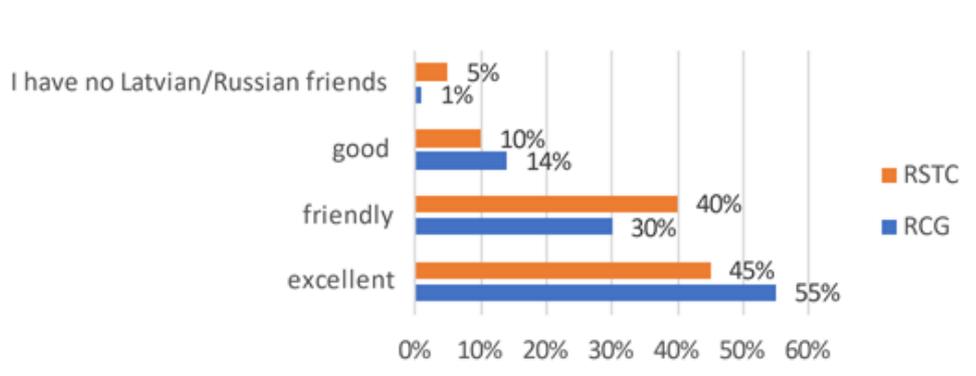


Figure 5 Relations with persons of other nationalities (created by the authors)

From the answers we can see that 85% of all respondents consider their relationship to be excellent or friendly. 12% of students consider their relationship to be good and only 3% of those surveyed say they have no friends of another nationality. The obtained results show that most of these relationships are formed in interest groups, sports activities, as well as entertainment venues. This shows that students have a tolerance for people of other nationalities, which in turn influences the development of self-determination.

The analysis of the survey showed that the attitudes of Latvian and Russian secondary school students towards the representatives of other nationalities are excellent and good; they successfully cooperate in various fields of activity, especially the students of Riga Classical Gymnasium.

Conclusions

1. As a result of the study the content and structure of social self-determination of senior secondary school students has been determined: it is a systemic formation, a complex personality trait.
2. Social self-determination is underpinned by a certain system of moral values and beliefs.
3. Dialogue is regarded as the basis of communication in the pedagogical process, a way of the existence of culture and a person in culture.
4. The key pre-condition for the development of social self-determination (civic responsibility, tolerance) has been determined: it is the humanization of the educational process organized on the basis of a humanitarian model of education, where a student is a value (Čehlovs, 2011). This implies the introduction of a multicultural component into the content of education, which will contribute to the change of all structural components from the goal to the result (Čehlovs, 2011).

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PRE-SCHOOL TEACHERS' ATTITUDES TOWARDS IMPACT OF ICT ON STUDENTS

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Abstract. *The application of ICT in today's context of constant change and sustainable development of mankind is a necessity, expressed in the importance, timeliness and meaning of its integrity in the educational process for children. The latter acquire the knowledge needed for the use of ICT more deeply than adults and can easily apply it to various activities. Computer literacy is one of key aspects of societal development, ensuring the need for ICT skills for the present and future. In the face of the Covid-19 pandemic and the challenges of distance learning and teaching, the researches into the interaction of children with ICT, and especially the importance of computer games for the development and education of children, is becoming of paramount importance.*

The study aims to reveal the attitudes of pre-school teachers towards impact of ICT and computer games on students. The results of the research, based on the assumption, represent the attitudes of teachers on the application of ICT tools in pre-school education. A qualitative approach was applied to the study – focus groups with 48 pre-school teachers. The results of the research reveal that the ICT and computer games has significant impact on preschool children in the self-learning process, by changing their knowledge, skills, behaviour and attitudes.

Keywords: *computer games, focus group, ICT, pre-school education, self-learning.*

Introduction

Computer literacy is a set of skills necessary in modern society. Marsh (2010) emphasizes that the lives of modern children are shaped by their involvement in the use of information technology. Modern children are often referred to as the digital generation (Lee, 2004). Technologies are also inseparable from the daily lives of pre-school children (Attewell et al., 2003; Bolstad, 2004; Sehnalová, 2014). According to Gulay (2011), pre-school children get to know to a computer at home and spend time on it. Researches (Samaras, 1996; Lally, 2001) note that the integration of modern information technologies into the education of pre-school children is crucial. Winters & Vratulis (2012) also emphasizes the ability to use information technologies at pre-school age.

The main personality traits are formed in the first 4-5 years of a person's life. Childhood is such a stage in life that provides the foundation for further human life. Essential skills are acquired during this period of personal development. According to Couse & Chen (2010) children develop most rapidly in early childhood (up to 8 years), so the use of information technologies to teach this age range is very effective. As Shawareb (2010) notes, collaboration between teachers and educators is essential to encourage children to use information technologies from an early age. Computers can be a great educational tool for children, and information technology is essential to keep up with today's pace of life.

The advantages of computer use for early education are analysed in Siraj-Blatchford & Whitebread (2003), Marsh (2005, 2019), Yelland (2007), Lee & O'Rourke (2006), Dwyer (2007), Copple & Bredekamp (2009), Wang (2010), Yilmaz & Alici (2011). The influence of computer games on changes in learners' knowledge, skills, behaviour and attitudes is based on Rondon et al. (2013), Bottino (2007), Anderson et al. (2007), Shute (2011), Sălceanu (2014).

The aim of the research is to reveal the opinion of pre-school teachers on the impact of the computer used on children in the child's self-learning process.

The problem of the research. The use of ICT in early childhood raises debate, while emphasizing the positive influence of ICT and especially computer-based games on the development of children's language, communication, creativity, problem-solving, critical thinking, and at the same time justifying the negative impact on children's social and emotional development (Ju et al., 2018; Krueger & Casey, 2000; Ang & Zaphiris, 2007). The application of computer-based games learning techniques in early children's education in the scientific community is a subject of discussion. The teacher opinion researches reveal that the latter view "threat to real communication or other more important traditional practices, such as play-based learning" (Aldhafeeri et al., 2016; Gray & Palaiologou, 2019). The following problematic questions are raised – how does the use of computers affect the daily activities of early age children? How important is ICT for pre-school children?

The article presents qualitative analysis of the focus groups of 48 pre-school teachers from Vilnius, Kaunas, Šiauliai district, employing the method of content analysis which enabled objective and systematic investigation of the features of the text, generalisation of information and formation of appropriate conclusions. Data from qualitative opinion survey were analysed from September to November 2021.

Theoretical Basis of the Study

Studies by foreign researchers reveal that ICT has shown to be a valuable educational tool for early learning and development (Dong & Xu, 2021; Saçkes et al., 2011; Yelland, 2007), where the ICT skills of children are sufficiently

developed, as many of them “can use the keyboard and computer mouse properly” (Crook, 1992; Shimizu & McDonough, 2006; Stronmen et al., 1996). According to Stephen & Plowman (2008), children who have effectively learned using information technologies at pre-school age continue to successfully apply them in further learning.

Studies show that countries such as England, Portugal, Sweden and Denmark have enacted educational laws that provide for pre-school education using information technology (Stephen & Plowman, 2003; Anderson, 2000). UK education laws require children to be taught using information technology from an early age. Information technologies and various educational games should be included in early children’s education curricula (Howard-Jones & Demetriou, 2008). According to Crombie et. al. (2000), the ability to use and work with information technologies (a computer) is needed not only in learning but also in working. According to Colker (2011), Clements & Sarama (2002), computer literacy skills are essential in today’s society.

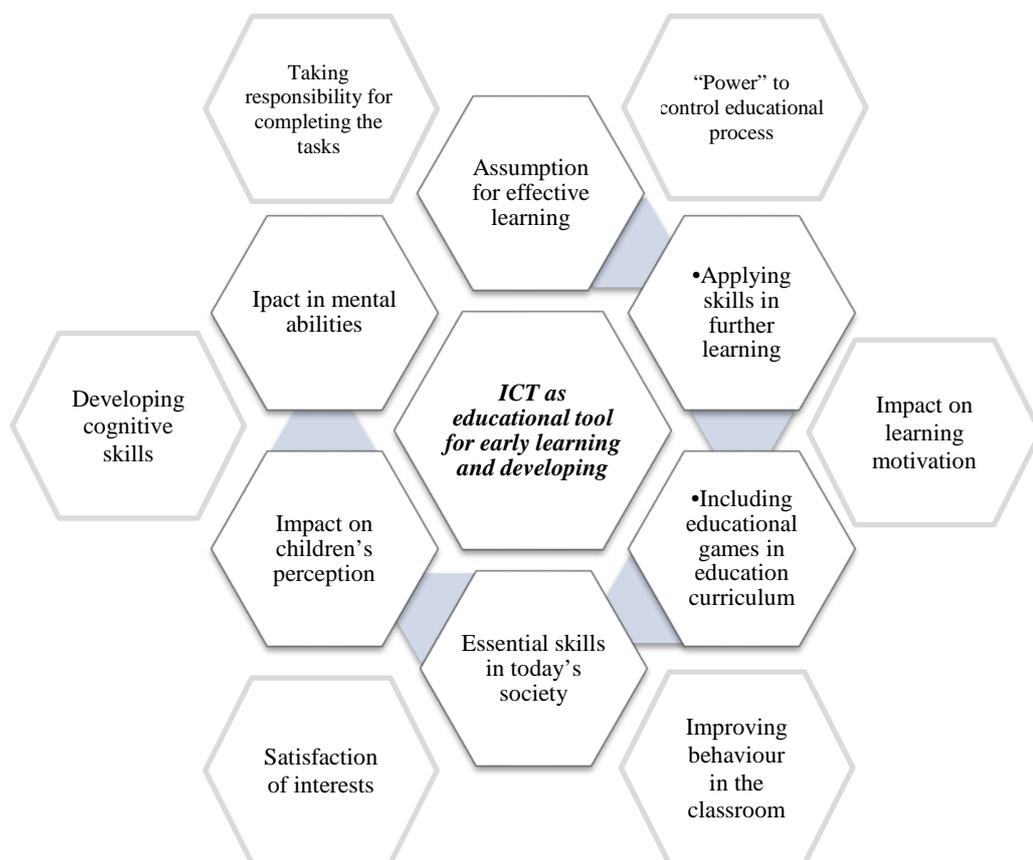


Figure 1 Theoretical model of ICT in children’s educational process
 (designed by the authors, according to Colker, 2011, Clements & Sarama, 2002, Bolstad, 2004, Hatzigianni & Margetts, 2012, Li & Atkins, 2004, etc.)

The effectiveness of the use of ICT in children’s educational process (Fig. 1) is based on research data emphasizing factors in children’s perception (Shawareb,

2010), mental abilities (Li & Atkins, 2004), and motivation to teach/learn (Hatzigianni & Margetts, 2012). As Shawareb (2010) notes, “children who have access to a computer at home have more developed cognitive skills than those who do not use a computer at home”. Computers and interactive learning apps “help children learn, contribute to the development of perceptions, and promote the development of mental abilities” (Shawareb, 2010).

According to Bolstad (2004) and Anderson (2000), when working on a computer, children choose which tasks they want and can perform, and they also take responsibility for completing the selected tasks. Children feel they have the “power” to control their own educational process. Self-confidence gives children the knowledge that the computer will not criticize for mistakes, respect their pace of learning, give them enough time to think and choose the answer ensures self-confidence (Hatzigianni & Margetts, 2012).

Hatzigianni & Margetts (2012) and Li & Atkins (2004) highlights *the advantages of computers for early education*: satisfaction of interests, motivation to learn, memory development, higher personal efficiency, better learning outcomes. According to Lieberman et al. (2011), active video games can improve student learning results, reduce cases of missing classes, and improve behaviour in the classroom.

Research Methodology

There was a qualitative opinion survey of teachers conducted in September-November 2021 in focus groups with 48 pre-school teachers from Vilnius, Kaunas, Šiauliai district. The chosen method of the study allowed to gather and expand participants' insights into the subject matter in a neutral environment (Nyumba et al., 2018). The teachers involved in the study have the same characteristics, i.e. they work in a pre-school education institution, have more than 5 years of experience in the application of computer tools in the educational process of pre-school children. The group discussion was organized in the auditory of the High School Library in Šiauliai city, where the group moderator held a controlled and structured discussion according to a clear plan. In order to manage the discussion and its environment, there was another researcher involved who recorded the group conversation, ensuring that the collection of information was in accordance with the established structure and procedure for interpretation.

The focus group approach provided the researchers with the prerequisites to gather more general, more open data, different opinions of teachers, compared to individual interviews. Participants in the study openly discussed about the education of today's young children in a smart technology society, the influence on children of computer used in the self-learning process.

The content analysis method was used for the analysis of the research data. The data obtained during the focus group is presented in an audio recording. The

content of the discussions was transcribed in protocols. The analysis has been conducted by consistently analysing the content of a text, dividing the content under investigation into analytical units, i. e. categories, sub-categories. The latter are coded (e.g. [1] etc.) according to the order of reflections presented by the surveyed, aiming at anonymity of the research participants.

Research Results

The analysis of empirical research data has highlighted the essential categories of children's self-learning through computer games and computer tools (Fig. 2). In particular, pedagogues emphasize that spending a lot of time on computer games **makes the children's language poorer**. It is noted that the *words are abbreviated*, "for example, they say – "check" and that means "good". Such words are learned from some computer apps. Children abbreviate Lithuanian words such as "gers" (good), "okis" (Okay), "what's up?" (how are you?). Another problem is the transfer of the meaning of words [7]. The abbreviation of words "is not an adult language. When a child speaks in short words, it is indeed computer things" [4]. The *use of jargon in spoken language* is also emphasized. For teachers, it is important that "children know how to speak beautifully, not only imitate, but also learn to think. However, the computer has the opposite effect – the child comes into the group and uses jargon. Only after a while we can decipher what they are talking about" [9]. Not only the language of children is affected, but also the thinking, when "thinking is no longer in the terms taught, but in the words of the characters of computer games, and this is surprising – those words impoverish everything – they no longer know how to express emotions, everything is dramatized, exaggerated and false" [11].

The adoption of the language of computer games is based on the view of pedagogues that children "speak in some vague terms" [5], "imitate heroes, characters, their language, their phrases" [19]. Teachers find it difficult to understand the context and meaning of words because they themselves do not play animated or other games" [5]. "Today's kids are from another planet. Such things severely restrict education, even though we have almost got accustomed to these foreign words" [14]. They "do not learn to speak fluently, which may lead to the fact that they will also not be able to write later, because they will speak in foreign words" [19]. The *speech distortion with foreign words* is revealed "when watching or playing violent games, they begin to speak those terms of killing and non-Lithuanian, for example, 'kill', 'dead' and so on. [3]. Teachers note that "we especially hear the terminology of computer games very often. We can even say that it becomes a culture of communication between them, a kind of code of communication" [2].

The *narrowing of the vocabulary* is also distinguished, where children "speak less, demonstrate and mimic emotions more that are not good. They are

like small children with an unreal language world, which complicates their educational process" [8]. "The language of children is very poor" [9], "they lack words, many things are quickly forgotten, and when talking to other children, instead of Lithuanian words, most often they use computer terms, such as "support", "encourage" [30].

The significant content of the category **Promoting Aggressive Behaviour** reveals how children embrace the images, emotions, patterns of behaviour depicted in computer games, engage in cruel, rude behaviour. The accent is placed on *adoption of computer imaging*, where "modern children are looking for innovations, things different from what we did in childhood" [1], "show that they are moving to a different level, or that fights are acceptable and thus feel important" [13]. "The problem is that images are not created from the natural or adult world, but from computers, negatively affecting the child's behaviour due to harmful material, factors" [1]. "Their language is sometimes artificial. Imitation of computer characters is unnatural, inconsistent with reality, manifestations of violence are evident in behaviour, not realizing the consequences of their own actions. It is said as communication is understood" [7].

The *adoption of aggressive patterns of behaviour* is based on the opinion of pedagogues that "children gradually begin to behave aggressively, interacting with each other through computer games. It is evident that they take on negative patterns of behaviour from various films and computer games" [17], "have difficulty adapting to life [3], because "computer games and the Internet distort the sense of reality, children behave unconsciously" [32], "overestimate their capabilities – think that it is possible to go wild, to attack" [3]. Doubts are also expressed in the quality of education, when "the elementary discipline in the group must be observed [32], "it is difficult to manage the group, the educators become less interesting" [25].

It is emphasized that the children are *characterized by cruel behaviour*, where "computer games and various apps that do not have any specific educational purposes have a negative effect" [8], "children, not by their age, become more cruel" [13] - they abuse, swear, push each other [8]. Also *rude behaviour* is distinguished, which "is noticed in daily activities - they talk harshly to their parents or grandparents, and among themselves, "go too far" with each other, communicate carelessly enough and do not think that this can offend another. Rudeness can be described as one of the harming factors" [17].

The change in the **emotional world of children** is based on *emotional instability* and negative emotions, such as anger, irritability, excessive sensitivity. Teachers emphasize that "children become emotionally sensitive – they react nervously to comments, are as if they have not slept" [6]. "Some children have already been sent to the special service to check whether they have any emotional and behavioural disorders [23]". This is due to the fact that children "spend too

much time at computers and play negative information games that only destroy their emotional world, instead of creating it” [6].

Negative emotions manifest through sensitivity, which “is not empathy for another’s pain or kindness. This is negative sensitivity – irritability, when children shout, get angry in the educational environment” [23]. The role of the family is also emphasized, noting that “children’s families are educated, but parents are very busy, as a result of which children use computers without limits” [23]. It is emphasized that “modern children are angrier” [2]. They are “irritated unlimitedly, after watching and playing shooting games” [7]. Especially high sensitivity – excessive reaction to the environment, excessive sensitivity...” [17].

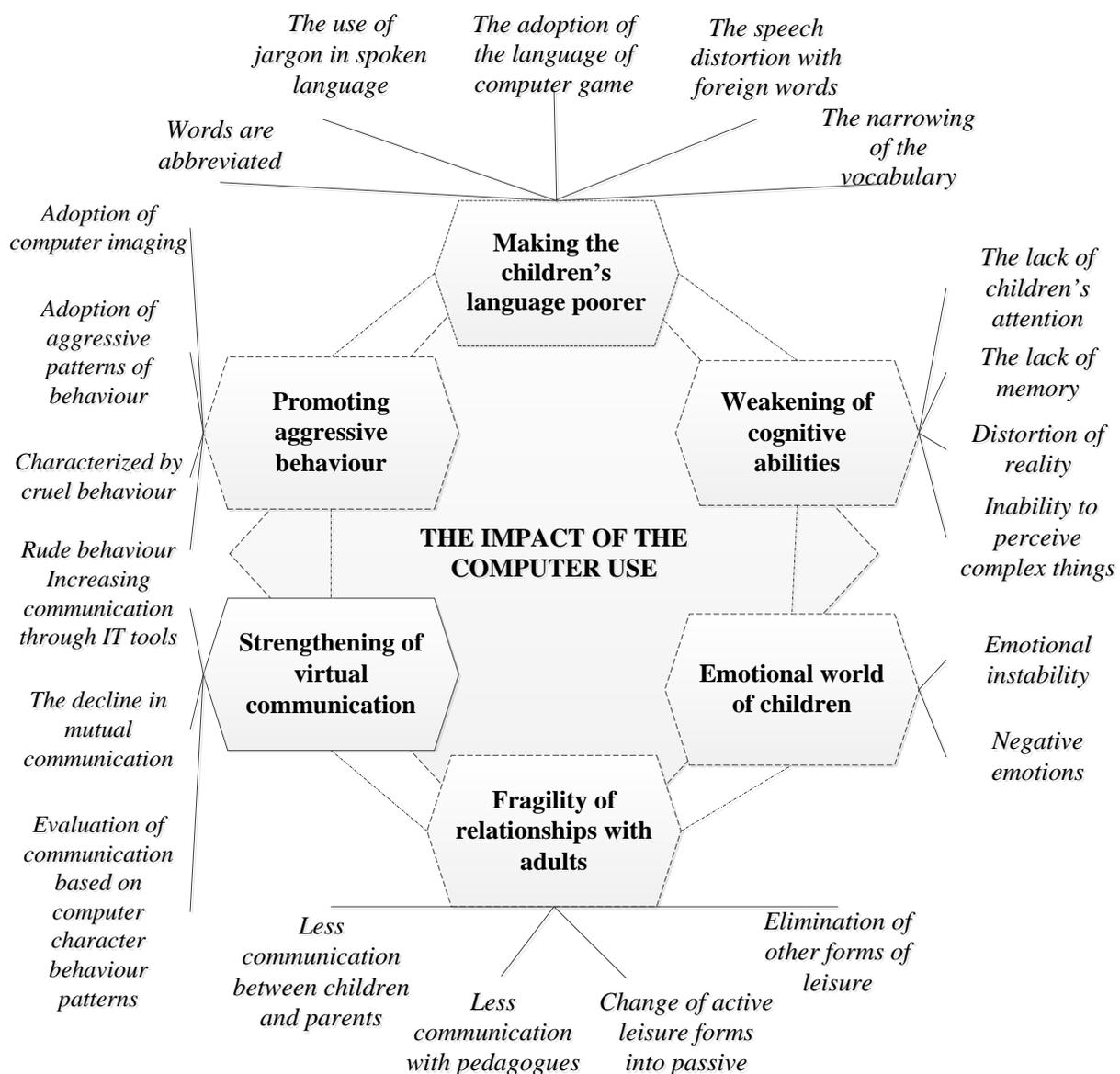


Figure 2 Schematization of the impact of the computer use (designed by the authors)

The content of the category of the **weakening of cognitive abilities** is expressed by *the lack of children's attention, the lack of memory, distortion of reality, inability to perceive complex things*. Pedagogues emphasize the *lack of children's attention*, when the latter face “more difficulties in learning in groups because they are unable to concentrate” [16], “more difficult for them to focus [30]”. “This is surprising, because children are only interested in the computer, which is more harmful than beneficial. Therefore, the concentration of children's attention becomes a modern problem, when it is difficult for teachers to control children's behaviour and the educational process becomes obnoxious” [16].

There is a *lack of children's memory* when it is noted that “children simply do not remember many educational things. It's like a vicious cycle – they don't remember or cannot focus. The children during the group classes are distracted and dispersed like aspen leaves. Therefore, they cannot memorize” [8]. It is noted that children “remember facts about games on computers well, but they do not correspond to the reality. Real life doesn't interest them. Practice shows declining trends where children with less care and attention at home spend their entire time in front of computers” [19].

The **strengthening of virtual communication** is reflected in the *increasing communication through IT tools*, where “children are increasingly communicating with one another only through Skype, Facebook, by e-mail” [17]. Also *the decline in mutual communication* is emphasized, where children “play less with each other, outdoors, communicate less by seeing each other, and communicate more on the computer” [1], “play more computer games [4]”. “This is very worrying because children lose the joy of communication” [17].

Pedagogues emphasize the outstanding *evaluation of communication based on computer character behaviour patterns* in children's behaviour. “Children think in a complex, unusual way, and they choose friends according to the similarity with the character [9], “want to communicate like characters.” Previously, children communicated through personal stories. Now, when communicating virtually, the violent aspects of communication come to light” [26], the children “are angry and say the phrases of the characters” [9].

The category of **fragility of relationships with adults** is based on *less communication between children and parents*, and *less communication with pedagogues*. It is emphasized that “parents themselves complain that children lack communication with their parents, they lose contact” [11]. The more children communicate virtually while playing computer games, the more they lose contact with others. They do not communicate adequately with adults, they simply do not find a common ground” [8]. “Children take an example from various computer games, when they should take an example from adults” [15]. It is also noted that “children are more interested in computers than educational activities, parents and educators, and that appears in the second plan” [6].

The name of the category **Time at the computer** implies about the change of active leisure forms into passive. It is emphasized that free time is no longer spent outdoors, “children have disappeared from the courtyard – you will never see such phenomena in the city – children are somewhere else, and everyone understands that they spend their time at computers [17]. “Children are becoming increasingly computerized” [10], “they are constantly sitting at the computer at home” [3]. “Sometimes it seems that they will sink into that reality and confuse everything” [24].

The *elimination of other forms of leisure* is based on the children’s “unwillingness to play with each other, to communicate live, to go out and entertain less often, because they compensate that with computer games” [14]. “Sometimes it seems that children are less and less interested in the everyday things that are associated with their free time, i.e. dancing, singing, attending circles, most children realize themselves by playing computer games” [15]. It is emphasized that “children only sit at computers” [19], “spend a lot of time there” [9].

Conclusions

In the pre-school education process, the use of ICT activates children’s cognitive processes – promotes perception, mental abilities, activates attention and memory. Students have a higher motivation for learning, a higher self-esteem. ICT promotes child development in physical, mental, cognitive and social aspects. In the educational environment, the application of ICT facilitates the work of the teacher, as it allows to check the tasks, to evaluate the ability of students more accurately, to diversify the lesson. Educational activities using ICT are more effective.

ICT and computer games affects pupils physical and psychophysical health (emergence of aggressive behaviour, negative emotions), language skills (narrowing of the vocabulary, distortion of the Lithuanian language), cognitive abilities (lack of concentration, memory impairment), communication skills (elimination of live communication, evaluation of a person according to computer game character models), changes in values (changes in leisure perceptions and forms) and relationships (changes in communication with adults).

Although the researches discussed testify to the effectiveness and necessity of ICT application in the alpha generation education process, the experience of preschool teachers reveals the difference between the recommended ICT application in early childhood education and the virtual life of students outside the educational institution, i.e. in the home environment. ICT and educational computer games, which must be the source of knowledge, creativity, motivation, better self-esteem and other elements, become the opposite. The stimulated ideas of the study participants and their contextualization provided researchers with

additional information for future qualitative researches on solutions to the presumptions and possibilities of the transmission of educational content in educational computer games.

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CULTIVATING IMAGINATION IN EDUCATION PROCESS: CONTEXT OF PRIMARY TEACHERS' OPINIONS

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Abstract. *The importance of imagination in the process of education is unquestionable - by developing the ability to create and retain images, sounds, feelings as a reflection of one's thoughts, the basis of thinking is constructed. All this helps students to discover and create something completely new, solve problems, move to other spaces, understand others.*

The article theoretically substantiates the importance of developing children's imagination and empirically reveals the opinion of primary school teachers about the aspects of developing imagination and visualization skills in the educational process.

The written questionnaire study was carried out in January – July of 2020. The study involved 390 primary school teachers which shows the validity of the data and reflects the opinion of the majority of Lithuanian primary school teachers in the context of the analysed object. The data were processed using descriptive statistics (frequency) and analytical statistics (Mann Whitney U Test).

The results of the research reveal that the imagination of primary school students is usually developed through fairy tales, character role plays, and in language teaching subjects, images are usually conveyed through verbal codes. In Maths, language teaching and Science lessons, students usually depict fantastic objects, diagrams, tables and charts, draw folk symbols, and produce visual instruments.

Keywords: *cultivating imagination; Lithuania; primary education; teachers' opinion.*

Introduction

The research data reveal the value of imagination as a prerequisite for innovation and problem solving. As it is noted by Sandri (2013), imagination in the learning process is the basis for the integration of experience, when the boundaries between facts, reality and meaning are eliminated. It is the imagination that expands and deepens the human experience, as ordinary and familiar objects of the environment are coloured with different colours. The importance of imagination is actualized in the process of teaching Science, researches and projects (Andre'e & Lager-Nyqvist, 2013; Siry & Kremer, 2011), in which the development of new ideas through collaboration is important. The role of imagination in the formation of children's decision-making is also revealed (Mackey, 2012). The results of research by Caiman & Lundegard (2018) reveal

the role of imagination in the processes of meaning-making and learning in the context of primary education, where children are given the opportunity to be both students and experts.

In order to develop children's imagination, it is important what opportunities to promote children's new ideas teachers have (van Alphen, 2011; Vecchi, 2010; Young & Annisette, 2009; Roy, 2005; Greene, 1995). Therefore, it is necessary to promote the development of children's senses, imagination in the classes of various educational subjects, because this is what contributes to innovative change. Many scientists emphasize that "techniques and activities that enable the development of creative imagination should be applied to individuals from an early age" (Gündoğan, 2019; Jankowska & Karwowski, 2015; Karwowski & Soszynski, 2008; Craft, 2002).

The research problem is based on the theoretical assumption that children from an early age have a volatile imagination and innate creativity, but in today's age of technology, with the influence of external factors that suppress the imagination of the modern generation of children, these qualities weaken. In the process of education, it is important to create conditions for enriching and developing children's imagination in various ways.

The research aims to reveal the opinion of primary school teachers about the aspects of development of imagination and visualization skills in the educational process.

Theoretical Basis of the Study

Today's education is based on the idea of an individual, free-thinking development, which is realized by specialists in their field – practitioners who implement the aspirations of curricula. This idea is based on free expression of students' thoughts, which is achieved through the cultivation of imagination. Namely, imagination is used to generate new ideas, "establishing unusual and new connections, and investigating different possibilities" (Duffy, 2006). As noted by Craft (2002), children are characterized by inborn "curiosity, imagination and creativity abilities and this type of creativity is called as little creativity".

The multidimensionality of the concept of imagination is based on the view that "it is virtually impossible to provide one unambiguous and uncontested definition for imagination" (Bailin, 2007). The analysis of various scientific sources (Table 1) revealed that the concept of imagination is associated with creativity (McKernan, 2008), educational purposes (Eisner, 2018), the ability to perceive different things (Warnock, 1976). Egan & Judson (2016) describes imagination as an ability to enrich thinking, generate new ideas, and contribute to successful learning. Thus, imagination promotes the active process of thinking through educational imagination-shaped experiences.

The cultivation of imagination is one of the educational objectives (Egan, 2005), where students are interested in educational content, fully expressing internal needs. According to McKernan (2008), “a curriculum must provide opportunities for students to think critically and freely for themselves. Given that curricula emerge from images of desired and ideal practices we need to introduce another powerful concept, often neglected in education, and that is the concept of imagination”.

Table 1 The Analysis of Imagination Definitions (composed by the authors on the basis of Eisner, 2018, Egan & Judson, 2016, McKernan, 2008, etc.)

Statements	Source
“Imagination is central to the educated mind. It permits the possibility of the creative”.	McKernan, 2008
“The concept of imagination is crucial to the purposes of education”.	Eisner, 2018
It “is the faculty by means of which one is able to envisage things as they are not”.	Warnock, 1973
“Imagination is the capacity to think of things as possibly being so; it is the source of invention, novelty, and generativity; it is not distinct from rationality but is rather a capacity that greatly enriches rational thinking; and it has an equal role in successfully learning academic subjects as engaging in arts activities”.	Egan & Judson, 2016
“Imagination is the ability to visualise something that does not exist at that moment”.	Gündoğan, 2019
“The ability to think of things as possible – the source of flexibility and originality in human thinking”.	Egan, 2005
“Imagination is the ability to picture something in the mind that bears a relationship to a phenomenon from the physical world or other human experience such as the psychological, mythical, spiritual or philosophical”.	Steiner, 1996

Imagination is one of the tools used by teachers to develop children’s knowledge, skills and abilities. However, to cultivate the curiosity and motivation of children, all activities of educational institutions must be focused on the justification of the educational content by imagination, and not on individual cases of imagination cultivation in teaching and learning processes. This would further enhance the effectiveness of education and student learning. As it is emphasised by Marsh & Willis (2007) “curriculum developers have usually approached design from one of three perspectives: the nature of subject knowledge; the nature of society; or the nature of the learner”.

The application of stimulating environments in educational institutions, and in the educational process, various techniques, educational opportunities are expanded, children's imagination is developed, which is not suppressed by any factors of reality. Teachers, by applying various techniques in lessons, can

stimulate the imagination of the students and encourage more effective learning. One example of such techniques is given by Gündoğan (2019) – “SCAMPE, an imaginary activity that helps to produce many ideas in make-believe world. It is composed of a series of questions stimulating and activating the individual to produce creative ideas”. Creativity is inseparable from imagination. Scientific literature uses the term creative imagination, which is described as “ability to rearrange and manipulate existing information and convert it into unique and original mental images” (Eberle, 2008; Lindqvist, 2003). As Egan & Judson (2016) note, using imagination in the educational process “can make teaching and learning more interesting, attractive and diverse.” Teachers, in order to stimulate the imagination of children, “not only consider the curricular content and concepts they are dealing with, but also think about the emotions, images, stories, metaphors, sense of wonder, heroic narratives, and other cognitive tools that can give these concepts and content life and energy” (Egan & Judson, 2016). In summary of the insights of the researchers, it can be said that imagination is the key to overcoming and engaging all participants of the educational process in active learning.

Research Methodology

The quantitative research method chosen is a written questionnaire. The research instrument (questionnaire) was developed by the authors of the research on the basis of the analysed literature, the results of exploratory study and consultations with primary school teachers. The instrument was first developed in spring of 2019 and consisted of open-ended questions. In the initial survey, 45 primary school teachers were interviewed (25 questionnaires were not returned). The exploratory study revealed that the pedagogical community has a negative attitude towards the open-ended questions of the questionnaire, as it takes a long time to answer them. Many of the responses received were completely unsuitable for data analysis. Based on this experience, a broader research instrument, a close-ended questionnaire, was constructed. In 2020, the reconstructed instrument was piloted again with several respondents in order to provide clear and comprehensible statements, reduce the time to complete the questionnaire, and increase the internal validity of the questionnaire. Duplicate questions were eliminated during the pilot tests. The questionnaire consisted of five scales (significance of the use of imaginative tools, areas of education that focus on imagination, application of imaginative tools, development of imagination through active physical activity) and 12 subscales, 67 questions. Within the limits of this article, the most significant part of the questionnaire corresponding to the subject of the article research is reviewed.

Almost all scales of the questionnaire have a fairly high internal reliability – Cronbach’s alpha is higher than 0.75, but when applying the questionnaire to

compare large groups of respondents (if $N > 100$), the alpha coefficient may be lower than 0.7 (Vaitkevičius & Saudargienė, 2006), since the scope of the study is large, it is assumed that the survey questions are suitable to measure the subject and are valid for obtaining relevant conclusions.

The study was carried out in January – July of 2020. The study involved 390 primary school teachers which shows the validity of the data and reflects the opinion of the majority of Lithuanian primary school teachers in the context of the analysed object. 400 questionnaires were distributed, 10 of which were rejected because not all questionnaires were completed. 59% of respondents were primary school teachers working in the city, 41% were primary school teachers working in the district. The feedback rate for the suitable paper questionnaires was 88%. 97.9% of all respondents were women, 2.1% were men. The majority of senior teachers (59%) were involved in the survey, 30.8% were teachers who were methodologists, and 10.3% were teachers who did not have a higher qualification. 11% of all participating teachers work as primary class teachers up to 10 years, 38.7% - up to 20 years, 33.8% - up to 30 years, 16.4% - about 40 years. Most teachers (72.5% of all respondents) have worked for more than ten years and less than 30 years, which means that the respondents have sufficient work experience, so the survey data should be reliable.

The data were processed using descriptive statistics (frequency) and analytical statistics (Mann Whitney U Test). The Cronbach alpha coefficient was used to determine the internal validation of the scale, and the Kolmogorov-Smirnov Z test was used to determine the normality of the variables. The data was described using the PI (Popularity Index), which shows the ranking of the most popular answers. It is calculated by subtracting the lowest (frequency obtained from answers) percentage frequency from the highest. In this case the calculation formula is as follows $(5-1) = PI$ (Bitinas, 2002). Analytical statistics was used to analyse empirical data based on analytical methods (Pukėnas, 2005). The Kolmogorov-Smirnov Z test was applied to the normality of variable distributions, which showed which variables can be measured by parametric or non-parametric methods. The results of Kolmogorov-Smirnov Z test show that all variables are distant from the normal distribution ($p < 0.05$), and the Mann Whitney test and Kendall's Tau-b correlation are used in the empirical part.

Research Results. Imagination development and visualisation activities in district and city primary classes rank analysis

The analysis of the research data on imagination development activities (Table 2) revealed that, according to the popularity index of imaginary objects, the greatest importance is given to imaginative development in the process of language teaching, when pedagogues ask to imagine literary characters ($PI=61.6$). This shows that teachers strive for a better student understanding of literary works,

the characters and the text being read. Literary text encodes visual information into verbal codes. Students, when reading the text, have to decode these codes and imagine the whole course of events or described objects in their minds. In literature lessons, unlike in natural science disciplines, objects are perceived more subjectively. The latter objects cannot be visualized unambiguously, so there are no templates, specific images that could be displayed when reading the text. The more often children imagine literary characters, the easier it is to understand the text, the characters, to form an assessment, and to develop critical thinking.

The second place, according to the popularity index of imaginary objects, falls to the visualisation of a task read in Maths. Teachers often ask students to imagine the assignment being read so that students will have a better understanding of the content of the lesson, understand what needs to be found and apply the knowledge they have. Internal visualization actions help students understand the existing and missing elements of a task, form objects in the imagination, and solve the task faster. Mathematical education is in third place in the rankings. It is the performance of mathematical actions by heart (PI = 32) where students imagine the processes of subtraction or addition, multiplication or division. As practitioners, teachers apply those methods and techniques that are most effective in teaching students. Activation of visual thinking by encouraging students to imagine literary characters, the conditions of the task they read, and mathematical actions helps them to master the concepts of disciplines more quickly, to understand information encoded in verbal and static codes, and to perform the necessary learning actions.

Table 2 Imagination development visualisation activity ratings (composed by the authors)

ACTIVITY	PI
Students are asked to imagine:	
<i>Literary characters</i>	61.6
<i>The task they read</i>	42
<i>Arithmetical calculations (imagine numbers in mind, then subtract, etc.)</i>	32
<i>Life problems, their solutions</i>	18.7
<i>Different diagrams in Maths lessons</i>	16.4
Different mathematical symbols	14.7
Nature images (hills, meadows, lakes, etc.)	13.6
Spatial figures in Maths lessons	10
Different drawings in Maths lessons	9.5
Historical events	2.2

District teachers are more likely to ask their students to imagine literary characters (average rank 215.77) than city teachers (average rank 181.40); Z statistics $[Z] = -3,312$, and its p-value $p = 0.001$, i.e. $p < 0.05$. District teachers

spend more time imagining literary characters than city teachers as can be seen from the survey data.

Correlation calculations revealed that there is a statistically significant ($p=0,000$) however, weak ($r=0.358$, i.e. $r>0.3<0.5$) relationship between teachers' request for students to imagine arithmetic actions in their minds and to imagine literary characters. This may mean that those primary school teachers who tend to activate the inner imagination by visualising mathematical actions also use this method in language teaching. The lowest positions in the rankings are the imagination of spatial figures (PI = 10) and the visualisation of various schemes (PI = 9.5) in Maths lessons. This implies that in practice these activities are not very valid and are therefore not given priority. At the bottom of the ranking table is the development of visual thinking in imagining historical events (PI = 2.2) - teachers almost never ask students to visualize images related to historical events.

Primary school teachers usually develop the imagination (Table 3) of their students through fairy-tales. Such results are caused by after-school activities, when teachers strive for students to develop various competencies through the staging of fairy tales. Fairy tales help students to imagine various problematic and educational situations. The second place in the rankings is taken by the role play of literary characters. Primary school students develop their imagination by role playing literary characters (PI = 48.7). The development of imagination through acting is focused on demonstration activities for parents and teachers, the aim is for students to understand the literary works presented in their school curricula, the characters.

*Table 3 Ratings of imagination development by role playing activities
(composed by the authors)*

ACTIVITY	PI
Students are asked to act out:	
<i>Fairy tales</i>	51.2
<i>Literary characters</i>	48.7
<i>Life situations</i>	40
<i>Animals or plants</i>	23.3
<i>Various items</i>	17.1
<i>Riddles</i>	14.1
<i>Song text</i>	12.8
<i>Fantastic objects</i>	7.2

According to the popularity index, the third place is given to the visualisation of life situations (PI=40). The fourth is taken by imaging animals and plants (PI=23.3). Teachers still develop the imaginations of students by focusing on the compassion of lower-conscious animals so that people can be understood later. Animal role playing is characteristic of the activities of preschool children,

primary school students should pay more attention to the person, to other children, to learn to know themselves.

Primary school students usually write (create) fairy tales (PI=30.2) (Table 4). The second position is the creation of fantastic essays or stories (PI=21.3). In the third place there are essays that end the sentence and the storyline is developed (PI=21.1). All the above-mentioned written works are related to the creation of images in the mind, their modification, modulation, selection, variation and merging, when the student creates visual perception in the mind.

Table 4 Ratings of imagination development by writing activities (composed by the authors)

ACTIVITY	PI
Students are asked to write:	
<i>A fairy tale</i>	30.2
<i>Imaginary essays</i>	21.3
<i>Essays that finish the sentence</i>	21.1
<i>Possible case essays</i>	10.2
<i>The end of a fairy tale</i>	7.3
<i>Games</i>	3.6
<i>Scripts</i>	-10.5

The imagination of the students is cultivated during the creation of fairy tales and fantastic essays, because their plot has little to do with reality, many details need to be invented. Imagination development by transmitting internal images using verbal codes is most often applied to teaching Lithuanian or foreign languages. One example of this is writing essays. Only one statistically significant difference was found: schoolchildren in the district (average grade 184.40) are more likely to be asked to create the end of a fairy tale end than schoolchildren in the city (average rank 211.45; Z statistics $[Z] = -2.553$, and its p-value $p = 0.011$, i.e. $p < 0.05$).

Analysis of the situation for the development of visualization skills in primary classes

Analysis of survey data on the development of visualization skills (Table 5) revealed that most teachers in lessons ask students to portray fantastic objects (PI=29.8). However, this is only one-third of the possible value, which means that primary class teachers rarely ask students to visualize fantastic objects in their practice. Students are rarely asked to visualize abstract compositions (PI=17), problem situations (PI=15.9). The fourth place (PI=9.3) is the representation of the essence of the topic in schemes. These data suggest that visualization is most commonly applied to Science, Maths, and sometimes language teaching.

However, the frequency of application of visualization is very low, which reveals that about 60% of all lesson activity is devoted to other activities by teachers.

Visualization in primary classes is most commonly applied in art lessons, when it is necessary to portray fantastic objects, the second place is the portrayal of abstract forms. However, all this is done in the field of art education, and in all other lessons it is done much less often. This means that teachers rarely try to get their students accustomed to subjective thinking. Obviously, even in the arts lessons, where visual thinking should be educated most, very little attention is paid to abstraction. This implies the need for creative tasks

Table 5 Ratings of visualisation skills' development by respective activities (composed by the authors)

ACTIVITY	PI
Students are invited to represent:	
<i>Fantastic objects</i>	29.8
<i>Abstract compositions</i>	17
<i>Problem solving situations</i>	15.9
<i>The essence of the topic in schemes</i>	9.3
<i>The essence of the topic in tables</i>	3.6
<i>Different folk symbols</i>	-1.5
<i>Symbols created by students and meaning the topic objects</i>	-7.1

Fantastic objects are mostly depicted by primary school students living in districts (average rank is 209.55). Z statistics $|Z| = -2.300$, and its p-value $p = 0.021$, i.e. $p < \delta < 0.05$. There is also a statistically significant difference found between district and city schools in portraying various folk symbols, the students living in the district are more likely to draw folk symbols (average rank 208.64) than the city students (average rank is 186.36); Z statistics $|Z| = -2,092$ and its p-value $p = 0.036$, i.e. $p < \delta < 0.05$.

By analysing the survey data on the areas in which students create schemes, charts, tables and popularity index (Table 6) it can be stated that in Maths lessons students most often draw schemes, tables and charts (PI = 23.9). In the second place it is the field of science education (PI = 5.6), but the popularity index is quite different from Maths. In social education, Lithuanian primary school students almost never make any of the above-mentioned visualization elements.

Students living in districts (average rank is 209.67) are more likely to study Maths through schematic visualization than those studying in cities (average rank – 185.65, Z value $|Z| = -2.516$, and its p-value $p = 0.012$, i. e. $p < \delta = 0.05$). Similarly, it was found that district students (average rank – 209.34) more often than city students (average rank – 185.87) compile schemes, tables and charts while studying Science (Z value $|Z| = -2.086$, and its p-value $p = 0.037$, i. e. $p < \delta = 0.05$).

Table 6 Rankings of education fields in which students compile schemes, tables and charts (composed by the authors)

EDUCATION FIELD	PI
Maths	23.9
Science	5.6
Language education	-12.1
Social education	-41.8

In order to deepen the results of the study analysis, a link was sought between the use of visual instruments and the preparation of schemes, tables and charts in Maths teaching and Science education. The Kendall' tau-b correlation results show that there are statistically significant relationships between all variables, but their strength varies. A statistically weak link has been established between the visual tools used by pedagogues in teaching Maths and the tables and schemes compiled by students in learning Maths ($r = 0.395$, $r > 0.3$, the relationship is weak, but statistically significant, because $p = 0.000$, i.e. $p < 0.001$). Those teachers, who themselves use visual aids, probably also see the importance of visualization in learning Maths, encourage their students to make more efforts.

There is a statistically significant ($p = 0.000$), but weak ($r = 0.301$, i. e. $r < 0.3$) relationship between the visual aids used by pedagogues to convey Science knowledge and the tables, schemes compiled by students to deepen their Science education. It can be assumed that the more the teachers themselves use visual aids in teaching Science concepts, the more they encourage students to visualize information from verbal or numerical codes to visual. There is also a statistically significant ($p = 0.000$), but weak ($r = 0.349$, i. e. $r < 0.3$) relationship between the processes of visualization in Maths's teaching and Science education. It can be said that the more schemes are drawn, the more tables are compiled in Maths's teaching, the more this is done in Science education and, of course, vice versa.

Knowing that in district schools primary schoolchildren are more likely to produce visual instruments for Maths and Lithuanian subjects, it is important to find out what place the production of visual aids occupies in the general context of the use of visual instruments. The popularity index indicates that students do not almost completely produce visual aids themselves. The PI shown in Table 7 indicates that the ratings are very low, three of which are negative, i.e. indicate a negative level of aspect. The results discussed earlier indicate that there is a greater tendency in district schools to develop the visual thinking of students by producing their own visual tools. Although the students themselves produce visual aids for language teaching very rarely (PI=-15.4), such activities are more encouraged in district schools.

*Table 7 Ratings of education fields for which students produce their own visual aids
(composed by the authors)*

EDUCATION FIELD	PI
Maths	3.1
Science	-3.3
Language education	-15.4
Social education	-29.8

In teaching Maths in district schools, students are asked to produce visual aids more often (average rank 220.35) than students in cities (average rank 178.21); Z value $|Z| = -3.769$, and its p-value $p = 0.000$, i. e. $p < \delta = 0.05$. Statistically significant difference is also observed in the field of language teaching - Z value $|Z| = -2.545$ and its p-value $p = 0.011$, i.e. $p < \delta = 0.05$. Students in district schools are more likely to produce visual instruments for language teaching (average rank 212.48) than students in city (average grade 183.68). Students both in district and in city almost equally produce visual tools Science education and social education, statistically significant differences have not been found.

Conclusions

The results of the research reveal that the development of imagination by conveying internal images with verbal codes is most often applied in the teaching of Lithuanian or foreign languages. Primary teachers most often develop imagination through the activities of storytelling (most often - writing tales, creating fantastic writings, storytelling), acting as fictional characters, imagining life situations, which are related to creating images in mind, changing them, modulating, selecting, varying and joining. Statistically significant differences are revealed, where district teachers, more often than city teachers, ask students to create fictional characters or the ending of a fairy tale.

The analysis of the situation in the education of visualization skills reveals that in the subjects of Mathematics, language teaching, Science, students living in the district more often draw folk symbols, produce visual tools themselves, visualize information into images than city students. Students usually present fantastic objects, schemes, tables and diagrams during lessons. Cultivation of imagination helps students to better understand the works of literature, the characters and the text being read; existing and missing elements of the task, see objects with inner vision, and solve the task faster.

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DEVELOPMENT OF YOUTH CREATIVE ABILITIES OF SCHOOLCHILDREN BY USE OF BYOD TECHNOLOGY

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***Abstract.** Modernization of the modern primary education system of Ukraine is aimed at developing creative abilities of primary school students. Development of the creative abilities is one of the components of soft skills of an individual, they affect the successful establishment in society. A creative person is able to generate new ideas, think original, make non-standard decisions, confidently achieve their goals. Creativity is an integrative multicomponent quality that covers various areas of students' activity. Due to the digitalization of the educational process, information and communication technologies are being rapidly implemented in primary school. Accordingly, the authors of the article analyzed the features of the use of innovative technology BYOD ("bring your own device") for the development of creative abilities of students, identified its positive aspects, outlined ways to use it by teachers. The purpose of the article is to reveal the educational potential of BYOD technology for the development of creative abilities of junior schoolchildren. An experimental study was conducted, the respondents of which were students of primary school in Vinnitsia region and determined the leading level of development of their creative abilities. The results of lessons observation in primary school on the use of innovative technologies for the formation of creative abilities of primary school students are analyzed. The results of the survey of primary school teachers on the use of innovative BYOD technology in the educational process are presented. It is proved that the use of smartphones in primary school*

lessons promotes the development of creative abilities of primary school children and their imagination, and change of the educational vector of primary school from reproductive learning to creative understanding of information and competent growth (formation of digital competence and organization of students' independent research).

Keywords: *creative abilities, educational process of primary school, innovative BYOD technology, junior schoolchildren.*

Introduction

Reforming the modern education system in Ukraine and its integration into the European educational space necessitate the improvement of the content of education through the application of innovative approaches to learning. Accordingly, there is need to form a creative personality of a child who is able to make original decisions, see the problem and find ways to solve it, create something new, build their own strategies for solving unusual situations. The today's public demand is a flexible, creative person who not only has a set of knowledge and skills, but also thinks critically and creatively. In view of this, the problem of modernization of the educational process aimed at developing each child's creative potential becomes relevant. Therefore, it is important to create favorable conditions for the maximum realization of creative abilities of primary school students. It is the New Ukrainian School that is entrusted with this important task, as the primary school should give every child a basis for creative development and preparation for life.

We believe that special attention should be paid to innovations that improve the organization of the educational process, one of which is the modern technology BYOD ("bring your own device"), which involves the use of high-tech devices in the educational process. Thanks to the use of BYOD as a tool for STEAM education, younger students will develop initiative, creativity, creative and cognitive activity, media literacy, critical thinking, interest in learning, the ability to pose problems and find solutions. Note that BYOD technology is an important means of forming a creative innovative personality.

The purpose of the article is to highlight the educational potential of BYOD technology for the development of creative abilities of primary school students.

During the research we used the following methods: theoretical (analysis, generalization of literature sources to determine the theoretical aspects of the outlined research problem) and empirical (pedagogical observation of primary school lessons on the use of innovative technologies for creative abilities of primary school students, questionnaires, teachers and students' testing).

Theoretical background

The modern system of primary education needs to reconsider the basic views on the organization of the educational process. The problem of transition from passive accumulation of knowledge by students to creative, motivated acquisition of information, during which the students, when seeking the truth, are able to show their imagination, intuition, curiosity.

There is a large number of domestic and foreign works, which consider: features of children's creative abilities through play (Moliako, 2006), methodological support (method of verbal development of literary works' images, verbal drawing) of creative activity of primary school students (Sharofutdinova, 2021); teacher's influence on the effectiveness of the development of creative abilities of primary school students (the need for productive cooperation between teachers and students, the use of problem-based learning, heuristics and research methods (Yusufaliyeva, 2021), stimulating creativity in children and adolescents in family and school environment by forming a serious attitude to work in students, transfer of knowledge that is a necessary basis for creative activity, organization of meetings with creative people, teaching children to make efforts and persevere (Wolska-Długosz, 2015), development of creative thinking skills of primary school students in solving problems with math ethics (Yayuk et al, 2020), determining the impact of the activity approach to learning on the development of creative abilities of primary school students (Nwoke, 2021), the development of creative abilities of students through self-knowledge lessons (Mynbayeva et al, 2018), features of the development of artistic abilities of preschool and primary school children in the digital educational environment (Emanova et al, Usynina, 2021), differences between creative learning and creative teaching (Jeffery & Craft, 2004).

Nowadays, due to the rapid development of computer technology, modern primary school students are able to use touchscreen mobile phones at school. Modern learning has become mobile, i.e. accessible regardless of the subject's location and the time when they learn new information. As a result, the function of the teacher has changed dramatically – the teacher is no longer a translator and the only source of knowledge – primary school teachers today must create conditions for students to acquire knowledge independently, organize research activities of younger students, interest them in finding information. It is known that the learning process organized this way contributes to a stronger assimilation of knowledge, increasing the level of positive motivation of younger students to the cognition process and development of their creative abilities. However, according to the experience and results of our observations, the vast majority of primary school teachers in Ukraine prohibit the use of phones in class due to students being distracted by games or correspondence with friends in messengers.

Currently, this issue is being updated in accordance with the requirements of the Concept of the "New Ukrainian School", according to which the educational vector of primary school is changing from the acquisition of knowledge to the formation of competencies; the central idea are those of child-centeredness and partnerships with participants of the educational process (children and their parents); organization of students' independent research activities; development of creative thinking, the pervasiveness of the education process, the result of which is formation of a person capable of self-education, self-realization, self-determination, self-awareness in the realities of modern life; formation of qualities necessary for creative activity (Vyshkivska & Shykyrynska, 2019).

In this context, the use of BYOD technology in the educational process of primary school becomes relevant. The term BYOD stands for "bring your own device". This technology was launched in the field of IT in 2009. Intel's executives, noticing the trend among employees to bring their own laptops, tablets and smartphones to the workplace for corporate use, allowed them to use their own devices for professional tasks. Over time, this approach was transferred to the field of education. BYOD was first mentioned in 2005 university work of Raphael Ballagas (Ballagas et al, 2005). In our opinion, the use of BYOD technology in the educational process of primary school in order to develop the creative abilities of younger students can be quite effective. It is worth noting that the European schools (SCHOLA EUROPEA) in September 2021 launched the project "Bring your own device" (BYOD) for all students in grades 4-7. The main goal of the project "Bring your own device", as stated on the website of European schools, is to develop digital skills and competencies to become effective, active, critical, creative and responsible students and users of digital technologies.

Methodology, organization and results of the research

In the course of this study we used the following methods: theoretical: analysis of scientific sources to determine the state of research on the development of creative abilities of primary school students in the world, synthesis, systematization and generalization of theoretical principles of the problem; empirical: pedagogical observation of children's and teachers' class and extracurricular activities, conversations with third-graders about the reasons for their use of smartphones during breaks, conversations with primary school teachers about children's use of devices in class, questioning educators and testing third-graders to find out the level of their speed, flexibility and originality of creative thinking.

In general, we were monitoring the educational process in six third-grader groups of the primary school in Vinnytsia for three months (March-May 2021). We

monitored children's activities during lessons, breaks and extracurricular activities. As a result of the observation, it was noticed that teachers offer children to put their phones / smartphones / tablets in a special box, saying that the phone should rest. The teachers also put their own phones in such a box, thus encouraging the children. During breaks, children actively used telephones, mainly for games or correspondence, a small number of children were engaged in active recreation.

We used a modified Guilford test to determine the degree of development of creative abilities of third grade students. A total of 168 third-graders took part in the study. Students were given the following task: to list as many unusual ways to use the subject. Before the test, we offered children an example: "The newspaper is used for reading. You can come up with other ways to use it. What can be done with it? How else can it be used?" The instruction is read orally. Subtest execution time – 3 minutes. Testing was conducted in groups; the children wrote down the answers on their own. The time tracking started after reading the instructions.

The results of the test were evaluated in points by three indicators.

1) **Speed** (speed of ideas reproduction) – the total number of responses. 1 point is given for each answer, all points are summed up. $B = n \cdot B$ is the speed, n is the number of appropriate answers. In the evaluation process, we paid special attention to the term "appropriate answers". They rejected the answers mentioned in the instructions – obvious ways to use newspapers: read the newspaper, find out the news and so on. According to the test results, this indicator was equal to: 2-3 points for 72 students, 4-6 – for 46 students and 7-9 – for only 28 respondents. 22 students had one or fewer relevant answers.

2) **Flexibility** – the number of classes (categories) of responses. All the answers can be divided into different categories. For example, answers such as "you can make a hat, a ship, a toy out of a newspaper", etc. fall into one category – the creation of products and toys. There were 3 points for each category.

The flexibility index was calculated by the following formula $G = 3m$, where G is the flexibility index, m is the number of categories used.

The test showed the following results in regards to the flexibility indicator: $G = 3$ – 67 students, $G = 6-9$ – 56 students, $G = 12-16$ – 45 students.

3) **Originality** – the number of unusual, original answers. The answer is considered original if it occurs once in a sample of 20-30 people. One original answer – 5 points. All scores for the original answers were summed up. The index of originality was calculated by the formula $Or_1 = 5k$, where Or_1 is the indicator of originality, k is the number of original answers. The results of the test showed the original answers of only 27 students. As you can see, the highest is the rate of speed (i.e. the ability of students who participated in the survey to generate ideas is quite high), and the lowest – the rate of originality. Therefore, based on the results of this

test, we can advise teachers to create appropriate conditions for children to show originality of thinking.

In order to find out the level of primary school teachers' awareness of BYOD technology, we developed a questionnaire and conducted a survey of teachers (November 2021). The survey was conducted remotely (the questionnaire was developed in the Google Forms application). A total of 64 Ukrainian primary school teachers from different towns and villages took part in the survey. The range of pedagogical experience of teachers who participated in the survey ranges from 1 to 14 years.

According to the answers received for the first question of the questionnaire (Fig. 1) it can be seen that more than half of the surveyed teachers (56.7%) are unfamiliar with BYOD technology and want to learn about its implementation, and only one teacher uses it in their work. However, the positive thing is that 25.4% of teachers are familiar with this technology from the scientific literature / methodological seminars / colleagues, etc., from which we can conclude that there is dissemination of information about BYOD technology in pedagogical circles. Visually, the results of teachers' answers to this question can be seen in Fig. 1.

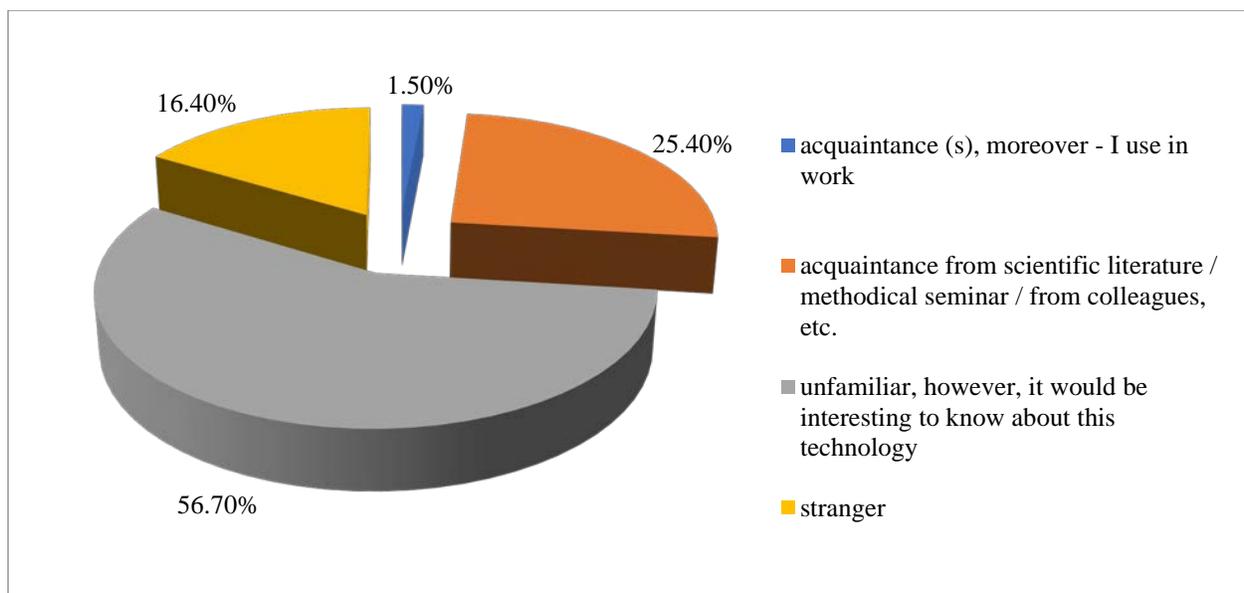


Figure 1 Answers of primary school teachers to the question about their acquaintance with BYOD technology (created by the authors)

Among the reasons why BYOD technology has not yet become widespread (Fig. 2), teachers could choose one or more answers. The following reasons were the most popular: providing all students with their own devices with Internet connection

(63 people), distracting students by games or correspondence with friends in messengers during the lesson (65 people) and negative impact on child’s vision (41 people). Other options we offered (the need to frequently charge the device, the complexity of the educational process, reduced communication with the teacher, fascination with individual forms of work as opposed to collective ones, viewing the prohibited content by the students) were considered by teachers as less important.

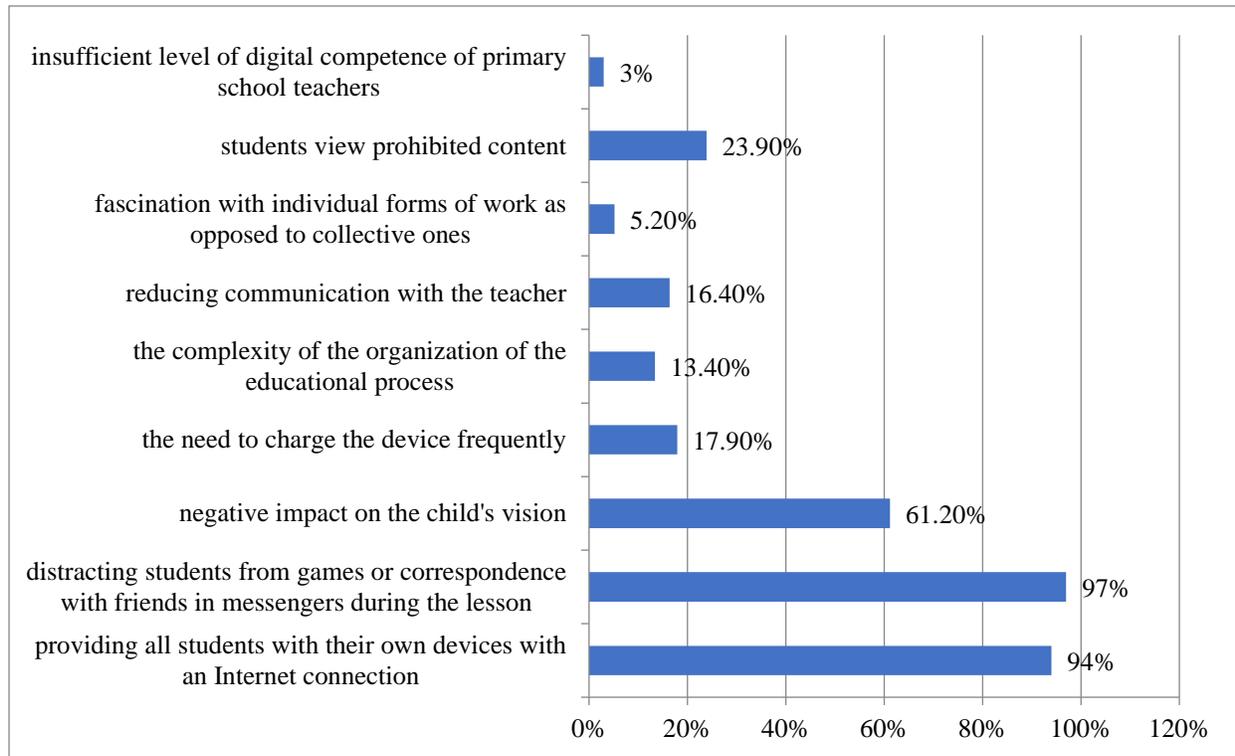


Figure 2 Answers of the teachers to the question about the reasons for insufficient use of BYOD technology in primary school (created by the authors)

The distribution of teachers’ answers to the third question (“How will the use of BYOD technology contribute to the most effective development of creative abilities of primary school students?”) is presented in Fig. 3. Teachers who participated in the survey consider a wide range of applications of this technology (for independent work, as a tool for the QR-codes transition, for working with interactive manuals, for web-quests, to search for visual information), however, most of the teachers see the widespread use of this technology for development of creative abilities in organization of the work of younger students in small groups (42 people chose this option).

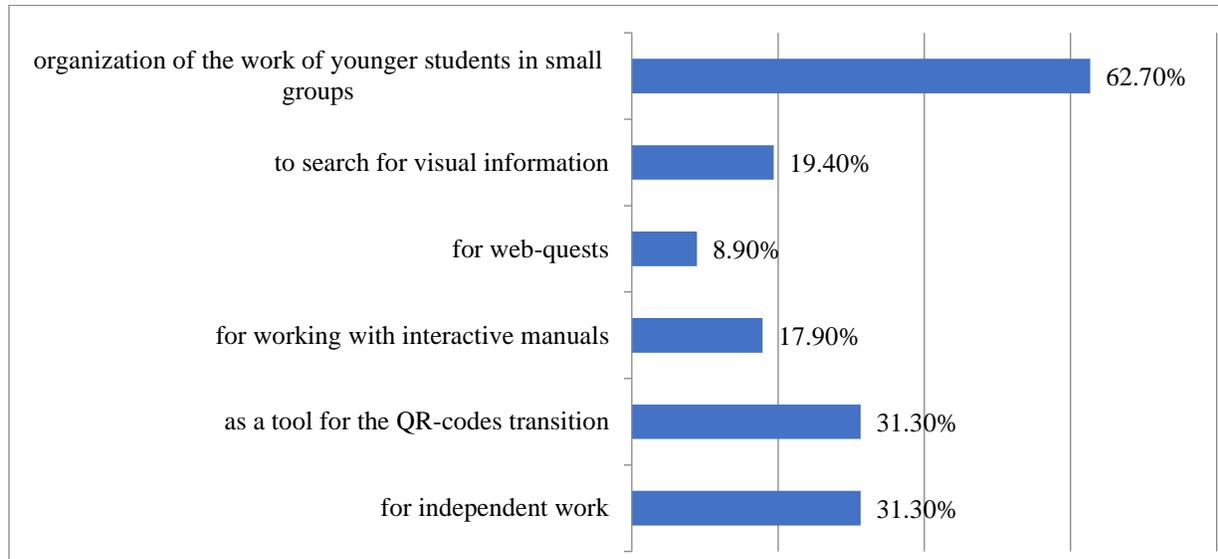


Figure 3 Teachers' answers to the third question (created by the authors)

Summing up the results of the survey, we can say that BYOD technology has not yet become widespread among primary school teachers for the development of creative abilities of primary school children, but many of them are interested in learning more about this technology. We see the teachers' fears about the use of this technology (in the form of negative aspects of the impact – the answer to the second question), so we consider it appropriate to indicate how they can be solved. The problem of harmful effects on vision can be solved by limiting the work with the device to 10-15 minutes per lesson. The problem of distracting children by games or correspondence with friends can be solved by raising the teacher's level of professionalism, trying to be modern, which will make students more interested in learning. Lack of a device can be solved by organizing work in pairs or small groups, designing the task in a way where each student can join a joint project – each student has their own task related to the tasks of the others aimed at achieving a common result. Another option could be implementation of a program of school cooperation with gadgets manufacturers, or involvement of government agencies and private organizations that provide grants for educational programs. The problem of students viewing banned content can be successfully solved by the “Parental Control” functionality. The need to charge the device often will be solved by access to the sockets for each student, and the Internet connection speed – by providing Wi-Fi channels at the required speed.

Here are some examples of tasks for the development of creative abilities of junior high school students using BYOD technology:

Task 1. Compose a riddle with any suggested word (mosquito, beet, iris, mower, screen) and send to a friend, parents, brother or sister, using the social network Viber. Find out how many people gave the correct answer. Present the results in class.

Task 2. Imagine that you are going to your grandmother today, and your mother really wants to know what you did today at school in a Ukrainian language lesson. Record a short video message for her.

Task 3. Call a classmate who was not at school today and arrange a meeting to tell all the news that happened in the classroom and homework.

Task 4. Using the timer on the phone, play the game "Who is faster?" Compete with classmates on the speed of reading the text.

Conclusions

The generalization of the scientific literature and the results of our own empirical research allows us to draw the following conclusions.

BYOD technology in modern conditions of powerful development of computer technologies is not only necessary (increase of cognitive interest of junior schoolchildren, development of critical thinking and digital competence of junior schoolchildren, use of electronic textbooks and manuals where students move to various online learning services, 3D models, educational videos, interactive exercises with the help of QR-codes, which is impossible without the presence of personal touchscreen devices), but also possible in the development of creative abilities of younger students.

Today, in the age of mobile Internet, when the student can find or check any information provided by the teacher, it is almost impossible to interest children without the use of innovative approaches and computer technologies. The task of the modern teacher is to build each lesson in a way where all students have a lasting interest, learning activity and desire to create, formulate and test hypotheses. The use of BYOD technology allows to effectively develop the creative abilities of each child in the classroom by individualizing the educational process: by giving the student a task, the teacher can observe how actively the child works on its solution, which Internet sources are used, how developed the indicators of his creative thinking are – speed, flexibility, originality.

Teaching the future primary school teachers the features of this technology by introducing compulsory or elective subjects in the curriculum should be the strategic goal of higher education institutions. Information on the use of this technology is

also needed by teachers who currently work in primary school (according to the results of our questionnaire).

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THE IMPACT OF INTERACTIVE METHODS ON ONLINE DIDACTIC ACTIVITIES

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Abstract. *The period of online didactic activities, caused by Sars-CoV-2 pandemic, offered teachers and students the opportunity to focus more on what is essential, on the elements with qualitative impact, on abilities and skills, rather than on content and peripheral elements (Botnariuc & Cucos, 2020). From this perspective, the use of interactive methods in teaching and in solving cooperative learning assignments was one of the strategies used by teachers to maintain interest in learning, to strengthen the teaching process and to promote intellectual, verbal, social and emotional exchanges among students.*

Our study focuses on the opinions of teachers from primary and lower secondary schools regarding the impact, the effectiveness of interactive methods in online didactic activities. The study involved focus group discussions and the selection of the most often used interactive methods (clustering technique, quadrants, conceptual maps, starbursting, brainstorming, quintet, think-pair-share, lotus blossom technique etc.) to be transposed into items in the questionnaire used in the research. The information gathered was interpreted using the SPSS analysis. The results of the study provide a data base and a possible framework to facilitate eLearning and a possible working strategy for primary and lower secondary school teachers to ensure students effective interactive learning experiences.

Keywords: *eLearning, interactive methods, online learning.*

Introduction

The quality of learning is based, among others, on the quality of communication between teacher and student and between student and peers. Students learn “to build” their knowledge based on their own understanding, and this personal endeavour is favoured, to a great extent, by the interaction with other learners. Students need socializing, communicative interaction with peers, support and cooperation in dealing with school assignments. During the pandemic online activity, teachers tried to maintain these communication networks open and to intensify learning through cooperation, using didactic techniques with emphasis on students’ interaction. Applied online, these techniques offer students the possibility to produce, analyse and organize knowledge, ideas, skills and competences.

The impact of the interactive methods refers to effects of cognitive/intellectual nature, as well as those of socio-affective nature. Thus, cognitive effects aim at developing the knowledge system, superior cognitive abilities (divergent and convergent thinking, critical thinking, lateral thinking), communication abilities (argumentative, contextual), creativity, all quantified in the results of oral or written assessments. On the other hand, the socio-affective effects aim at developing group work skills, the ability to adapt to different situations, to react to various challenges etc. Also, the impact of online didactic methods aims at students' abilities to correctly perform their school tasks, to be actively and consciously involved in the application of interactive methods in online activities.

Our study will limit the research to the analyses of some selected interactive learning techniques which are frequently used in online didactic activities at primary school and gymnasium as means of maintaining communicative interaction among peers so as to ensure efficient learning for students.

Literature review

Brainstorming implies individual search and group elaboration. It is a didactic cooperative technique developed in two stages: a) individual production of as many ideas as possible based on the task provided the teacher, b) analysis, assessment and selection of the most valid ideas. Brainstorming does not simply mean collecting creative ideas, but it requires rules such as "no evaluation of ideas during the brainstorming" and "no copyright on ideas" (Taras & Gonzalez-Perez, 2015). However, it is allowed to expand on someone else's idea.

Unlike brainstorming, which relies its value on quick generation of ideas as numerous responses, Think-Pair-Share is designed to offer a structured opportunity to reflect on a subject before voicing student's thoughts. Its purpose for the individual participant is to refine and clarify personal viewpoints, prepare arguments to support them before communicating them to others. The purpose for growth of a group is to share opinions honestly and openly (Holcomb, 2001). As a learning technique, it is effective as it incorporates the individual, small group and whole-group discussion. As the task or the question is provided by the teacher, the student works on it independently. Then the student shares his/her response with a partner. After clarifying and thinking through the responses, students provide them in whole group discussions, so that the entire class can benefit from the thinking of everyone else.

Starbursting is a form of brainstorming that focuses on generating questions rather than answers. It can be used iteratively with further layers of questioning about the answers to the initial set of questions. Its main objective is to enable a team to think about performance, to consider available options, to get as many connections among concepts, to rule out non-essential ideas. The technique debuts

with a central idea surrounded by a six-pointed star drawn in the middle of a large piece of paper. At the tip of each point of the star are written: “Who”, “What”, “Why”, “Where”, “When” and “How” (Oprea, 2006). Students brainstorm as many questions as possible about the idea starting with each of these words. The questions radiate out from the central star. Students are not allowed to provide answers to the questions. The final stage in the process is to emphasize the most interesting questions and appreciate the effort of the team work.

Lotus blossom technique focuses the power of brainstorming on areas of interest. It is a creative-thinking technique that helps students organize their thinking around significant themes, guiding them to explore a number of alternate possibilities and ideas. It starts with a central theme written in the centre of the diagram. Significant subthemes, components or dimensions of the main topic are written in eight surrounding circles which form the petals around the core of the blossom. In their turn, these subthemes may become main themes for other eight ideas, forming thus other eight lotus petals. In the end, the ideas from the petals are assessed and given the proper feedback (Bocoş, 2013). The technique is compatible with many disciplines and stimulates group work and students' creativity.

Essentially, concept mapping is a structured process, focused on a topic, involving input from one or more participants that produces an interpretable pictorial view (concept map) of their ideas and concepts and how these are interrelated. In other words, conceptual mapping is a visual organization and representation of knowledge. It shows concepts and ideas and the relationships among them. A concept map typically represents ideas and information as boxes or circles, which it connects with labelled arrows, often in a downward-branching hierarchical structure (Oprea, 2003). Concept mapping helps students think more effectively as a group without losing their individuality. It helps groups to manage the complexity of their ideas without trivializing them or losing detail.

The clustering technique is a type of non-linear brainstorming. It begins with a core word that triggers related terms that branch out from the central term. One term leads to another and another so as to create a complex network of various ideas, all related back in the same way to the core stimulus word. The purpose of the technique is to highlight the connections among the concepts, thus facilitating understanding and learning (Moise & Seghedin, 2008). The technique can be applied online with small groups and pairs.

The four quadrants is a technique of approaching a content based on four criteria, one for each quadrant. It is a means of summarising and synthesizing some informational content so as to fit a quadrant at a time. Thus, the teacher provides four tasks and the students are asked to draw four quadrants and solve a task for each quadrant. Another approach to the technique is that the teacher provides one task/ topic of discussion and students express different points of view on the topic for each quadrant (Dulamă, 2008).

The quintet, as a learning technique, is meant to develop critical thinking (Steele, Meredith & Temple, 1998, 32). It is a creative form of writing which consists of elaborating a short text, a poem by means of which some content is synthesized: a literary theme, a concept, an idea, some information previously learned. The quintet has a specific structure (Bocoş, 2013): the first line contains a key word, a noun most of the times; the second line is formed of two words, two adjectives describing the noun; the third line is made up of three verbs in gerund related to actions specific to the noun in the beginning; the fourth line is made up of four words describing the author's emotions for the topic; the fifth line contains one word expressing the essence of the topic. The quintet as learning technique is often used as online assignment, individually or in group. In case of working in pairs or in large groups, the poems can be created individually, then, through debate, students should opt for a few variants, evaluated as the most successful products.

Pick the Winner is a technique of learning through cooperation which involves finding a solution within the group, assessing it by another group, analysing two solutions (of the two groups, the assessor and the assessed) comparatively within reunited groups, establishing a hierarchy for the two solutions. The students are divided into groups and receive the same task to work on. The solutions are registered in writing on paper or digitally (Knapen, 2018). Then, each group switches with a nearby group and lets them evaluate their answer. After a few minutes, each set of groups merges and selects the best answer from the two choices, which will be presented to the complete class.

Methodology of research

The research objectives

The objectives of our study are: a) to identify a range of learning techniques which are frequently used in online didactic activities at primary school and gymnasium as means of maintaining communicative interaction among peers so as to ensure efficient learning. The selection of techniques was made starting from the discussions in focus groups with the teachers involved in the research; b) to achieve descriptive analyses of the selected learning techniques in order to determine their hierarchy based on their impact on the online didactic activities for each of the two school levels with a view to provide an objective analysis of the ways students' online interaction could be improved.

The participants

Based on focus groups discussions we realised a questionnaire which was applied to a sample of 100 teachers (50 for each school level: primary school and gymnasium) from Vrancea County, Romania. The teachers from lower secondary school teach social and humanistic disciplines as these interactive techniques are more frequently used with these objects of study. The teachers from both school

levels were selected from among experienced teachers with 5 to 30 years of experience in the educational system.

The instrument

The instrument of research was a questionnaire which analyses the opinions of the teachers in the primary and gymnasium levels regarding the impact of interactive methods on online didactic activities. The questionnaire was conceived based on the study of specific literature and on the discussions in focus-groups with the teachers from each of the two school levels. This allowed the identification of a series of interactive learning techniques which are frequently used in online didactic activities and have an efficient impact on students' learning through cooperation: brainstorming, think-pair-share, starbursting, lotus blossom technique, concept mapping, the clustering technique, the four quadrants, the quintet, pick the winner.

The respondents chose variants of a five-step scale: (1) to a very low extent, (2) to a low extent, (3) to an average extent, (4) to a large extent, (5) to a very large extent. Teachers' choices showed each item's relevance for the impact of interactive methods on online didactic activities.

Results and discussion

The SPSS software was used for the descriptive analyses, the t-test for the independent samples.

Table 1 Means and standard deviation of the impact of interactive methods on online didactic activities

Items of the impact of interactive methods on online didactic activities	Primary school Mean (std. dev.)	Gymnasium Mean (std. dev.)
Brainstorming	4.82 (0.418)	4.78 (0.438)
Think-Pair-Share	3.94 (0.935)	3.16 (0.842)
Starbursting	4.76 (0.667)	3.36 (1.191)
Lotus blossom technique	2.08 (0.724)	3.78 (0.848)
Concept mapping	3.10 (1.931)	4.00 (0.833)
Clustering technique	4.68 (0.522)	4.18 (0.776)
The four quadrants	3.92 (0.900)	4.64 (0.563)
Quintet	4.54 (0.646)	4.20 (0.682)
Pick the winner	3.42 (1.311)	3.00 (0.833)

Source: Authors

With the means in Table 1 we established a hierarchy of the indicators for the impact of interactive techniques on online didactic activities for primary school and lower secondary school. As such, the indicator ranking 1st was

perceived as having the greatest impact on online didactic activities, whereas the item in the 9th rank was viewed with the lowest impact for the same purpose.

Table 2 Descriptive of hierarchy of the impact of interactive methods on online didactic activities

Rank	Primary School	Gymnasium
1.	Brainstorming	Brainstorming
2.	Starbusting	The four quadrants
3.	Clustering technique	Quintet
4.	Quintet	Clustering technique
5.	Think-Pair-Share	Concept mapping
6.	The four quadrants	Lotus blossom technique
7.	Pick the winner	Starbusting
8.	Concept mapping	Think-Pair-Share
9.	Lotus blossom technique	Pick the winner

Source: Authors

According to Table 2, the 1st rank in the hierarchy of the impact of interactive techniques on students' online learning is for brainstorming with both levels of education ($m = 4.82$ in primary school and $m = 4.78$ in lower secondary school). This can be argued by the fact that brainstorming is an interactive method with a wide applicability and a major impact on students' cognitive and socio-affective development and, as such, on their involvement in the online didactic activities. Based on the fact that all ideas are accepted without criticism, students feel free to get creative and involve actively in school assignments. The items ranking the 2nd and the 3rd with primary school are starbusting ($m = 4.76$) and clustering technique ($m = 4.68$). As they are variants of brainstorming and techniques of graphic organization, starbusting and clustering are attractive for young students because they provide means of organizing knowledge, using images and colours, in order to establish connections among ideas, concepts etc.

With lower secondary school, the items ranking the 2nd and the 3rd are the four quadrants ($m = 4.64$) and the quintet ($m = 4.20$). These two are techniques by means of which the information is efficiently synthesized, which allows better understanding and as such, effortlessly learning of the information, that is why they are more frequently used in the online didactic activity.

The quintet is among the first five top rankings with both school levels ($m = 4.54$ for primary school and $m = 4.20$ for lower secondary school). Students prefer this technique as they are allowed to express creatively their ideas, knowledge or emotions. As online assignment, the quintet proved more efficient when done in pairs. The work in large groups led to debates which proved time consuming.

Think-Pair-Share ranks differently with each school level: 5th rank with primary school ($m = 3.94$) and 8th rank with lower secondary school ($m = 3.16$). The excitement of sharing and supporting knowledge, impressions or personal

experiences makes it a popular technique with primary students. However, as students grow old, they become more restrained and the technique becomes efficient if several factors are taken into account: choice of partner for pair work, selection of theme or topic of discussion etc.

Concept mapping also ranks differently with each school level: 8th rank with primary school ($m = 3.10$) and 5th rank with lower secondary school ($m = 4.00$). As primary school students are too young, they find it difficult to organize and represent synthetically knowledge by themselves. Most of the times, they resort to their teacher's help for such tasks. On the other hand, gymnasium students have the ability to represent concepts and ideas and the relationships among them quite easily, that is why the technique is successful as online didactic assignment with this segment of age.

The lowest means in the hierarchy is for the lotus blossoming technique ($m = 2.08$) in primary school. The lotus technique is more intricate to realize, that is why teachers prefer to use it in whole-class activities and less as learning task in independent group assignments. With the lower secondary school, the lowest rank is for pick the winner technique ($m=3.00$). Teachers mentioned that, most of the times, in the stage of choosing the winning solution conflicts between the groups often occur. That is why students usually prefer using this technique under teacher's supervision.

The T test for the independent groups was used to determine the differences of the opinions regarding the impact of interactive methods on online didactic activities. The significance level was set to 0.05. Starting from the significant differences from a statistical point of view among teachers' appreciations, we could state the relevance of the impact of interactive methods on online didactic activities in the two school levels. Thus, our analysis of the appreciations of the teachers from primary school and gymnasium emphasized significant differences for 8 items (the four quadrants, the clustering technique, the quintet, the lotus blossom technique, starbursting, concept mapping, think-pair-share, pick the winner, $p < 0.05$). We registered statistically insignificant differences for one item (brainstorming), indicating the convergence of opinions of the teachers from the two school levels.

Conclusions

Maintaining students' learning interaction online is important as it creates positive relationships among peers. These are not beneficial only to students, but to teachers also. Research has shown that teachers who have good relationships with students are less stressed and are more likely to have high-achieving classrooms. Classroom climate will change as a result of teacher-student relationship. As students feel more connected to their teacher, they will also begin to feel the same towards their peers. This will lead to a classroom environment

where students feel safe and supported to engage in group work and to take risks in learning (Krantz & Smith, 2021).

Our study, through the hierarchies made, provides a possible way of selecting and using a certain range of interactive methods by teachers in primary and lower secondary education interested in improving teaching. By relating the methods to the multireferential impact they can have on the teaching activity (as a form of support for cooperative learning, intercommunication among students, efficiency of school activities), we provided a starting point/ documented material through the applied research on a selection of interactive methods and their effective application. On the other hand, the study can be further developed by applying the same research tool to a much larger sample, which can lead to much better contextualized results for different levels of education.

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CONCEPTUALIZING THE EFFECTIVENESS RESEARCH OF AN ONLINE CURRICULUM FOR VIRTUE EDUCATION IN LATVIA

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Abstract. *The necessity and unavoidability of moral education in school is well established, but there is still a lack of theoretical knowledge base (know-what) regarding what works effectively in character education. This paper addresses the conceptualization of a 3-year effectiveness research of the online curriculum for virtue education from grades 1 to 9. The goal of the research is to create new theoretical knowledge about what means effective moral education and about what makes an online curriculum for virtue education effective in Latvian context. The effectiveness research uses the randomised controlled trial approach and adopts an experimental trial design, using pre-, intermediate- and post-test with experiment and control groups clustered at the class level in three strata: grades 2-4, grades 5-7, and grades 7-9. The intervention will consist of the implementation of the full virtue education curriculum in the respective grades. A multicomponent questionnaire for pupils and focus-group discussion with teachers are used for data collection. The curriculum is highly coherent with global, national and sector priorities and has a strong potential for enhancing the quality of education and contributing to societal well-being in Latvia.*

Keywords: *basic education, curriculum research, effectiveness research, randomized control trial, virtue education.*

Introduction

Character education, also called virtue education, is accepted as an essential part of 21st century school education (e.g., Fadel et al., 2015; Rubin, 2017; Retnowati et al., 2018; Singh, 2019). A good character, understood as "a set of personal traits or dispositions that produce specific moral emotions, inform motivation and guide conduct" (The Jubilee Centre, 2017, p.2), includes the cultivation of intellectual, moral, performance and civic virtues, guided by the meta-virtue of prudence. Character (virtue) education is a holistic kind of moral education which focuses on pupils' acquisition of moral habits (virtues), instead of addressing solely pupils' values, moral emotions or moral reasoning skills.

While there is awareness about the convenience of moral education at school (*know-why*) (e.g., Aldridge et al., 2020; Arthur & Harrison 2014; Arthur et al., 2017; Durkheim, 2012; Goodman, 2019; Harðarson, 2019; Pike et al., 2021) and

about the importance of collaboration of school, family and NGOs in this field (*know-who*) (e.g., Bates, 2019; Epstein et al., 2002; Vincent & Maxwell, 2016), there is an increasing interest regarding what works effectively in character education (*know-what*) (Berkowitz et al., 2008; Berkowitz et al., 2017). Effectiveness research in this field can be properly addressed by longitudinal studies (Wang et al., 2015). The aim of this paper is to present the conceptualization of a longitudinal (3 years) effectiveness research of the online virtue education curriculum for pupils in grades 1 to 9 (hereinafter: the e-TAP curriculum).

This research is the continuation of the postdoctoral research project "Arete-school" (2017-2020), which promoted virtue education at school and was supported by the European Regional Development Fund, and of the e-TAP project "Fit and feasibility trial of an online curriculum for virtue education" (2020-2021), funded by the Latvian Council of Science. During those two projects, the elaboration of the platform "Arete research" and two teacher training programmes were monitored and piloted. In 2021, the fit and feasibility of the e-TAP curriculum was studied: in spite of COVID-19 crisis, 259 voluntary teachers from 79 Latvian educational institutions approved the whole curriculum in their classes (in presence or online) in Spring 2021 and provided 1305 feedback questionnaires. The results of the analysis of this rich material were discussed with teachers and education policy makers in four online focus-group discussions in June 2021. The curriculum was improved and disseminated in Latvian schools in the Fall 2021. The study whose conceptualization is presented in this paper builds on those results for investigating the effectiveness of the e-TAP curriculum. The goal of the effectiveness research is to create new theoretical knowledge about what means effective moral education and about what makes an online curriculum for virtue education effective in Latvian context.

Rational of the study, social context: The research project seeks to foster youngsters' personal flourishing and Latvian social and economic development by providing new knowledge and innovative technical solutions for responding to the urgent challenges of implementing virtue education under the COVID-19 crisis and beyond. The research is based on the conviction that current and future challenges in Latvia and globally can be addressed by a research-based effort on development of youngsters' virtuous character during school years, helping them to grow as whole persons and to show a responsible ethical behaviour. The scientific justification of the research is articulated around two questions:

Why virtue education in in Latvia? The current needs for moral education in Latvia were revealed by a need analysis implemented in 2018-2019 (Surikova & Pigozne, 2018; Fernández González, 2019a), which involved more than 2250 respondents from different educational sectors: 77% of respondents believed that school and teachers play an important role in pupils' moral education, and 92 % believed that pupil's virtues can be directly promoted at school.

Why a longitudinal effectiveness study? This could be better understood in the light of the recent socio-political developments regarding virtue education in Latvia. During the last six years, virtue education has been under intensive discussion, following the adoption of upbringing guidelines (Cabinet of Ministers, 2016), which include 12 virtues and 10 values to be taught at school. The guidelines of the educational content reform project "School-2030" (Skola2030, 2017) integrate these objectives and use the language of virtues and values. However, in spite of those political developments, and apart some individual efforts of teachers and schools, and some methodological materials regarding value education (grades 1 to 6) prepared by the National Centre for Education of the Republic of Latvia (2016), the e-TAP curriculum is the only existing curriculum specifically for virtue education in Latvia. As it became apparent in the mentioned focus-group discussions (e-TAP project, June 2021), this context originated high expectations in the educational sector regarding this curriculum. It is therefore necessary to establish solidly the scientific foundations of this new curriculum: in 2021, after studying its fit and feasibility to the Latvian context (Fernández González et al., 2021a, 2021b) and making the necessary adaptations, it is time to investigate scientifically its effectiveness, which can only be properly addressed by the longitudinal study for 2022-2024 whose conceptualization is presented in this paper. In addition, the empirical research about the effectiveness of the e-TAP curriculum would be useful for improving it in further implementations.

Based on the needs analysis, the goal set for the research is to create new theoretical knowledge about what means effective moral education and about what makes an online curriculum for virtue education effective in Latvian context. As a practical implication of the research, a curriculum whose effectiveness has been scientifically studied will be offered to teachers. This research represents a real theoretical and practical contribution to the knowledge base of the educational science in Latvia. The research question leading the inquiry is: What is the effectiveness of the e-TAP curriculum? Concretely, how does it enhance the development of pupils' moral self (including moral awareness, moral emotions and engagement, moral reasoning, moral behaviour, and moral self-assessment), considering pupils' developmental stages, gender, and school contexts? What are the pedagogical conditions for sustainable effectiveness of the e-TAP curriculum?

Conceptualization of the 3-year long effectiveness research

Research paradigm and design: This study adopts the practitioner action research paradigm (Efron & Ravid, 2019), in which students and senior experts are involved as practitioner researchers for getting insights that might improve their future practice. This curriculum research (Stenhouse, 1975) explores the curriculum effectiveness using randomised controlled trial (hereinafter: RCT), the

gold standard methodology for social science research (Torgerson & Torgerson, 2013) which was already used to measure the impact of character education interventions (Arthur et al., 2014; Davison et al., 2014). RCT allows to avoid selection bias at the point of group formation. It will be the first such longitudinal RCT in Latvia in this field (and it is rarely done abroad also). The study adopts an experimental trial design, using pre-, intermediate-and post-test with experiment and control groups. It is a multi-school RCT clustered at the class level in three strata (education levels): grades 2-4, grades 5-7, and grades 7-9), involving overall 60 classes for three years (2022-2024). Considering that the complexity of character and virtue constructs makes evaluating character traits particularly challenging (Harrison et al., 2016), the research adopted an original synthetic approach: re-centring the effectiveness research on the development of the moral person through the lens of the "Self-of-virtue" theory (Fernández González, 2019b, 2019c), investigating whether the e-TAP curriculum enhances pupils' moral self, which includes four components: 1) understanding of character growth; 2) commitment to virtue growth; 3) practical involvement in virtuous behaviour; and 4) personal and social recognition/identity. Those four components are addressed by the intervention, and they were operationalized in the structure of the questionnaire used for the effectiveness research.

Representativity and sampling: In 2021-2022, a random representative sample of students from grades 2, 5 and 7 will be chosen, considering that in 2020-2021 there were 19 925 pupils in grade 1, 17 910 in grade 4 and 20 743 in grade 6 (general education day schools excluding special schools) (Ministry of Education and Science, 2021). Using a representative sample of 400 pupils per grade (20 classes), the results will be generalisable to the 634 such schools with an error of 5% (Fisher, 1990; Fisher et al., 1995). The sample is large enough not to miss modest but educationally important differences. Using G*power 3.1 software, it was found that such a sample would allow for a trial power of 80% with medium effect size (0.5) at a significance level of 0.05. The sampling technique will be multistage sampling, an extension of cluster sampling which involves selecting samples from samples (Robson & McCartan, 2016): initially a cluster sample of ca. 60 schools (20 schools for each stratum) will be chosen randomly among the 634 schools. Each school will be asked to involve on voluntary bases at least one class in the research, ensuring equal chance of selection by applying randomisation on each stratum (grades 2, 5 and 7). A final poll of ca. 60 participating classes (keeping the same class teacher during the whole trial) will be defined and each class will be allocated randomly to the control or experiment group. The allocation ratio will be 1:1 (no attempt will be made to equalise the number of pupils in each group). Class teachers' compliance and intention to implement intervention will be checked. See in Table 1 the data collection schedule and groups.

Table 1 Number of classes involved in the RCT per year and level (made by the Authors)

Year	Group	Grades 2-4	Grades 5-7	Grades 7-9
May 2022	Baseline	20 (grade 2)	20 (grade 5)	20 (grade 7)
May 2023	Control	10 (grade 3)	10 (grade 6)	10 (grade 8)
	Intervention	10 (grade 3)	10 (grade 6)	10 (grade 8)
May 2024	Control	10 (grade 4)	10 (grade 7)	10 (grade 9)
	Intervention	10 (grade 4)	10 (grade 7)	10 (grade 9)

Intervention: The longitudinal intervention will be implemented in the experiment group (and concealed from the control classes) within the same 10 classes in each level for two academic years (2022-2023 and 2023-2024). The intervention will consist of the implementation of the full e-TAP curriculum (8-12 lessons per year) by class teachers in their form time. Teachers will be instructed to stress the curriculum aspects linked with the four components of development of the moral self (webinars in August 2022, school induction), and they will be supported and monitored by the scientific team (individual mentor/expert allocation).

Data collection: A multicomponent questionnaire for pupils, which has already been developed and checked for construct validity, will be used. The questionnaire captures the four components of development of the moral self and includes standardized measures (adapted when necessary). It has two parts. The Part A has four sections: 1) character growth understanding and mindset scale (adapted from Dweck, 2000); 2) moral growth attitude; 3) practical involvement (Virtue Grit Scale, adapted from Duckworth, 2016; and Brief Moral Resilience Scale, adapted from Smith et al., 2008); and 4) personal and social recognition. The Part B (only for the grades 7-9) addresses moral growth components through a written semi-structured life-story interview (Matsuba & Walker, 2005). The questionnaire will be translated into Latvian and adapted (simplified for the lower strata), using an age-sensitive language. Control and experiment classes will fill it 3 times (May 2022 pre-test; May 2023 intermediate test; and May 2024 post-test). In addition, three focus-group discussions (one per education level) with 10 teachers (implementors) will be organized after stages 2 and 3 of data collection for gaining insights on the results.

Data processing and analysis: As regards data analysis, the trial is conceived as a superiority trial, i.e., the statistical tests will test whether the intervention groups are significantly different from the control groups. The analysis will compare mean scores adjusted for baseline variables using regression-based methods with SPSS software. Secondary analysis (subgroup analysis by gender, grade, school type) will also be implemented. The clustering will be considered in the analysis. Qualitative data analysis will be implemented using NVivo software.

Reliability of the study: The construct validity of RCT questionnaire and iterative reliability tests (Cronbach's alpha) will enhance the reliability of the study. The reliability of the interpretation of results will be reinforced by respondents' involvement in the data interpretation.

Ethical aspects: The leader of the study will be responsible of compliance with the European Code of Conduct for Research Integrity (ALLEA, 2017). Ethical approval will be requested from the Research ethics committee of the University of Latvia before the research. Informed consent will be sought from participants (teachers, principals, pupils and legal representatives if younger than 14). The questionnaires will be anonymous and focus group materials anonymised. Participants' names will be pseudonymised, no visual material will be used. Data confidentiality will be ensured (protected storage of paper and digital surveys/transcripts/files). As regards the RCT trial, the research does not measure individuals' moral level nor compares individual children or classes, as data analysis is done in an aggregated way. Long-term engagement with the control classes for providing virtue education support after the trial will be established for avoiding resentful demoralisation (control classes' feeling of being let down).

Expected results: Trial results will be reported according to CONSORT (2010) criteria and flow diagram. The project will create new knowledge about the effectiveness of the e-TAP curriculum, providing answers to questions such as: Does the e-TAP curriculum contribute to the development of pupils' moral self? Does it enhance pupils' understanding of moral growth and awareness of moral emotions? Are pupils receiving the curriculum becoming personally engaged to their own moral growth? Do they engage practically in moral growth activities that strengthen their moral reasoning and habits (virtues)? Does the curriculum help pupils' moral selfhood to thrive?

Discussion

The question whether this curriculum is coherent with global, national and sector priorities is discussed further. The global relevance of embedding values and attitudes in the curriculum has been compellingly highlighted by the recent report of the "Future of Education and Skills 2030" project of the Organisation for Economic Co-operation and Development (OECD, 2021), which argues that clearly articulated and experienced values and attitudes can support students' positive lifelong learning outcomes and promote a more equitable and just society, and that "curricula can provide the opportunity for students to develop knowledge, skills, as well as values and attitudes that can support them to thrive and shape a better future towards increased well-being at individual, societal, and environmental levels" (Executive summary).

The project is also coherent with several of the priorities of the Latvian National Development Plan for 2021-2027 (Saeima, 2020), for instance, the priorities "Knowledge and skills for personality and country development" (pp. 30-42) (the research focus is on personality moral growth) and "Strong families, healthy and active people" (pp. 14-29) (topics addressed by the curriculum). The project is also in line with some of the Priority axes for Science in 2018-2021 in Latvia (Cabinet of Ministers, 2017), such as the axe No 8 "Open and Inclusive Society" (the curriculum proposes virtue-based solutions to reduce social inequality and promote inclusion enhancing the virtues of respect, compassion, and service); and the axe No 5 "Latvian patriotism, language and values" (virtue education brings into practice universal human values, including patriotism).

In addition, the project addresses several of the 6 priorities identified in the "Latvian Guidelines for Scientific, Technological Development and Innovation for 2021-2027" (Cabinet of Ministers, 2021a, p. 18): responding to the increasing demand for digital competences in education caused by COVID-19, the study contributes to the digitalization of education by validating an online research-based curriculum. It also addresses the priorities "Research for society" (it responds to a recent societal and educational need analysis), "Integration of higher education and research" (4 students will collaborate with 4 senior researchers and 2 senior experts during the project), "Digital transformation and open science" (several evidence-based, open access publications are foreseen), and "Innovation: stimulating development, promoting implementation" (the project is an effectiveness research of an innovative online curriculum for virtue education).

Moreover, the study is in line with the "Education Development Guidelines for 2021-2027" (Cabinet of Ministers, 2021b), which states that one of the future emphases of Latvian education (individual level) is on "developed character traits, values and habits" (p. 16) including "in general education ... the development of value-based habits" (task 2.1.1., p. 50).

In conclusion, the research project has a high potential for enhancing the quality of education and contributing to societal well-being in Latvia: it provides virtue-based solutions to reduce social inequalities and promotes inclusive attitudes by reinforcing the virtues of respect, compassion, and helpfulness. The new knowledge gained from the project will answer the question: how to effectively foster students' moral development during school? How to support teachers in their educational work in an appropriate and relevant way? By the end of the project, the effectiveness of the e-TAP curriculum for virtue education will be scientifically tested through a longitudinal study; and a free-access online virtue education curriculum will be offered to teachers of grades 1-12, relevant and appropriate to the Latvian educational context and the needs of the students. The project will be carried out in cooperation with Latvian education administrations and educational institutions in all Latvian regions, policy makers, and the project "School-2030".

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SKOLĒNU SECINĀŠANAS PRASMES APGUVE MATEMĀTIKĀ UN PĀRNESE CITĀS MĀCĪBU JOMĀS

Student's acquisition of Inferential Thinking in Mathematics and its Transfer to Other Subject Areas

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Abstract. *Due to education reform in Latvia, the tendency in education is competence approach with transversal skills as one of its elements. They are included in the state education standard which all the teachers shall carry out in the corresponding education period. All educational establishments face a real challenge of how to implement the planned competences in life. The present research focuses on one of the skills of critical thinking – inferential thinking. By the help of inference students compare information obtained and the results to either confirm or decline their hypothesis, considering the accuracy of the acquisition of the information. The goal of the research is to make and test a system how an educational establishment should organize the study process to teach and develop inferential thinking. The following methods were used in the research: partly structured interviews with the vice-principal in methodological work and teachers of subjects, analysis of methodological materials and analysis of students' written works. The research was carried out to find what the most essential preconditions for students to learn and develop inferential thinking skills are and how to make transfer to various fields to improve learning those skills. A conclusion was made that a purposeful and organized cooperation of teachers plays an important role in teaching transversal skills. The results are better if students can reflect on their achievements using unified description of performance level in all subjects thus implementing the transfer of skills in other subject areas. To teach a skill teacher must plan specific steps to teach and to develop the skill. A model to develop the skill 'inferential thinking' has been worked out and tested in the subject of mathematics and is meant to be improved in other subject areas in grade 7.*

Keywords: *critical thinking skills, inferential thinking, mathematics, transversal skills.*

Ievads

Introduction

Sabiedrības dinamisko pārmaiņu un izglītības reformu ietekmē, kompetenču pieeja, tajā skaitā caurviju prasmju īstenošana, ir viena no izglītības sistēmas lielākajām aktualitātēm. Analizējot 2006. gadā apstiprinātos pamatizglītības mācību priekšmetu standartus dabaszinātnēs un matemātikā, var secināts, ka jau toreiz, tajos tika iekļautas prasības, kas saistītas ar caurviju prasmēm. Piemēram,

kritiskās un analītiskās domāšanas prasmju apguve tika iekļauta gan ģeogrāfijas, gan fizikas un matemātikas standartā (Oliņa, Namsone, & France, 2018).

Tomēr caurviju prasmju pēctecība dažādos izglītības posmos ne vienmēr bija skaidri saprotama un dažādos vecumposmos bija gandrīz vienāda (Oliņa et al., 2018). Normatīvie akti, kas regulē uzsāktās reformas (Skola 2030, 2017; Ministru kabinets, 2018) ieviešanu, nosaka, ka skolēnam plānotie sasniedzamie rezultāti ir kompleksi, tie atklāj gala rezultātu darbībā, ietver zināšanas, izpratni un pamatprasmes mācību jomās, caurviju prasmes, vērtības un tikumus (Ministru kabinets, 2018).

Ir noteiktas sešas caurviju prasmes: kritiskā domāšana un problēmrisināšana, jaunrade un uzņēmējspēja, pašvadīta mācīšanās, sadarbība, pilsoniskā līdzdalība, digitālā prasme. Kritiskās domāšanas prasmju apguve uzsvēta matemātikas, valodu un sociālās un pilsoniskās jomās. Kritiskā domāšana sevī ietver prasmi analizēt, novērtēt, sintezēt un pamatoti secināt. Turklāt tās tiek mācītas un lietotas visās jomās (Hačatrjana & Mazpane, 2021). Kritiskās domāšanas mācīšanas nepieciešamība Latvijā tika fiksēta jau pirms 20 gadiem, bet tās realizēšana skolu praksē dažādos mācību priekšmetos joprojām ir problemātiska (Rubene & Svece, 2019). Tāpēc pētījumi par novitāšu ieviešanu praksē ir īpaši būtiski, lai prasības nepaliktu formulētas dažāda veida dokumentos, bet neīstenotas.

Pētījuma mērķis ir noskaidrot, kas ietekmē skolēnu secināšanas prasmju mācīšanu un pilnveidošanu matemātikā un pārnese veidošanu citos mācību priekšmetos.

Literatūras apskats Literature Review

Uz secināšanas prasmi varam raudzīties, sākotnēji analizējot, kas ir caurviju jeb transvērsālās prasmes, tad aplūkojot vienu no tām – kritisko domāšanu, tādējādi nonākot līdz atsevišķai skolēnu prasmei veidot secinājumus.

Caurviju prasmes tiek definētas kā vispārīgas prasmes jeb plašu zināšanu, iemaņu un attieksmju kopums, kas ir būtiski nepieciešams, lai veiksmīgi darbotos mūsdienu pasaulē, izglītības un darba sfērā (Skola2030, 2019; ATS2020, 2016; Oliņa et al., 2018). Caurviju prasmes ir saistītas ar citām prasmēm, tās reti lieto kā vienu nošķirtu prasmi. To pilnveidošanai svarīgi ir strukturēti un konkrēti plānot un virzīt katru atsevišķās prasmes attīstību, vienlaikus domājot, kā katra prasme saistīsies ar citu prasmju apguvi (Hačatrjana & Mazpane, 2021). Projektā *Skola2030* ir izstrādāts vispārīgs plāns, kurā noteiktas atbildīgās mācību jomas katrai caurvijas prasmei, piemēram, kritisko domāšanu jāmāca valodu, matemātikas, sociālā un pilsoniskā jomas ietvaros. Tāpēc šīs jomas būtu atbildīgas par prasmes mācīšanu, bet pārējās par prasmes vingrināšanu (Hačatrjana & Mazpane, 2021). Izvērtējot dažādo jomu iesaisti kritiskās domāšanas prasmju mācīšanā, var secināt, ka dažas prasmes ir kopīgas, piemēram, analizēt un secināt.

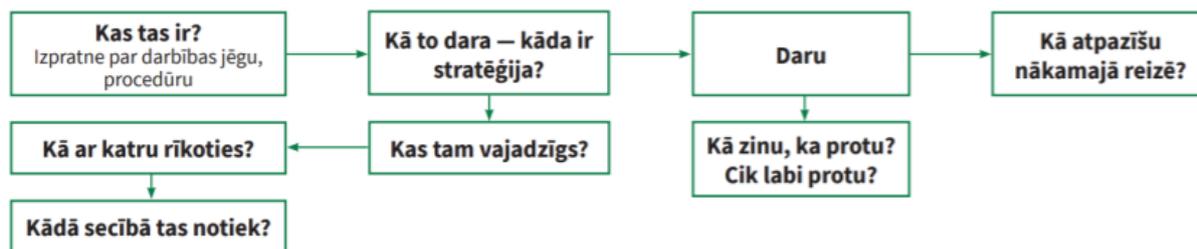
Kritiskās domāšanas mācīšanās formas tiek balstītas uz spriešanas spēju pilnveidošanu, spēju reflektēt, bet būtiskākais – veidot kopsakarības ar reālo dzīvi un aktuālajām pasaules problēmām (Kroiče, 2016). Uz kritisko domāšanu var raudzīties no trīs aspektiem: mediju analīze, problēmu risināšana un debates. Tomēr vienojošais elements ir tas, ka jautājums tiek aplūkots no dažādām perspektīvām, tiek analizēti un izvērtēti iespējamie pieņēmumi, tos izpētot kā iespējamās alternatīvas, skaidrojot jautājumu kā pedagoģisku pieeju (Halvorsen, 2005; Rubene & Svece, 2018). Kritiskās domāšanas mērķis ir veicināt patstāvīgu domāšanu, kas tiek pretstatīta mehāniskai iegaumēšanai, atkārtšanai, gatavu modeļu izmantošanai. Pētnieki kritisko domāšanu skaidro arī kā spriedumu veidošanas metodi jēgpilnu un atbildīgu lēmumu pieņemšanai gan mācību, gan sociālajā jomā (Rubene & Svece, 2018).

Uz kritisko domāšanu var raudzīties arī kā uz četru prasmju apkopojumu – analizēt, novērtēt, sintezēt un pamatoti secināt (Hačatrjana & Mazpane, 2021). Varam secināt, ka kritiskā domāšana ir komplekss process, kas sastāv no dažādām prasmēm. Kritiskās domāšanas mācīšana bieži tiek saistīta ar metakognitīvo paradumu pilnveidošanu (Greenstein, 2012). Metakognīcija ir būtiska kritiskās domāšanas procesa sastāvdaļa, kas ļauj apzināties, kādas domāšanas prasmes tiek izmantotas procesā.

Dažādos pētījumos, kuros tiek pētīta kritiskās domāšanas mācīšana STEM priekšmetos (Miri, David, & Uri, 2007, Duran & Sendag, 2012), tiek uzsvērts, ka, mācot kritisko domāšanu, pievēršam uzmanību tādām prasmēm kā secinājumu izdarīšana, pieņēmumu veidošana, dedukcija, interpretēšana un izvērtēšana. Kritisko domāšanu matemātikā skolēni apgūst, analizējot un izvērtējot datus par dotajiem objektiem, situācijām, notikumiem, procesiem, mācoties tos matemātiski apstrādāt un analizēt, lai vēlāk pieņemtu pamatotus lēmumus (Hačatrjana, 2021). Matemātikas kontekstā pētījumam tika izvēlēta kritiskās domāšanas apakšprasmē – prasme secināt. Šo prasmi detalizēti apraksta snieguma līmeņa kritēriji (Namsone, Čakāne, & France, 2020).

Mācot prasmi, ieteicams ievērot noteiktus soļus tās apgūvē (1. att.). Pirmais solis – veidot izpratni par pašu prasmi. Otrais – izziņāt, vai un kādas ir stratēģijas, lai doto prasmi darbinātu. Trešais – sākt prasmi lietot, tas ir, darīt, reflektēt par apguvi un lietošanu citā situācijā. Prasmes vērtēšanai un atgriezeniskās saites došanai var izmantot snieguma līmeņu aprakstus (Namsone et al 2020).

Lai veicinātu prasmes apguvi, būtiski ir skolēnam saprast, cik labi viņam izdodas darīt. SOLO (structure of observed learning outcomes) taksonomija (Biggs & Collis; 1982; Biggs & Tang, 2007) palīdz raksturot atšķirību starp virspusēju un dziļu mācīšanos, tas ir izziņas rīks, ar kura palīdzību var atspoguļot un izvērtēt kvalitatīvu virzību no virspusējas uz dziļu mācīšanos (Čakāne, Namsone, Pestovs, & Bērtule, 2018).



1.attēls. *Prasmes mācīšanās soļi* (Namsone et al., 2020)
Figure 1 *Steps to acquire a skill* (Namsone et al., 2020)

Ieviešot kritisko domāšanu, būtiska ir dažādu mācību priekšmetu skolotāju sadarbība, lai veicinātu vienotas izpratnes veidošanos dažādu jomu skolotāju starpā, lai palīdzētu skolēnam veidot pārnese, lai viņi vingrinātos izmantot iegūtās prasmes dažādos kontekstos. Pētījumu OECD (2014), TALIS (2013), (2014) rezultāti liecina, ka, ja netiek organizēta skolotāju kopīga mācīšanās skolas līmenī, tad skolotāji sadarbojas tikai ar dažiem kolēģiem vai nesadarbojas vispār. Skolotāju sadarbība var notikt dažādos grupu veidos: mācīšanās grupās, sadarbības grupās, pedagoģiskās darbības izpētes grupās (Oliņa et al., 2018; Čakāne & Butkēviča, 2018; Poulos, 2014).

Pētījumam tiek izvirzīti jautājumi:

1. Kādi faktori veicina skolēnu secināšanas prasmes apguvi matemātikā un tās pārnese citos mācību priekšmetos?
2. Kā snieguma līmeņa apraksts ietekmē secināšanas prasmes apguvi?

Metodoloģija Research Methodology

Par pētījumam piemērotāko dizainu tika izvēlēts darbības pētījums, kas orientējas uz konkrētām problēmām un to risinājumiem, lai ieviestu izmaiņas un uzlabotu darbību, iesaistot pētījuma dalībniekus darbības izpētē un izmaiņās (Pipere, 2016). Tas ietver četras fāzes – problēmas analīzi, risinājumu izstrādi ar teorētisku shēmu, risinājumu novērtēšanu un testēšanu praksē, dokumentēšanu un reflektēšanu, kas tiek veiktas atkārtoti jeb ciklveidīgi (Cotton, 2009).

Pētījuma bāzi veidoja pieci skolotāji, direktora vietnieks metodiskajā darbā un 58 septīto klašu skolēni. Pētāmo grupu veido valodu (latviešu valoda un angļu valoda), matemātikas un sociālā un pilsoniskās jomas (sociālo zinību un vēstures) skolotāji. Visi pētījumā iesaistītie skolotāji strādā kādā no 7. klasēm. Pētījumā izmantotās datu ieguves metodes – daļēji strukturēta intervija (ar direktora vietnieku metodiskajā darbā un skolotājiem) un dokumentu analīze. Izmantojot daļēji strukturētās intervijas, tika analizēts sākotnējais konteksts, skolas pieeja un redzējums problēmas risināšanā, pētīta skolotāju pieredze caurvijas prasmju mācīšanā un secināšanas prasmes mācīšanas izpratne no attiecīgā mācību

priekšmeta perspektīvām. Dokumentu analīzē tika pētīti pieci 7. klases dažādu mācību priekšmetu skolotāju izstrādātie tematiskie plāni, kas atbilst *Skola2030* paraugprogrammām, lai izstrādātu darbības modeli, prasmes secināt mācīšanai un pilnveidošanai. Tika pētītas darbības stundā un to ietekme uz skolēnu sniegumu, rakstot secinājumus, lai noskaidrotu, kā snieguma līmeņa apraksts ietekmē prasmes secināt apguvi.

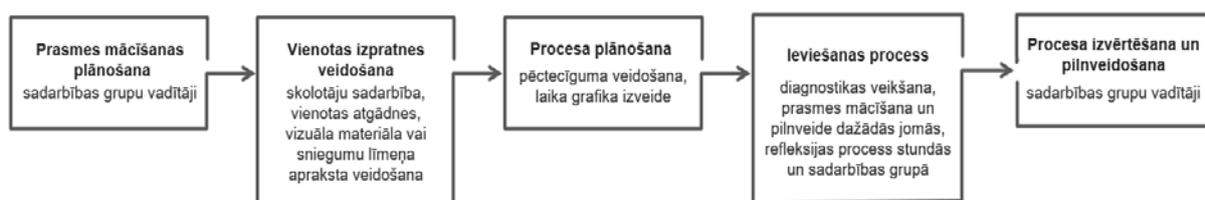
Rezultāti Results

Analizējot skolas pieeju caurviju prasmju ieviešanā, direktora vietnieks metodiskajos jautājumos uzsvēra, ka tās nepieciešams pilnveidot dažādos mācību priekšmetos, tāpēc nepieciešams plāns, lai veidotu pēctecīgumu prasmes mācīšanā un aplūkotu prasmju mijiedarbību. Skolā nav atrasts rīks, kas atvieglotu procesa organizēšanu un parādītu prasmju mācīšanu dažādos šķērsgrīzumos.

Veicot daļēji strukturētās intervijas ar skolotājiem par prasmju mācīšanu, secināts, ka skolotājiem ir atšķirīgi uzskati, ko nozīmē konkrētā caurvijas prasme. Skolotāju sadarbībai ir būtiska loma vienotas izpratne, tāpēc, plānojot prasmju ieviešanu, nepieciešams kopā mācīties un veidot vienotu skatījumu no dažādu jomu perspektīvām. Lai veidotu vienotu izpratni skolēniem, šīs skolas pedagogi uzskata, ka nepieciešams dažādās stundās izmantot vienādu atgādni, vizualizāciju vai snieguma līmeņu aprakstu. Tika secināts, ka skolā caurviju prasmju mācīšanā tiek īstenotas vairākas pieejas. Viena no tām ir – tās mācīšana un pilnveidošana tikai savā mācību priekšmetā, nedomājot par pārnesi uz citām jomām. Otra pieeja – vairāki skolotāji sadarbojas un veido pārnesi prasmes mācīšanā, piemēram, klases stundā tiek novadīta stunda par prasmi analizēt, parādot snieguma līmeņu aprakstus, bet citos mācību priekšmetos tā tiek izmantota. Var secināt, ka izglītības iestādē ir ticis īstenots process, kurā skolotājiem tiek veidota vienota izpratne un skolēniem mācīta prasme.

Skaidrojot, ko nozīmē secināt, skolotāji uzsvēra, ka būtiski to balstīt uz faktiem, argumentiem un pamatojumiem, kurus nepieciešams saistīt. Vēstures skolotājs minēja, ka nepieciešami arī pretargumenti un prasme tos atspēkot.

Veidojot modeli secināšanas prasmes mācīšanai (2.att.) un pilnveidošanai, tika veikta tematisko plānu analīze, fiksējot sasniedzamos rezultātus, kuros ietverta prasme secināt.



2.attēls. *Secināšanas prasmes mācīšanas modelis* (Autoru veidots)

Figure 2 *Model of teaching inference skills* (made by the Authors)

Matemātikā 7. klasē visos tematos skolēnam ir jāattīsta prasme secināt dažādos matemātikas kontekstos (1.tab.). Novērtējot sasniedzamo rezultātu apjomu, kas prasa secinājumu veikšanu dažādās jomās, matemātikā tie ir vairāk nekā citos mācību priekšmetos. Latviešu valodā tā tiek iekļauta 7 sasniedzamajos rezultātos, angļu valodā – 1, matemātikā – 21, sociālās zinībās – 10 un vēsturē – 11.

1.tabula. *Sasniedzamie rezultāti, kuri ietver prasmi secināt* (Autoru veidota)
Table 1 *Achievable results that include inferential thinking* (made by the Authors)

Matemātikas mācību joma	
Tēma	Sasniedzamie rezultāti
7.1. Kā nosaka kopas visus elementus, aprēķina notikuma varbūtību?	Pētot atklāj un formulē vispārinājumus saskaitīšanas un reizināšanas likumam.
7.2. Kā definē ģeometriskas figūras?	Pēta vairāku taisņu savstarpējo novietojumu. Apkopo pētījumā iegūtos datus un veic secinājumus .
	Spriež, pamato , vai iespējams sadalīt dažāda veida plaknes figūras noteiktā skaitā vienādu daļu, sadala tās.
	Veido pamatojumus , kuri satur vienu vai divus spriedumus.
	Pēta 2 riņķa līniju savstarpējo novietojumu un nosaka attālumu starp centriem. Apkopo pētījumā iegūtos datus un veic secinājumus .
	Pēta leņķus, kuri veidojas, krustojoties divām taisnēm. Apkopo pētījumā iegūtos datus un veic secinājumus .
7.3. Kā raksturo sakarību starp mainīgiem lielumiem?	Pamato , kāpēc grafiks ir nepārtraukta vai pārtraukta līnija.
7.4. Kā pieraksta un pēta funkcijas, kuru grafiks ir taisne?	Secina , ka funkcijas ir sakarības, kas modelē situācijas.
	Spriež un veido vispārinājumu par grafiskā attēlojuma iegūšanu.
	Pēta lineāras funkcijas novietojumu koordinātu plaknē, lietojot digitālos rīkus, formulē vispārinājumus .
7.5. Kā raksturo trijstūri, izmantojot tā elementus?	Pēta un secina , kādiem jābūt nogriežņu garumiem, lai nogriežņi veidotu trijstūri.
	Formulē pieņēmumu par trijstūru vienādības pazīmēm.
7.6. Kādas ir sakarības starp lielumiem trijstūrī?	Iegūst vienādsānu trijstūra īpašības. Spriež , vai tā ir pazīme.
	Secina , ka ne katra īpašība var veidoties par pazīmi.
	Formulē pieņēmumu par mazāko leņķu skaitu, kuri jāzina, lai varētu noskaidrot visus iegūtos leņķus pie 3 taisnēm.
	Pamato leņķu īpašības pie paralēlām taisnēm.
7.7. Ko nozīmē pārveidot izteiksmi ar mainīgo lielumu?	Pamato identitātes, spriežot un/vai identiski pārveidojot vienu vai abas identitātes puses.
7.8. Kādi ir paņēmieni nezināmā noteikšanai?	Pēta, spriež induktīvi, formulē secinājumus par vienādojuma ekvivalentiem pārveidojumiem, pamato , izmantojot modelēšanu.
	Secina , kad lineāram vienādojumam nav sakņu vai sakne var būt jebkurš skaitlis.
7.9. Kā salīdzina izteiksmes, kurās ir mainīgais lielums?	Salīdzina algebriskas izteiksmes, spriežot un pamatojot savus spriedumus.
	Formulē un pamato skaitlisku nevienādību īpašības, izmantojot skaitļu taisni, darbību īpašības.

Pētījumā prasmes mācīšanās soli tika īstenoti matemātikā, pētot, kādi faktori veicina skolēnu prasmes apguvi un kā snieguma līmeņa apraksts ietekmē skolēnu secināšanas prasmes apguvi, kontrolmērījumus veicot citās mācību jomās un pētot faktoros, kas ietekmē skolēnu prasmes pārnesi.

Skolēnu rakstītie secinājumi tika analizēti trīs dažādos priekšmetos un kategorizēti, izmantojot pielāgotu snieguma līmeņu aprakstu (3.att), ko skolēni izmantoja mācību procesā.

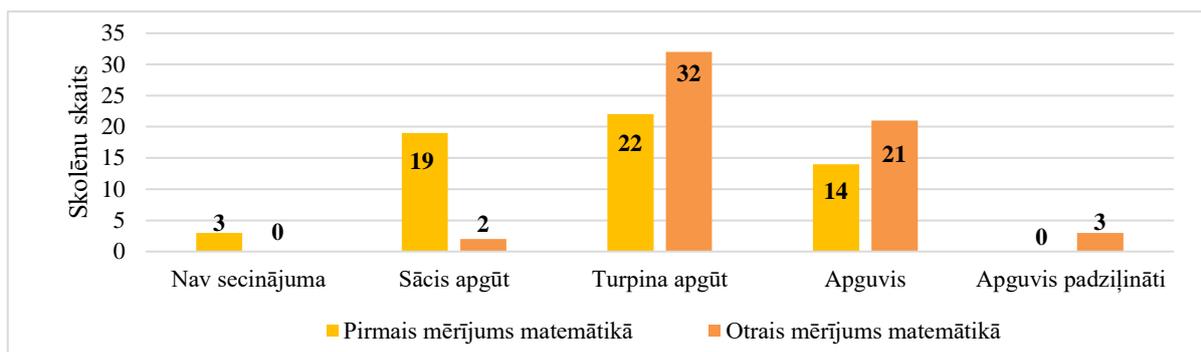
Kritērijs	Sācis apgūt	Turpina apgūt	Apguvis	Apguvis padziļināti
Secināšana	Nosauca atsevišķus rezultātus vai faktus. Rakstu secinājumus, tie nav par izvirzīto pieņēmumu.	Salīdzinu iegūtos rezultātus. Rakstu secinājumus, tie ir par izvirzīto pieņēmumu, ir neprecizitātes.	Salīdzinu rezultātus savstarpēji vai izmantojot teoriju. Uzrakstu secinājumus, kas apstiprina vai noliedz izvirzīto pieņēmumu, izmantojot iegūtos rezultātus.	Salīdzinu rezultātus savstarpēji vai izmantojot teoriju. Uzrakstu secinājumus, kas apstiprina vai noliedz izvirzīto pieņēmumu, izmantojot iegūtos rezultātus, ievērojot informācijas ieguves precizitāti. Iesaku pētījuma uzlabojumus

3.attēls. *Snieguma līmeņu apraksts prasmei secināt* (Namsone et al., 2020)
 Figure 3 *Description of performance level for inference skills* (Namsone et al., 2020)

Sociālajās zinātnēs tika veikta prasmes diagnosticēšana. Skolēni mērķtiecīgi netika iepazīstināti ar snieguma līmeņu aprakstu un prasmes mācīšanās soļiem, lai fiksētu sākotnējo atskaites punktu un varētu novērtēt, kādas ir skolēnu prasmes secinājumu rakstīšanā. Skolēniem nebija iespēja uzzināt, kas ir labs secinājums un kādi ir tā kritēriji. Sākuma mērījumā 10 no 58 skolēniem, aptuveni 17% skolēnu, secinājumu vispār neveica. Secināšanas prasme 1.līmenī “Sāk apgūt” (snieguma līmeņu apraksts) bija 36% skolēnu. Vislielākais skolēnu īpatsvars, 41%, šo prasmi demonstrēja 2.līmenī “Turpina apgūt”, bet tikai 3 skolēni jeb 7% skolēnu sniegumu demonstrēja 3.līmenī “Apguvis”. Tomēr šie skolēni nav rakstījuši ieteikumus, kā uzlabot iegūtos rezultātus un pētījuma turpinājuma iespējas, lai sasniegtu 4.līmeni “Apguvis padziļināti”.

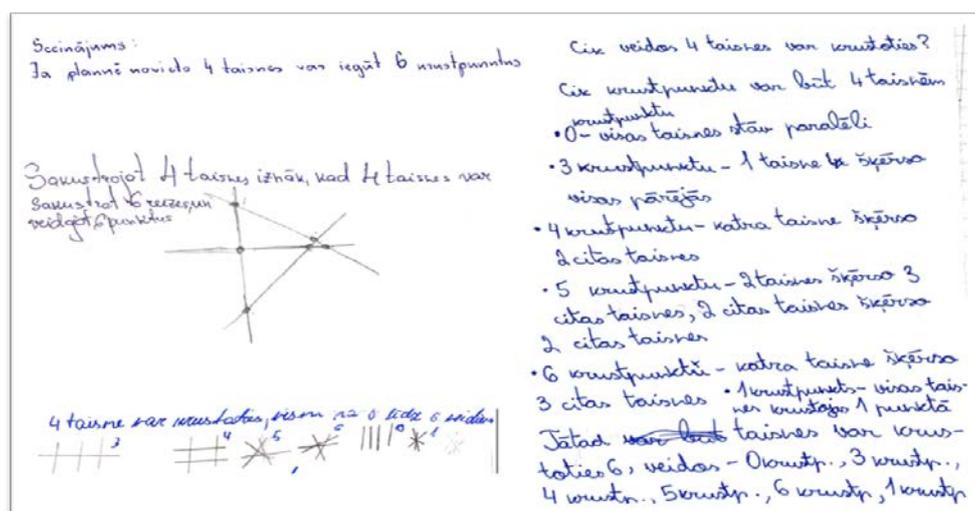
Matemātikas jomā kontrolmērījumi tika veikti divas reizes (4.att.) – pirms un pēc skolēnu darba ar snieguma līmeņu aprakstu. Sākotnēji skolēni rakstīja secinājumus, balstoties uz pieredzi sociālajās zinībās, kā arī izmantojot zināšanas, kas iegūtas sarunā par prasmi rakstīt secinājumus un tās mācīšanās soļiem: ko nozīmē rakstīt secinājumus un kā to dara, kādas ir stratēģijas.

Kontrolmērījumi matemātikā tika veikti stundā, kur skolēni pētīja četrus tautasdziesmu savstarpējo novietojumu plaknē, apkopoja pētījumā iegūtos datus un veica secinājumus (5.att.). Salīdzinot skolēnu snieguma līmeņus secinājumu rakstīšanā, pirmajā mērījumā matemātikā ar sociālajām zinībām, secināms, ka bija tikai trīs skolēni, kuri nav spējuši uzrakstījuši secinājumu. Tas bija mazāk nekā sociālajās zinībās. Tāpat kā iepriekš, arī matemātikas pētījumā skolēni sākotnēji neveica vispārīgākus secinājumus un neieteica pētījuma uzlabojumus.



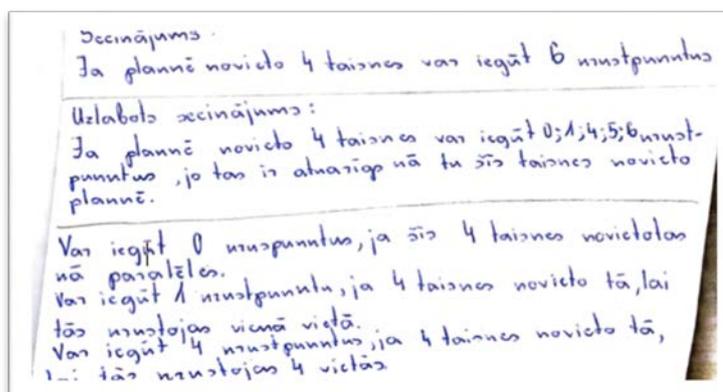
4.attēls. Skolēnu snieguma līmeņi secinājumu rakstīšanā matemātikā (Autoru veidots)
 Figure 4 Students' performance levels in writing conclusions in mathematics
 (made by the Authors)

Pirmajā mērījumā matemātikas stundā skolēni, kuri šo prasmi sāka apgūt, nosauca atsevišķus rezultātus, krustpunktu skaitus, ko ir ieguvuši. Lai gan skolēni tos vizualizēja ar zīmējumiem, tas nemainīja secinājuma būtību un rakstīšanas līmeni. Vēl viens kritērijs, kas liecināja, ka secinājums ir uzrakstīts līmenī “Sācis apgūt”, ir fakts, ka skolēns nenosauca visus iespējamus gadījumus. Netika atbildēts uz pētāmo jautājumu “Cik krustpunkti var veidoties, ja plaknē dotas četras taisnes?”. Ja secinājumā nosauca visus iespējamus variantus vai nosauca lielāko iespējamo krustpunktu skaitu, minot šo jēdzienu “lielākais” vai “maksimālais”, tad skolēns turpināja apgūt secināšanas prasmi, jo tika veikts salīdzinājums, tomēr netika pamatots iespēju skaits. Savos sākotnējos secinājumos teoriju izmantoja 24% no skolēniem, pamatojot iespējamo krustpunktu skaitu, piemēram, nosaucot iemeslu, kad neveidojas neviens krustpunkts, pamatojot, kāpēc seši ir lielākais iespējamais krustpunktu skaits vai kāpēc nav iespējams iegūt tieši divus krustpunktus.



5.attēls. Skolēnu secinājumu piemēri matemātikā pirms to uzlabošanas (Autoru veidots)
 Figure 5 The examples of students' conclusions before their improvement
 (made by the Authors)

Lielākā izaugsme bija pēc aktivitātes, kurā skolēni ieguva snieguma līmeņu apraksta kritērijus, lai noteiktu, cik labi katrs skolēns prot secināt, novērtējot sākotnēji uzrakstīto secinājumu, lai varētu veikt uzlabojumus (6.att.).



6.attēls. Skolēna secinājuma piemērs pirms un pēc snieguma līmeņu apraksta
(Autoru veidots)

Figure 6 The example of a student's conclusion before and after the description of performance level (made by the Authors)

Divi skolēni, kuri sākotnēji secinājumus nebija uzrakstījuši, to paveica līmenī "Sācis apgūt", bet viens no viņiem savu līmeni paaugstināja līdz snieguma līmenim "Turpina apgūt". Aplūkojot konkrētu skolēnu rakstītos secinājumus, var ievērot, ka daži savu sniegumu ir paaugstinājuši par vienu vai diviem līmeņiem, tomēr citi skolēni savu secinājumu pilnveidoja, snieguma līmeni nemainot. Pētījuma uzlabojumam un datu drošībai būtu nepieciešams veikt vēl vienu kontrolmērījumu matemātikas jomā, citā uzdevumā vai situācijā.

Mērījums latviešu valodā tika veikts pēc vairākkārtējas vingrināšanās veikt secinājumus matemātikas jomā. Salīdzinot iegūtos datus matemātikas jomā un latviešu valodā, uzlabojuma tendence bija minimāla. Skolēni turpināja secinājumos rakstīt faktus vai rezultātus, tos nesalīdzinot vai nepamatojot. Tikai 7% no skolēniem secinājumus pamatoja ar faktiem, atsaucoties uz avotiem, ievērojot datu ieguves precizitāti un iesakot pētījuma uzlabojumus. Tāpat kā matemātikā arī latviešu valodā vislielākais skolēnu īpatsvars (83%) šo prasmi turpina apgūt vai ir apguvuši. Skolēni uzraksta faktus, kas apstiprina izvirzīto pieņēmumu, izmantojot iegūto informāciju. Tas liecina, ka prasmes pārnesi var īstenot starp dažādām jomām, bet to nepieciešams plānveidīgi un mērķtiecīgi attīstīt dažādās jomās, lai iegūtu labākus rezultātus. Analizējot pārneses veidošanu starp sociālajām zinībām, matemātiku un latviešu valodu, var secināt, ka nepieciešams izmantot vienotu snieguma līmeņu aprakstu un prasmes mācīšanas soļus, lai tas kļūtu par ieradumu. Turklāt nepieciešama regulāra sadarbība starp dažādu jomu skolotājiem. Tās ietekmei uz skolēnu sniegumu nepieciešama papildus izpēte.

Secinājumi **Conclusions**

Pētījumā tika identificēti būtiski faktori, kas ietekmē secināšanas prasmes apguvi matemātikā un kā šīs prasmes apguves pilnveidi sekmē apzināta tās mācīšana arī citos mācību priekšmetos. Veicot literatūras izpēti, tika pētīta viena no caurviju prasmēm – kritiskā domāšana, kuras viena no apakšprasmēm ir secinājumu veidošana. Pētījums rāda, ka tas, kā mācām secināt matemātikā, pētījumos ir saskatāms pastarpināti, pārsvarā aplūkojot kritiskās domāšanas attīstīšanu. Prasmes secināt apgūvē būtiska loma ir mērķtiecīgai un organizētai skolotāju sadarbībai — gan starp dažādu priekšmetu skolotājiem, gan pēctecīgi starp matemātikas skolotājiem, gan pēctecīgai skolotāja darbībai mācību gada ietvaros konkrētajā mācību priekšmetā. Praksē ne vienmēr izdodas efektīvi šo sadarbību un pēctecību nodrošināt, kas var būt viens no cēloņiem, kas ietekmē skolēnu sniegumu. Lai notiktu mērķtiecīga un organizēta skolotāju sadarbība, īpaša uzmanība veltāma tās mērķtiecīgai plānošanai, īstenojot prasmju mācīšanas modeli. Redzama tendence, ka, ja skolotāja vai skolotāju grupas izvirzītie specifiskie mērķi nav tieši saistīti ar skolas izvirzītajiem mērķiem, tad skolotājiem ir nepieciešams papildus laiks plānošanai, kas apgrūtina viņu sadarbību un mērķu sasniegšanu. Analizējot aprobācijas rezultātus matemātikā, var secināt, ka secināšanas apguve skolēniem ir veiksmīgāka, ja (1) tā mērķtiecīgi tiek plānota no viena temata uz nākamo, (2) notiek prasmes mācīšana, izmantojot prasmes mācīšanas soļus, (3) skolēnam ir iespēja reflektēt par savu sniegumu, izmantojot sniegumu līmeņa aprakstu. Prasmes secināt pārnese dažādās jomās veicina vienota sniegumu līmeņa apraksta izmantošana dažādos priekšmetos. Tas dod iespēju skolēnam skaidri saskatīt prasmes apguvi konkrētajā priekšmetā un ieraudzīt kopīgo un atšķirīgo kā veic secinājumus dažādos priekšmetos.

Izveidotais un aprobētais modelis secināšanas prasmju apguves plānošanai un realizēšanai matemātikā un citos priekšmetos var tikt izmantots kā pamats arī citu caurvijas prasmju un to apakšprasmju sekmīgākai realizēšanai praksē. Ieviešot praksē vienlaikus izglītības reformu visos vecumposmos un visos priekšmetos, izaicinājums izglītības iestādēm ir prioritāšu izvēle un to realizācija, kas prasa papildus pētījumu.

Summary

The aim of the research is to find out what affects the teaching and improvement of the students' inferential thinking skills organizing the study process in an educational establishment. One of the elements of teaching critical thinking and choosing appropriate learning strategies is the development of inferential thinking skills (Miri et al., 2007). The fact that the teaching of critical thinking must be included in the learning process can already be seen in Latvia 20 years ago, but its effective implementation in school practice is not really

happening. (Rubene & Svece, 2019). During the research substantial factors which affect the acquisition of a skill were identified by examining how students acquire the inferential thinking skill in mathematics and how the acquisition of this skill is facilitated by the conscious teaching of it in other subjects as well. The written conclusions of students were analyzed in three different subjects and categorized using descriptions of performance level applied by students during the study process. The greatest growth for students in mathematics was when students used the description of performance levels to evaluate the initial written conclusion so that improvements could be made. The research found that 51 out of 58 students improved their performance by 1 or 2 levels throughout the research. As the inferential thinking skill is a part of critical thinking skills, purposeful and organized cooperation among teachers of different subjects, successively among teachers of mathematics, and successive activities of a teacher within a given subject during an academic year plays an important role in its acquisition. The transfer of inferential thinking skill to different subject areas is facilitated by the use of a common description of performance level in different subjects. It enables the student to see clearly the acquisition of a particular skill in a particular subject and to see what is common and different, how to draw conclusions, for example, in mathematics and how in history.

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SYSTEMATIC LITERATURE REVIEW ON AGENTIC ENGAGEMENT: CLARIFYING A CO-CREATION PERSPECTIVE

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Abstract. *Co-creation of learning has been conceptualised as a learner-centred pedagogical approach with implications for students' proactivity, metacognitive, and collaborative involvement. Due to the complexity of the concept, it is difficult to distinguish and measure in practice, with studies reporting measures for co-creative practices mostly in the context of higher education. This paper reviews the literature on student agentic engagement in Web of Science, ERIC and Scopus, providing links to the existing views on learning co-creation at schools. The research instruments developed for studying agentic engagement and autonomy support are discussed in connection to examining co-creation at the secondary education level.*

Keywords: *agentic engagement; autonomy support; co-creation of learning; systematic literature review.*

Introduction

Co-creation of learning involves an interactive process with students and teachers that aims at collaborative value creation and promotes students' agency and development of metacognitive skills (Kaminskienė et al., 2020). It can be implemented within the existing curriculum or as a means for designing a new one. It reflects the constructivist ideas of knowledge construction and socially embedded learning. Understanding of co-creation as “a meaningful collaboration between students and staff, with students becoming more active participants in the learning process, constructing understanding and resources with academic staff” (Bovill et al., 2016) highlights student agency as a central element of co-creation which allows students become stakeholders in the learning process.

Identifying student agency in the classroom thus becomes essential for studying co-creation. The available studies on co-creative practices in education report results mostly from the higher education level (Bovill, 2020; Fraile et al., 2017). However, co-creation is also relevant for the secondary and high school levels where support of self-regulated learning and responsibility for own learning become stressed in the context of life-long learning and democratic education

(Meinking & Hall, 2020). Still, there are not many studies of co-creation at the school level.

Co-creation of learning is related to student engagement (Kaminskiene & Khetsuriani, 2019), some authors even use the terms interchangeably (Bovill, 2020). In itself, engagement is a phenomenon widely studied across three dimensions: behavioural, emotional, and cognitive (Christenson, Reschly & Wylie, 2012). Recently, Reeve proposed agentic engagement as another dimension (Reeve, 2012). Having its roots in the conceptualisations of human agency (Bandura, 2006), agentic engagement of students implies their activeness and influence on the teaching and learning process (Reeve & Tseng, 2011). It can be engendered as asking questions, expressing preferences, choosing a sitting place in the classroom, and generally aiming for improved circumstances and personalisation of learning (Reeve, 2015). This dimension of engagement is based on the self-determination theory (SDT; Ryan & Deci, 2017), according to which human motivation stems from satisfaction of basic psychological needs for autonomy, competence, and relatedness. In the classrooms, teachers regulate the fulfilment of all three types of needs.

Learning co-creation and agentic engagement are emerging concepts (Bovill et al., 2016; Reeve & Tseng, 2011) that emphasize the contribution of students into the learning process. With the lack of studies in the school context, there is a need for a research approach that would be able to consider different implementations and effects of co-creation in the classroom. This paper explores possibilities to look at agentic engagement as lens for studying co-creation. The aim of this paper is to review research literature on agentic engagement of learners at the school level with focus on conceptual grounding and methodological approaches to draw implications for research on learning co-creation in the classroom. The following research questions are addressed: What educational and psychological constructs are associated with the notion of agentic engagement as variables in the research literature? What research instruments were used to study agentic engagement of students at secondary and high school education level?

Methodology

Systematic literature review methodology (Zawacki-Richter et al., 2020) was followed to identify and organise the available literature on the topic. We performed a search in Web of Science, ERIC, and Scopus data bases with the key combination “agentic engagement” (in quotation marks to for the search of the exact phrase) with no limiters applied (in November 2021). The notion is recent, specific and un-ambiguous, so the search yielded a moderate number of results. After the papers had been retrieved and duplicates removed, the search resulted in the total of 79 items (Table 1).

Table 1 Number of database search results with key phrase “agentic engagement” (created by the authors)

Database	Number of items (n)
WoS	49
ERIC	36
Scopus	70
Total	155
Total after duplicates removed	79

The next step was a two-stage selection process. The first stage consisted of title and abstract screening, when 36 items were excluded as they met one or more of the exclusion criteria: (1) not relating to the field of education; (2) not focusing on agentic engagement of learners; (3) not relating to school context; (4) not in English; (5) sample not comprised of students at secondary and high school level. The second stage was a full-text screening, this is when some other 13 items met the exclusion criteria. Thus, 30 articles were selected for further review. Conference papers were not included as they met the exclusion criteria.

The final step involved full-text reading of the papers and classifying them into three types (Table 2).

Table 2 Types of reviewed publications (created by the authors)

Type of publication	Number of items (n)
Theoretical publications (e.g., book chapter, conceptual paper, literature review, meta-analysis)	6
Articles reporting empirical results	20
Articles reporting research instrument validation	4

Reeve and Tseng (2011) were the first to introduce the concept of agentic engagement and the related engagement questionnaire scale. Among the empirical and validation articles, the majority (n=17) were published after 2017. The empirical articles reported results from 11 countries (China, Colombia, Iran, Italy, Israel, Portugal, South Korea, Sweden, Taiwan, Turkey, USA). Nine articles reported results for the context of science teaching, one in language and literature, one in physical education, one in civic education, eight for classroom experience in general or not indicated.

The articles reporting empirical results (n=20) and research instrument validation (n=4) were analysed to answer the research questions of the present review. The theoretical publications contributed to our understanding of the conceptual background of agentic engagement but were not used for synthesising the results of the present review.

The selected articles were carefully read. Then, the information about the aims of studies, research questions, theoretical concepts, methodological

approaches, data collection and analysis methods, samples, main findings was extracted. To answer the first research question, this data was coded for the variables that were analysed along agentic engagement. The codes were then collated and reviewed for overarching categories. This inductive approach resulted in four themes that comprise factors that influence or are associated with student engagement and agentic engagement in particular.

For the second research question, a deductive approach was followed. The methodologies of the empirical and validation studies were studied and classified into quantitative, qualitative and mixed type. The data collection and analysis methods were noted for each study. The synthesised overview is presented in the respective result section. In the following, the overall literature review results are presented according to the research questions.

Research results

Associated constructs and findings from empirical articles

Agentic engagement has been studied as a component of engagement or as a separate variable. The main findings are presented next according to four themes: student individual characteristics and motivation, teaching-learning environment, adolescence as a developmental stage, cultural context considerations (Fig. 1).

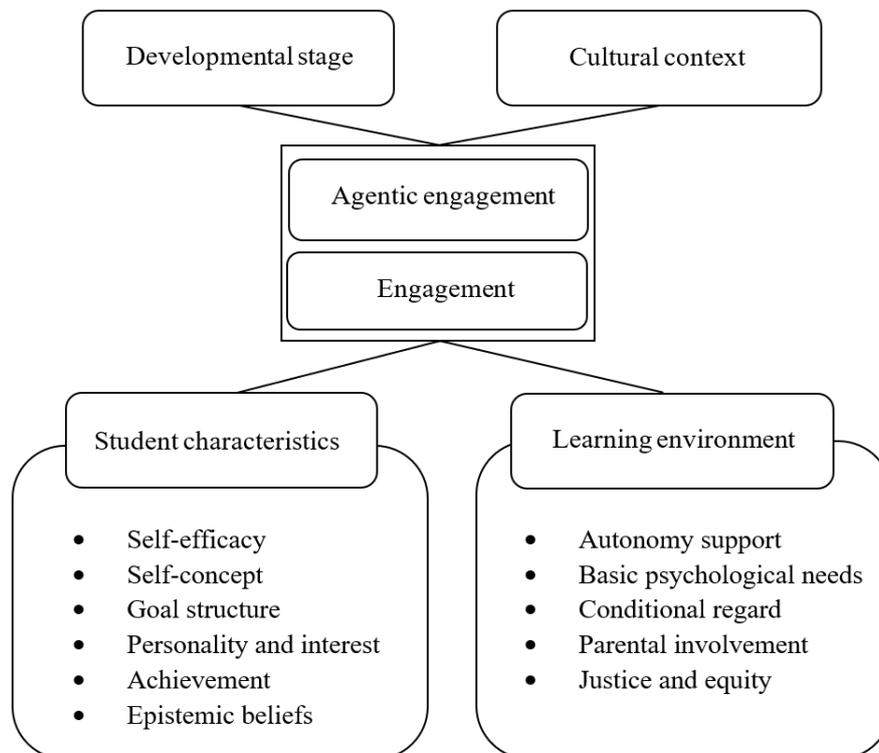


Figure 1 Constructs associated with engagement and agentic engagement (created by the authors)

Student individual characteristics and motivation. Motivation-related student characteristics were positively associated with agency. They included student self-efficacy, self-concept, mastery or performance goals orientation, level of achievement as well as personal interest in learning, and epistemic beliefs (for science subjects). Self-efficacy was found to predict cognitive, emotional (Tas, 2016), behavioural and agentic dimensions of engagement (Sokmen, 2021). The positive association was also true for students with mastery rather than performance goals (Ucar & Sungur, 2017) and higher ratings of self-concept (Veiga et al., 2015). Proactive personality and autonomous motivation (as opposed to controlled motivation, when students require teacher's structuring to stay motivated) also predicted agentic and behavioural engagement (Michou et al., 2021). However, agentic engagement could not reduce students' test anxiety (Maralani et al., 2018). In a temporal perspective, individual differences, such as personality and level of interest, accounted for fluctuations of student engagement throughout the study course (Michou et al., 2021, Patall et al., 2016; 2019). Interest was guiding student engagement in the beginning of the course, while approaching examinations strengthened the extrinsic motivation of students towards the end of the course (Patall et al., 2016). High prior achievement predicted engagement (Tas, 2016). However, Wan Mazwati (2018) described a case where low-achievers also demonstrated engagement when provided with agency-encouraging learning environment based on a philosophic inquiry class. Another variable analysed in the literature for its influence on student engagement was students' epistemic beliefs: uncertain epistemic beliefs and distrust in science may prevent students from fully engaging themselves in science learning (Lin, 2021a). Also, during lessons of communicative nature, such as language lessons, students faced the requirement to build social representations of oneself and could exercise agency to not to participate in activities as expected by the teacher (Henry & Thorsen, 2020).

Teaching-learning environment. In the reviewed studies, the classroom environment was addressed through the aspects of basic psychological needs fulfilment following SDT. Some studies reported a positive association of student basic psychological needs variable with dimensions of engagement (Kurt & Tas, 2018; Tas, 2016; Molinari & Mameli, 2018). Kurt and Tas (2018) revealed that parental involvement (high educational aspiration, parental communication, parental participation, and parental autonomy support) predicted satisfaction of basic psychological needs of students at school. A special focus lay on the reciprocity of student engagement and teacher autonomy support. When students perceived their teacher as interested and helpful, they reported significantly higher levels of agentic engagement (Reeve et al., 2020; Michou et al., 2021), while less supportive teacher behaviour was associated with less engaged students (Tas, 2016). Zhang et al. (2020) reported that an autonomy supportive teaching intervention had an effect on students' sense of autonomy and agentic

engagement, also the students admitted the changes in teacher's teaching style. At the same time, Patall et al. (2019) showed that students' reporting of agentic engagement predicted that they would perceive their teacher as affording autonomy. Thus, agentic engagement is both a predictor and a consequence of an autonomy supporting learning environment. Furthermore, Cohen et al. (2020) found that conditional regard as a motivating approach used by teachers opposed student sense of autonomy and prevented students from being agentially engaged. Also, students' perceived equity (Tas, 2016) and justice (Molinari & Mameli, 2018) in the classroom had a positive association with engagement.

Adolescence as a developmental stage. As the reviewed studies relied on the data collected from secondary and high school students, it was important to consider the specifics of their development according to their age. In a comparison of junior (grade 6-7) and middle adolescents (9-10), Veiga et al. (2015) noticed that younger students with high self-concept reported high levels of engagement, while older students with the same high self-concept tended not to become engaged cognitively and agentially. Authors noted that the increasing influence of peers could affect the willingness of adolescents to invest cognitively in learning tasks and show initiative in the classroom. This finding is essential to consider when planning learner agency promoting interventions. Besides, upper-secondary and high school level is where students start to think about their future career choice. Fulfilment of basic psychological needs can have an effect on students' self-efficacy in career decision-making (Mameli et al., 2019). In addition, teachers' motivating style directly impacts adolescents' classroom experience in academic and psychological terms (Cohen et al., 2020).

Cultural context considerations. As mentioned above, the findings in the reviewed studies stem from a variety of countries and cultures. Notably, several authors highlighted the possibilities of culture and local education systems effects (Molinari & Mameli, 2018; Zhang et al., 2020; Michou et al., 2021). Molinari and Mameli (2018) noted that in their sample of Italian students, autonomy dimension was not reported as a basic need at school by the students. Zhang et al. (2020) had similar expectations for the study in China, where the educational system is built to prepare students for exams rather than for interest pursuit and curricular outcomes. Consequentially, promotion of teacher autonomy support did not influence student cognitive engagement. Moreover, difference in agentic engagement and response to needs satisfaction by student gender requires further investigation for cultural effects (Michou et al., 2021).

Research instruments

Out of the reviewed 20 empirical papers, 16 papers used a quantitative approach to data analysis, three papers used qualitative methods, and one paper reported usage of mixed methods.

The majority of the quantitative studies compared differences in engagement between students, several studies applied a longitudinal perspective (Patall et al., 2016, 2019; Reeve et al., 2020; Michou et al., 2021). For measuring agentic engagement, the 5-item Agentic Engagement Scale (AES) was used. It was introduced and validated by Reeve and Tseng (2011) as part of the Engagement Questionnaire that distinguished agentic engagement as a dimension of engagement. In a later article (Reeve, 2013), AES items were revised to be more learning oriented (Table 3). Most of the reviewed quantitative studies relied either on the 2011 or 2013 version of AES. Several studies used adapted versions of the scale (Veiga et al., 2015; Lin, 2021a; 2021b). AES was translated into Turkish (Ucar & Sungur, 2017, 2018) and Italian (Mameli & Passini, 2017). The latter authors also extended the scale from 5 to 10 items and validated it in a subsequent study (Mameli & Passini, 2019; Table 3).

Table 3 Initial and revised Agentic Engagement Scale items (created by the authors)

Items of the initial AES (Reeve and Tseng, 2011)
<ul style="list-style-type: none"> - During class, I ask questions. - I tell the teacher what I like and what I don't like - I let my teacher know what I'm interested in - During class, I express my preferences and opinions - I offer suggestions about how to make the class better
Items of the revised AES (Reeve, 2013)
<ul style="list-style-type: none"> - During class, I ask questions to help me learn - I let my teacher know what I need and want. - I let my teacher know what I am interested in - During this class, I express my preferences and opinions - When I need something in this class, I'll ask the teacher for it
Items added to the extended version of AES (Mameli & Passini, 2019)
<ul style="list-style-type: none"> - During classes, it can happen that I introduce new issues or discussion topics - I defend my opinions even if they are not in line with those of my classmates - I make sure that my teacher understands if there is something I don't like - If I don't agree with a teacher's statement, I tell him or her - If I think that a teacher's behaviour is unfair, I tell him or her

As for the qualitative and mixed methods studies, they were less numerous and used varied research instruments. Pineda-Báez et al. (2019) conducted a qualitative study based on semi-structured small group interviews and student writings to identify the factors stimulating and hindering student engagement based on student own experience; the sample included 150 seventh-grade students (aged 12-13). Wan Mazwati (2018) described an observational case study where 22 low-achieving students aged 12-13 years took part in a philosophic inquiry-based discussion. The outlined pedagogy was reported to encourage student

engagement and agency. Contrary to the rest of the studies, Henry & Thorsen (2020) focused on student disengagement rather than engagement. They analysed two cases from 7th and 9th grades from a larger ethnographic project, where they attempted to describe the disaffected version of agency in a language class by providing examples of student interaction. The authors demonstrated how students “manipulated” the activities offered by the teacher, acting out “productive forms of disaffection” (Henry & Thorsen, 2020, p. 468). Zhang et al. (2020) carried out a quasi-experimental intervention study and combined the data from student self-reporting, classroom observations and interviews with teachers.

Overall, the reviewed empirical papers rarely studied agentic engagement on its own, rather together with other psychological constructs and teacher pedagogical approaches relying on quantitative student engagement reports, teacher ratings, interviews and classroom observations.

Implications for research on learning co-creation

The main areas where co-creation and agentic engagement overlap are student agency and productive interaction between teachers and students. Agentic engagement may reflect the process of learning co-creation on the daily individual student level by showing to what extent students feel involved in the organisation of learning in the classroom. The concepts are oriented at the collaborative processes for learning: agentic engagement is about how an individual can win a more supportive environment (Reeve, 2015), and the goal of co-creation is a collaborative output and value creation with shared responsibility for learning (Author et al., 2020). However, if co-creation is directed at involving students as partners or co-designers in the education process by inviting them to design activities, courses or curricula, agentic engagement describes student contribution to instruction as it is delivered by the teacher. In other words, co-creation is often discussed as a teacher or institution-initiated practice (top-bottom nature), while agentic engagement stems from the student (bottom-up nature), even if enabled by autonomy supporting teaching (Reeve et al., 2020). Thus, agentic engagement can be an element, a goal, or an outcome of co-creation.

The review has demonstrated that both individual characteristics of students and the influences from their proximal environment contribute to students’ engagement as a manifestation of their motivation for learning. In this way, a line of research could be developed on co-creation as an autonomy, and subsequently, motivation supporting approach. Additionally, agentic engagement can be considered as an indicator of whether co-creative activity had the desired effect on students’ active engagement. When discussing student agency, it is essential to look at to what degree learners can influence instruction and how productive and beneficial for learning this influence is. The reviewed studies tended to consider the association between agentic engagement and achievement in general,

however, it would be also informative to measure any effects of agency enhancing interventions on student achievement and cognitive engagement within certain time periods as suggested by Zhang et al. (2020). Moreover, there is still an open question about the relation between agentic engagement of students during classes and their self-regulated learning, as the latter is often conceptualised as highly agentic process in theory and practice (Schunk, 2012). A related direction would be also identifying the interrelation between agentic engagement and promotion of metacognitive strategies use in the classroom by the teacher.

In terms of the research instruments, the reviewed studies relied mostly on students' self-reports of engagement, only two studies reported a classroom observation (Henry & Thorsen, 2020; Zhang et al., 2020). In the context of studying co-creation, the quantitative tools could be used for measuring the agentic engagement as an indicator of co-creation. However, in line with the longitudinal studies from this review (Patall et al., 2016, 2019; Michou et al., 2021) an alternative could be to study student agency as a process rather than a static trait of students. In the context of self-regulated learning, such change of perspective on measurement was described as moving from aptitude-based measures to event-based ones (Panadero, Klug, & Järvelä, 2016). Previous studies on co-creation have shown that student questionnaires and think-aloud reports can yield different results (Fraile et al., 2017). Thus, there is a need for more qualitative and mixed-methods studies to account for the fine-grain changes in student engagement within specific contexts.

Conclusion

This paper aimed to map the available literature on agentic engagement in conceptual and methodological terms. The review showed that agentic engagement was studied predominantly in relation to motivational constructs and autonomy affording pedagogy. The majority of studies were quantitative, measuring association between agentic engagement, other dimensions of engagement and variables representing the individual characteristics of students. The concept of agentic engagement implied a perspective from the students' position with the literature focusing on increasing student motivation and engagement through satisfaction of students' basic psychological needs. Implications for the research on co-creation included a suggestion to study co-creation as an autonomy supporting approach and considering agentic engagement as an element or an indicator of learning co-creation. Current research instruments used for studying agentic engagement of students are based on the quantitative Agentic Engagement Scale (Reeve & Tseng, 2011; Reeve, 2013). The use of process-based research methods can be proposed for capturing event variations in student agency in the classroom.

Further research is needed to connect co-creative practices and supporting student agentic engagement with learning outcomes, student self-regulation and collaboration skills. Besides, as this review has demonstrated, the cultural context differences, as well as local practice conventions, can have an effect on student agency in learning and participation in co-creative activities. Thus, further studies need to take the cultural factors into account.

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ICT SCAFFOLDING FOR SCHOOL EDUCATION IN COVID-19 LOCKDOWN

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Abstract. *The COVID-19 situation, where the educational process had to be as flexible as possible, revealed that the use of information and communication technologies (ICT) has become a challenge for Lithuanian schools. In early 2021, we conducted focus group discussions in four Lithuanian schools to investigate how educational technology can enable an inclusive educational process. The analysis of the key determinants of pedagogical success and schools' decisions on the unified use of ICT to include all students in learning, the scaffolding of the educational process using ICT revealed the two main factors. These factors ensuring the scaffolding process are: (1) how teachers remove the learning barriers and support students by use of educational technologies; (2) what helps teachers to transfer responsibility to students and enables their participation in the educational process. When we examined the potential of ICT to engage students, we found several differences between schools, namely: technology provision, the teachers' ICT skills, the experience of the school community itself, the readiness of the school, teachers, and students to teach and to learn by distance or blended learning applying new ICT-based educational scenarios. The study results showed that the gains made during the COVID-19 lockdown in Lithuania in combining teaching solutions with the use of technology can become the 'new normal' and can help schools address the issue of inclusion for all students.*

Keywords: *ICT for scaffolding; new educational technologies; school education during COVID-19 breakout; students' inclusion.*

Introduction

Scaffolding could be defined as the support provided by teachers, parents, peers, computer technology, and other internet media to enable learners to participate meaningfully and to acquire the theoretical knowledge and practical skills to perform educational tasks that would be difficult to complete without additional support (Belland, 2014), and gradually to transfer responsibility for learning to the student (Ersani, Suwastini, & Artini, 2021). ICT research during the COVID-19 lockdown has developed in two main directions: (1) the readiness of teachers to work remotely, the desire for work-life balance, the social, psychological, and technological challenges in education; (2) the transition of

schools from face-to-face to distance education, the change in the teaching process, the educational strategies based on a distance or blended learning models, and the challenges of using ICT in the educational process. The research on teachers' readiness to use ICT in the classroom has mostly applied a technological-pedagogical framework of content knowledge (Adipat, 2021; Mishra & Koehler, 2006). This framework explains how the teacher builds the essential knowledge needed to integrate technology into the teaching process and draws attention to this complex, multidimensional, and situational nature of knowledge. According to Mishra and Koehler (2006), the deliberate use of educational technologies (including ICTs and smart environments) requires the mastery of complex and integrated technological-pedagogical, content knowledge, and practical skills. Suryani et al. (2021) analyzed the transition of schools from face-to-face to distance learning. Their studies of science lessons in *Google Classroom* environments showed that students' learning outcomes improve, when blended (or hybrid) learning is possible. These authors stated that *Google Classroom* could be an excellent tool for extending the learning process in STEAM and other subjects. Yu (2021), extending and complementing the results of Suryani et al. (2021), analyzed student-to-student communication, participation in virtual communities, and collaborative learning. The author found that the various tools and capabilities of virtual learning environments help students to understand the lesson material. Moreover, they help to receive full support from the teacher and other members of the group as well as from their classmates. Goodyear (2020) stressed that 'students often play an active role in adapting the learning spaces, tools, and tasks that have been designed for them, to better match their requirements. This highlights that the design of learning space is more complex and its consequences less predictable'.

In our study, we analyzed how schools and teachers used scaffolding techniques to support their students during and after the COVID-19 lockdown, how ICT was used to provide such support and engage all the students in the learning process. This research was a part of the scientific project '*Emotional and educational difficulties pupils encounter under the conditions of inclusive education and coping with them: context of COVID-19*' (Project Reg. No. P-DNR-21-13). The research was conducted at Vytautas Magnus University and was funded by the Research Council of Lithuania in 2021.

Methodology

We conducted focus group interviews (Bitinas, 2013; Vaughn, Schumm, & Sinagub, 1996; Krueger et al., 2001) between March and May 2021, in four schools. The schools were selected as more experienced in application of ICT in urban and rural areas of Lithuania. The aim of this research was to find out how

educational technology could help to ensure an inclusive education process and could be used as scaffolding tool during and after the lockdown.

The number of subject teachers participated in the study, varied between 7 to 12 in the schools. These teachers work with students in grades 5-8. A school principal, a school psychologist, and a social pedagogue as this research participants took part in the one focus group interview. Seeking to identify the willingness of teachers and schools to work remotely and decisions to support all students in their learning, we raised the following research questions: *What processes foster ICT scaffolding during the COVID-19 lockdown? What educational solutions teachers and schools have made in the use of ICT to help all students, whether they are high achievers or those with learning and emotional difficulties, to succeed in their learning?*

The focus group interviews were recorded, transcribed, anonymized, and analyzed using a methodology of qualitative content analysis (Hsieh & Shannon, 2005). The qualitative data analysis procedures were carried out, subcategories and categories were identified, and the study was validated by presenting the results to the participants and their school representatives.

Findings: the activities fostering the process of scaffolding

The qualitative content analysis showed that lessons to combine technology and pedagogical solutions learned during the COVID-19 lockdown, could become the “new normal” and help teachers and schools to address the issue of students’ inclusion. The findings of qualitative content analysis – as solutions for teachers and schools how to apply ICT in a unified way in the distance, blended or hybrid education presented in Table 1.

Table 1 Teacher and school solutions to increase all the student’s participation in learning (created by the authors)

CATEGORIES. Fostering the process of scaffolding	SUBCATEGORIES. Solutions of teacher and school
Teaching activities removing learning barriers through ICT	<ul style="list-style-type: none"> • Selecting digital tools for different teaching/learning activities; • Reducing barriers through the use and complementation of ICT in the educational processes; • Scaffolding for students with special needs to learn in virtual environments; • Differentiated ICT-based educational process.
Students’ engagement through ICT	<ul style="list-style-type: none"> • Developing inclusive ICT-based educational activities; • Promoting self-regulated learning with ICT; • Fostering creativity through ICT.

The analysis of the potential of ICT to enable students with learning or emotional difficulties to participate in learning in different schools revealed variety in the use of technology and the school community's experience of distance or blended learning. The qualitative content analysis revealed also active use of digital learning platforms and different kinds of other tools during the COVID-19 lockdown.

Category: Teaching activities removing learning barriers through ICT

The category *Teaching activities removing learning barriers through ICT* consist of four subcategories (see Table 1). In this section below, we will present each subcategory.

Selecting digital tools for different teaching/learning activities

The findings showed that teachers easily identified ICT-based learning activities that could help to increase student's engagement and participation in learning:

"... I use [various apps] in my lessons a lot, for example, 'Padlet' is a very handy app for lesson reflection." (GD-10-7Mok)

The teachers used universal educational solutions to develop reflection, questioning, repetition, and question selection activities. The research participants used digital platforms when they asked students to check mistakes visually. The teachers noted that the use of visual aids to discuss students' work had a greater effect than oral analysis of the same tasks. The participants reflected that virtual platforms and online learning environments, such as *Moodle*, *Google Classroom*, or *Microsoft Teams*, could offer more versatile activities and opportunities for teaching:

"The possibilities in Moodle tests are huge. You can set it up so that the child can immediately check if he/she got it right." (GD-19-2Mok)

According to the participants, various digital applications support the development of different subjects or subject groups:

"Mosaic. These are lessons in 3D format. It's very interesting, and you could find a lot of interesting materials not only in English but also in Lithuanian." (GD-10-7Mok)

In addition to universal solutions suitable for any subject, teachers often use a range of ICT-specific teaching tools for specific subject:

"As an English language teacher, I liked 'Liveworksheets'. It's a little app that has a huge treasure trove of ready-made exercises. And, as a teacher, I create my tasks there. I assign them mostly on self-directed learning days. <...> The app itself allows the child to solve

the tasks and then check them. The correct answers are given and the grade is written, so the children can see the grade immediately." (GD-10-7Mok)

The foreign language teachers found applications that they believe make classroom activities more engaging:

"You have to start working with all sorts of apps, educational programs, and environments. Because you must do something. Especially in the (German) subject that I teach. The specifics of the subject require you to hear how the child speaks, what he/she has learned, to hear his/her pronunciation. To limit yourself to the lecture when the cameras are off, and the sounds are turned down is difficult. Then you look for some playful ways to get children to learn words, to learn how to say something, an art, a foreign language, over a distance." (GD-5-1Mok)

"To find ways to make it easier and more fun for your children, you explore the whole web, find apps you like, and adapt them to your lessons. Teams environment, Zoom environment, Qizzlett app for learning words, 'Mentimeter' for doing different surveys, Socrative environment for tests - there is a lot of stuff out there, and I can go on and on." (GD-5-1Mok)

Apps for data and text visualization, audio, and play activities also helped teachers to engage students to participate in the learning process. For example, history teachers provided teaching materials and popular science information in a variety of formats. In addition to visual learning aids, audio recordings were also used to give students a break from screens:

"There are a lot of recorded lessons and books. I used to suggest to the children that if they got tired of reading, they could listen to e-books before going to bed. I always told them to listen to e-books. There are special English language e-texts. These texts are divided into levels. The child could read the text and at the same time there is an audio recording attached to the text." (GD-19-6Mok)

These are just a one of the examples of sensory scaffolding identified by our research participants-teachers.

Reducing barriers through the use and the complementation of ICT in the educational processes

The study showed that teachers engaged students with learning and emotional difficulties, special education needs (SEN) students with apps that enable them to learn. The other versatile method used to enable students with learning difficulties was to replace handwriting with text-typing. Sensory scaffolding or changing the format of the task, modality – this was often reported by teachers and demonstrated the skills of organizing inclusive education for students with learning and emotional difficulties. The teachers shared the different tools they have found in teaching students with learning difficulties to enable them to understand the text. The participants who worked with SEN students learned a

lot about special apps. For example, the ‘Reading Comprehension’ page was one of such tools:

“In ‘Reading Comprehension’ educational webpage it is possible to find downloadable exercises for reading comprehension. I found a lot of spelling exercises there too. It's easier for pupils with special needs [to learn].” (GD-19-1Mok)

“Pupils with special needs use ‘Mentimeter’ very well. It's just harder for them to log in, but it's not a very difficult issue either. Of course, it's not always easy for them to mark, rate, or write their opinion... They might find it harder to formulate their thoughts, but when you present their opinion, you still get into the common language and explain. <...> They also really like the way I create mind maps for ‘Coggle’ and ‘Mindmeister’. The kids love it, they say: “How clear it is when you see the image instead of the text”. And then the teacher puts that map, that topic, into a detailed mind map. They, the children, like and understand that visual. They remember it very well and can easily reproduce and explain it afterward.” (GD-5-6Mok)

The findings of the research showed the ability of teachers to recognize the amount and the type of support for students with learning difficulties. The teachers helped until the student mastered a new task or digital tool. This was the example of practical implementation of one of the main scaffolding principles. As Ersani, Suwastini, & Artini (2021) note, “when students are finally able to do a particular task without assistance, a transfer of responsibility occurs. Support is gradually removed since students can already pass their Zone of Proximal Development”. The similar processes were observed and applied by our research participants.

Scaffolding for students with special needs to learn in virtual environments

While helping students make their first steps in virtual environments, teachers enabled them to use online tools. These tools provide students with greater opportunities for virtual learning and communication:

“When talking about special needs children, for them learning to connect was a big challenge. When they learn how to connect, everything has become easy and interesting.” (GD-5-1Mok)

The teachers working with special needs students identified criteria for selecting apps to make learning effortless for these students:

“After looking at a wide variety of apps, I aim to choose an app that is free to connect, easy to understand, simple to manage, and calm to use. I look for apps that give feedback to the teacher; that show the child's progress, the number of logins, etc. At the same time, I would like the app to be able to monitor how the children are doing - are they logging in? How are they behaving? What percentage of correct or incorrect answers do they get when completing tasks? How are they navigating? My main criteria for the app are ease of use and accessibility. This is important because I work with children with different needs. Some can understand the material and complete the tasks very quickly, but some find it difficult. These aspects are very important.” (GD-5-1Mok)

Teachers have also been able to address the students' special needs in their transition to virtual learning:

"I'm very happy that in early September ... I started teaching fifth graders how to work with the Teams platform. <...> for SEN students it took at least two months to understand the navigation, login process, and all the technologies. <...> For example, working with a Notebook. How to load tasks from your computer into your homework Notebook? It wasn't really easy. A child needs to remember the password, to login ... It was a problem." (GD-17-5Mok)

"SEN children needed much more help to join Eduka, EMA, Zoom, and other programs what their teachers use." (GD-17-4Soc)

Differentiated ICT-based educational process

The schools' principals and teachers provided us with suggestions on how to organize the distance learning process at school. These suggestions, according to the teachers, could help other teachers and schools to differentiate easier their activities and to devote time to students with special needs:

"I have a lot of children with special needs in my class. And what I liked about my job was that it was possible to send those who could work independently to virtual rooms. I leave special needs pupils in the main room and explain what was not clear to them again and again. There were 7 or 8 of those children with special needs and we work almost individually." (GD-17-1Mok)

Group work in *Zoom* virtual environment was one of the most versatile solutions for managing any lesson and allowing the teacher to focus on special needs students. The teachers gave examples of good practice on how they use digital tools to differentiate the level of tasks and to make learning more playful and gamified. The participants noted that the differentiation of learning tasks was better organizing these in online way than face-to-face. The teachers considered that this was due each student had an individual computer or tablet device to use for learning. The participants mentioned other apps that made learning more engaging and that they used to differentiate learning. Some examples of such apps were *Linoit*, *LearningApps*, *Liveworksheets*. These apps allowed teachers to differentiate tasks for students of different abilities and skills. The teachers shared:

"...I can create tasks for children by differentiating them. This is very useful for initiating tasks for pupils with special needs." (GD-10-7Mok)

Category: Students' engagement through ICT

We found that category *Students' engagement through ICT* consisted of three subcategories (see Table 1). In this section, we will present each of subcategory.

Developing inclusive ICT-based educational activities

To make learning enjoyment and engaging, teachers organized activities for individual and group. These learning activities included more than one assignment and used a variety of ICT tools and resources, such as *Kahoot!*. The app, which became very popular in schools during the quarantine period, and others:

"Students performed 'Kahoot!' quizzes when they were a bit tired and had double lessons. It's more of a game of chance, and engaging learning experience." (GD-19-2Mok)

According to the teachers, the children enjoyed *Kahoot!*. However, it was necessary not only to explain the rules of the quiz, but also to teach self-reflection, to assess one's abilities, knowledge, and skills, and to apply teamwork:

"I suggest to the children to do a test, and I ask them, can we do it using some other app? I suggest- Kids, maybe we will answer the Teams survey? The children answer: -No, teacher! Just Kahoot!. But of course, they were a bit disappointed because they wanted to compete, and I didn't allow that. I took away the scoring. <...> I then say to the children: 'So that you don't get frustrated, but so that you can be very realistic about yourself. I take the scoring off so that you can learn by reading the correct answers.'" After that, we did a few tests without calculating points. As long as they answer, it's calm, and then the feedback pop-up: 'Oh, so that's how it was for me, I was first and now I'm not first anymore. The child was so disappointed... We needed to talk about learning to see ourselves realistically, explain the way things are.'" (GD-5-6Mok)

The research showed that long experience of using digital tools helped teachers to use ICT for enhancing students' intrinsic motivation by fostering awareness and the pursuit of new knowledge rather encouraging competition. Various digital tools and applications helped to stimulate the educational process, to motivate and involve in learning activities all students, including those who were less active or had learning and emotional difficulties. The same apps, used repeatedly, sometimes got boring for pupils, so teachers kept looking for new digital tools. The participants found that their students were engaged and motivated by the instant feeling of success coping with digital apps and tools when completing and checking tasks.

Promoting self-regulated learning with ICT

The findings showed that teachers' enabling instructional activities is associated with students' self-regulated behavior – students like the engaging learning activities offered by the teacher, they willingly participate in the ICT-enhanced learning process, completing the tasks and linking them to their personal learning goals. Students were willingly engaged in learning supported by apps allowing choosing and achieving their own goals. Some of the participants noted that self-regulated learning skills were developed through the common use of *Teams* – virtual platform chosen by the school:

“Each of our classes hosts a self-regulated learning day once a month. All tasks are hosted on the Teams platform. All students know that they have assignments for all subjects of the day that can be found in Teams and nowhere else. And then consultations take place only through the ‘Teams’ at the time scheduled”.

(GD-10-6V/Mok)

Fostering creativity through ICT

The teachers discovered, used, and created a variety of new tasks to handle the strength of ICT tools enabling and developing students’ creativity competence. For example, in music lessons, students chose the pace to complete individual assignments created by the teacher. In distance learning, teachers modeled their lessons considering the best practices of their colleagues and digital materials developed by peers. It was encouraging to understand that teachers have recognized the greater potential of ICT and have rediscovered digital technologies for enabling their student’s creativity. Returning to contact education, teachers developed various ICT-based educational tools, resources, and teaching alternatives for traditional activities in school. The schools have learned how to overcome technological barriers. In overcoming the exclusion barrier, the schools have discovered a variety of ways of helping to raise students’ responsibility for their learning, to motivate them to learn, to set the personal goals and reach them.

Discussion & Conclusions

ICT scaffolding for school education aims gradually delegate responsibility for learning to the student, enabling self-regulated learning. Summing up, we conclude that the skills and the culture of self-regulated learning in schools are not yet widespread. To bring the processes of ICT scaffolding into schools, it is particularly important to disseminate good practices of teachers and schools working with special needs students and students, who have emotional and learning difficulties.

The processes of mutual support, sharing ideas and knowledge, communication, and cooperation were activated during and after the lockdown in the communities of the schools. In addition, teachers were involved in the improvement of the instructional design.

The project-based activities became more popular in Lithuanian schools during the lockdown. After returning to contact teaching, these activities were continued. The teachers’ experiences that are gained working in this way have contributed to the development of students’ intrinsic motivation and the development of self-regulated skills. Moreover, teachers discovered and developed ICT-based alternatives to textbook as a teaching & learning aid. Our research showed that various smart applications increased students’ motivation and stimulated learning in general.

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THE DEVELOPMENT OF COOPERATION SKILLS OF SENIOR PRESCHOOLERS IN THE EXPERIMENTATION PROCESS

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Abstract. *The authors of the article consider the importance of cooperation skills as some of soft skills of a person. The significance of developing these skills from preschool age on is emphasized. The influence of children's experimentation on their all-round development and readiness of senior preschool children to study at school is considered. The interrelation between group activities in the process of experimentation and the development of senior preschoolers' cooperation skills is shown. Based on the observation of children's activities in the process of experimentation, the educator's participation in this process and the survey of senior preschoolers and educators reveal the aspects of the organization of children's group activities that have to be improved. The peculiarities of the educator's participation at all stages of the experiment done by senior preschool children in groups are analyzed – during the goal setting, discussion of the experimental procedure, summarizing, as well as during the verbal report on the results of the experiment. Emphasis is placed on the fact that it is important to organize experimentation centres at preschool institutions, which will allow children to freely experiment and form a team to carry out search activities. The psychological and pedagogical conditions for the children's experimentation in groups being organized at preschool institutions by educators for the successful formation of senior preschoolers' cooperation skills are formulated.*

Keywords: *educational process at preschool institutions, children of senior preschool age, children's experimentation, cooperation skills, group forms of work, personality-oriented approach.*

Introduction

The social need of the cooperation skill of children grows with each passing day. In any sphere a valuable employee is a person who is able to cooperate with other members of the team. A cooperation skill, as one of the human's soft skills, is a personal breadth of knowledge which helps a child to solve important tasks in an easy and productive way and to constantly move forward. The cooperation skill will help children to apply the knowledge gained and to easily achieve their goals in future: a prestigious university, a successful career, a happy family and a real friendship.

A child of pre-school prefers a game as a main activity. He plays with a great interest, uses his own experience for creating gaming concepts where he implements his cognitive, social, moral and aesthetic needs. The easiest way of creating the cooperation skill is to form it in a preschool age while the usual scenario and behavioral patterns have not yet been established. A game being a main activity of the pre-school children, appears to be a fundamental instrument of forming the social, vital and constantly changing skills which will develop during all the human's life.

The aim of this article is to investigate the connection of the group activity in the process of the experimentation with the development of the cooperation skills of the senior pre-school children.

The theoretical background

It is proven that the collaboration is inherent to all children from an early age and it is some unconscious striving. (Tomasello et al., 2009). However by the age of 6-7 children feel the need for collaboration. (Vaish & Tomasello, 2014).

When the senior preschool children's experimental activity takes place outdoors – in the field, in the garden, in the school orchard, and when it is conducted spontaneously, it helps reveal the collaboration skills. (Ozer et al., 2007; Block et al., 2012; Gibbs et al., 2013; Pollin & Retzlaff-Fürst, 2021). One of the researches describes the process of the children's division into groups and the organization of the observing of the plants growing, ground testing and snail watching. (Pollin & Retzlaff-Fürst, 2021). Another study proved the effect of learning in groups of children on the effectiveness of their experimental activities (Karuk et al., 2021).

How does a game influence collaboration skills forming? It was observed that when four- five years old children were in the process of the free game (when children organize groups by themselves), they built more complex entities, were observant and communicated more positively than when a teacher organized their activity (Ramani, 2012).

A collaboration will appear in the preschool child when he possesses such qualities as kindness and empathy. Researchers discovered in one study that such

games as «Islands», «Timeball» when played for 12 weeks, led to the small but visible improvements of children's prosocial behavior. The children as a rule, showed more kindness, help and empathy. (Street et al., 2004). The biggest advantage of the games is in encouraging children to act in a more pleasant way. Some other research shows that a successful collaboration experience forces the children to continue such a tendency: if you are working with me today, I will probably cooperate with you tomorrow. (Blake et al., 2015; Keil et al., 2017). So it is likely that cooperative games can serve as tools for «creating allies» between players.

Experimentation can be considered as one of the kinds of games. A game is one of the important parts of healthy child development (Kruty, 2019). In particular, a scientist (Frishman, 2014) emphasizes the influence of the game with the children of their own age and the effectiveness of preschool child development and the transition from the education pedagogics to the development pedagogics (personal qualities and psyche). On the contrary, a popular psychologist (Podd'jakov, 1977) formulated an hypothesis that the main activity in the school age is not a game, as it's considered to be, but the experimentation. When playing, preschoolers gain not only such academic skills as mathematics, natural science, reading, languages and literacy, but also learn social skills, such as effective communication conflicts and problem solving and collaboration. Senior school children are more interested in investigating the properties of water, ground, sand, etc together with their schoolmates. Such concern can be used in forming the senior pre school children cooperation skill.

Methodology, organization and results of the research

In this research we used such methods of investigation: - theoretical: the analysis of the scientific sources for clarification of the conceptual apparatus; synthesis, the systematization and the organization of the theoretical regulations of the studied issue; empirical: pedagogical observation (of the process of work of the senior schoolers in groups), conversations and teachers' interviews.

In October 2020 a questionnaire was conducted where 82 preschool teachers of Vinnytsia and Vinnitsa region were involved. The aim of the event was to check if Ukrainian educators obtain skills to organize group activity of the senior preschool children in the process of the experimentation. The questionnaire members are 43 preschool teachers who have work experience of 1-5 years (53,4%), 27 members – 6-10 years (32,9%), 7 members – 11-15 years (8,5%) and 5 people – 16 years and more (6,1%). The event took place remotely; the questionnaire tool we chose was Google forms. Let's analyze the answers of the questionnaire survey.

The first question was: «Do you think that educators should form the cooperation skill of the senior preschool children?», and the answer

variants were «yes», «no», «didn't think about it». All the respondents answered positively.

The second question was: «What factor most influences the forming of the senior preschool children's cooperation skills?», and the answer variants were «the child's age», «parental education», «pre-school institution education» and «your own variant» (*Table 1*).

Table 1 Respondents' answers to the second question of the questionnaire «What factor most influences the forming of the senior preschool children's cooperation skills?» (created by the authors)

Possible answers to the questions	Number of respondents in percent
Age of the child	58 people (70,7%)
Family upbringing	12 people (14,6%)
Education in kindergarten	10 people (12,3 %)
Your option	2 persons (2,4 %)

From the answers of educators we can see that the vast majority did not give complete answers, because among these factors is not the main thing: a positive result of the formation of older preschool children skills to achieve cooperation can be achieved through interaction between preschool and parents. These influences are most inherent to the senior preschool children and form the development of the cooperation skill.

The third question was: «What methods and techniques are effective in forming the senior preschool children's cooperation skills?», and the answer variants were: conversation, explanation, direction; elementary experiments; examples of the grown-up; the organization of the common activity, watching cartoons and TV shows of moral content. Respondents could also write their own variant. The answers are shown in picture 2. The total result is not 100%, as the responder could give several variants. After analyzing the results, one can find out that all the members of the questionnaire chose “the organization of the common activity” variant. Thus, all the preschool teachers realize the important role of the common activity in forming the senior preschool children's cooperation skills.

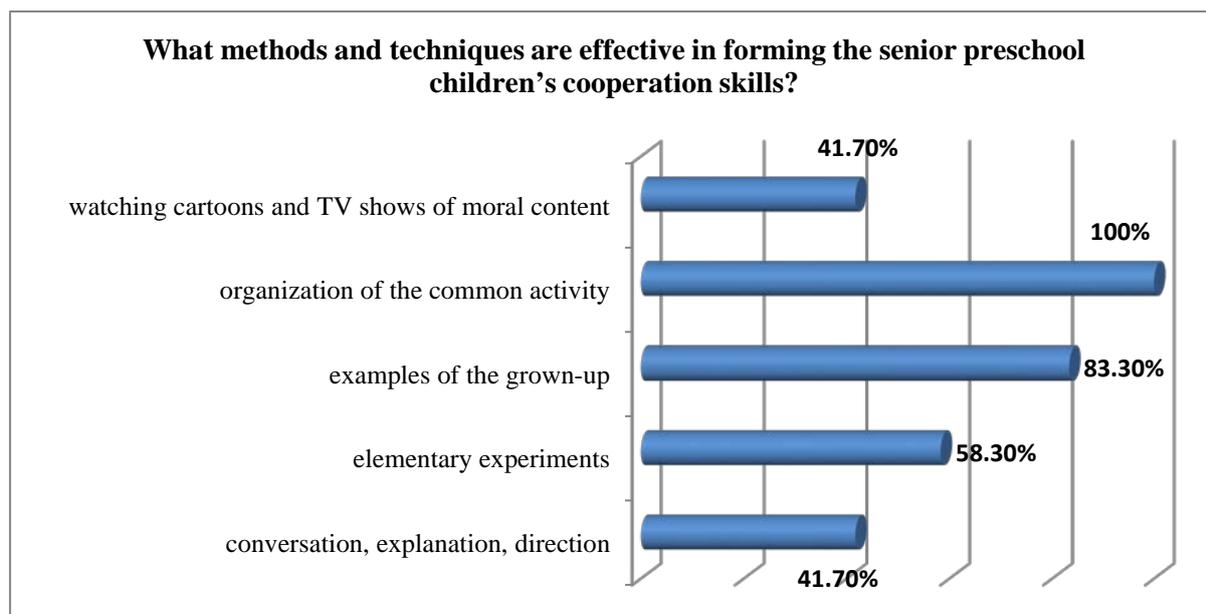


Figure 1 Educators' answers to the third question of the questionnaire (created by the authors)

The next question was: «What skills should an educator possess during developing of the senior schoolers' cooperation skills?». The answer was open (Table 2).

Table 2 Respondents' answers to the fourth question of the questionnaire «What skills should an educator possess during developing of the senior schoolers' cooperation skills?» (created by the authors)

1.children organization skills	9 people (11 %)
2.developmental psychology skills	7 people (9 %)
3.observing children activity skills and its correction	5 people (6 %)
4.group activity basis and special skills to use them in practice	6 people (7 %)
5.children involving in process skills, the ability of making children interested in objective, helping skills for children to be right in this chain	8 people (10 %)
6.teachers should have the ability to organize the team; should show the level of the children development and individual characteristics of every child	9 people (11 %)
7.organization skills; teachers should possess skills to identificate the children knowledge level in order to divide them into groups and to control the tasks execution	11people (13 %)
8.preschool teacher should know the rules of conducting experimentation in a child sensitive manner	11 people (13 %)
9.teachers should have skills to organize the cooperation	16 people (20 %)

Most of the respondents (more than 67%) pointed out the facilitation skills and deep knowledge of developmental psychology. Such conclusions were made from the answers 1-8. However, none of the responders mentioned such important factors as praise of the schoolers and praise of their collaboration skills, the teacher's focus on the children's desire to help each other.

And, finally, the last question was «Is children experimentation possible without forming cooperation skills?». This question also offers an open answer (Table 3).

Table 3 Respondents' answers to the fifth question of the questionnaire «Is children experimentation possible without forming cooperation skills?» (created by the authors)

Because, during children's experimentation, children perform all tasks together, help each other.	5 people (6 %)
If you do not have skills in anything, it is not advisable to conduct experiments.	8 people (10 %)
The educator is like a link between the child and the result of research, or the goal to be achieved.	9 people (11 %)
When there is cooperation, the child will rely on the auxiliary instructions of the educator, he will be interested in getting the result that will be satisfied by both parties.	7 people (8 %)
Because during experimentation, children have to explore or influence a certain object or phenomenon of nature together, and if children do not develop the skill of cooperation, they will not succeed in joint research.	6 people (7 %)
Because the child during the experiment must act together and cooperate to get the result.	9 people (11 %)
Any activity is communication and interaction with each other.	9 people (11 %)
To achieve this goal it is necessary to develop children's skills of cooperation.	13 people (16 %)
A common goal is a common result.	10 people (13 %)
Together you can succeed.	6 people (7 %)

Some respondents mentioned the important cooperation skills for organization of the experimentation in groups. When children cooperate and support each other, the result will be more effective: children's thinking, interests and imagination will develop in a more powerful way. There were also replies which didn't deeply demonstrate the connection of the children's collaboration skills and impact of the experimentation activity. The replies are as follows: «during experimentation children have to examine and influence a certain object or natural phenomena, and when children don't have cooperation skills, they won't have a co-research», «children have to act together and cooperate in order to get a result», etc. There were also replies when it was difficult to understand the deepness of the teachers' comprehension of the investigated connection of the

children's cooperation skills and experimentation activity (for example, «Any activity is a communication and interaction», «if there aren't formed skills in anything, one should not conduct an experiment»).

To summarize the results of the experimental research, we can mention that some part of the preschool teachers who took part in the questionnaire survey, understands the importance of the children cooperation skills but they need to gain additional knowledge of interaction with the children's families for working together in forming the skills and they need the competencies of organizing of the children's experimentation in groups and managing such activity.

Also we conducted the observation of the educators' organization of the group activity of the senior scholars during the experimentation. 17 preschool institutes in Vinnytsia and Vinnytsia region were under the investigation (Preschool educational institution №10 "Kalinka" in Vinnytsia (<https://dnz10.edu.vn.ua/>), Preschool educational institution №30 "Firefly" in Vinnytsia (<https://vn.isuo.org/preschools/view/id/56849>), Vendychany preschool institution of Mohyliv-Modilskyi district of Vinnytsia region (isuo.org)) The results of the study are correlated with the results of the questionnaire survey, so we noticed not enough motivation of teachers in forming the children's cooperation skills during the experimentation. This is due to the lack of materials and devices for children's experiments, the ignorance of educators in the structure of their conduct. It also takes a lot of time and effort to prepare and conduct this type of preschool activity.

To identify the influence of the above in the formation of skills for cooperation, we conducted an experimental study. 158 children of senior preschool age took part in the pedagogical experiment (78 children in the control group and 80 in the experimental group).

The structure of the children's experiment:

1. To find out what children are interested in and are eager to learn.
2. The decision and formulation of the problem.
3. Proposing assumptions (results prognosing).
4. Safety rules forming.
5. The hypothesis checking (the experiments conducting), the fixation of the results by the group and the analysis of the data received.

Let's examine the approach a preschool teacher should use for forming the children's cooperation skills using the example of the experiment «Properties of water» (experiments with water, snow, ice, paints and oil).

The objective is to develop children's thinking, imagination; to form the children's realizing of the properties of water and ice.

The materials are parts of pictures, containers for snow and water freezing, a marker, stickers, colors, a brush, oil.

Duration of the experiment: 20-30 minutes.

Group division: we create children groups of 3-4 before the beginning of the experiment. The groups can be created on arbitrary guidelines (for example, to cut the pieces of paper and give the children the pieces placing the facial part down. The paper is cut into 3-4 pieces (it depends on the number of children in the group). The children should make the whole picture - this is a group.

The review of the children's experiment:

1. Children are interested in what the snow is?
2. The tasks of this stage of the experiment are suggested to children step by step. Scoolers together with the preschool teacher formulate the problem, for example, what will happen to the snow if we take it to the classroom and then freeze it and add some colors and oil.
3. Preschoolers express their thoughts about the snow melting, about the color of water, white or gray; what will happen if they put the water into the refrigerator, if it freezes or if it changes color when they add color or if it melts when they add oil.
4. The children with the pedagog revise safety rules; they mustn't eat the substances and ingredients; they should demonstrate kindness and respect for each other; the experiments should be conducted with the permission of adults and in their presence.
5. At first, the preschool teacher tells the children what they should get in the containers (for example, during the walking). Upon request, children can mark their container in any way (using a marker, a sticker, etc). It should be emphasized to take the snow from different places. Learning the topic, children observe the creation of ice from water of different colors - the color of water determines the color of ice; the form of the container defines the form of the ice. In order to form the cooperation skills in the process of this research we should choose a responsible person for the form of the ice (it is divided into 3-4 parts), colors (1 set of colors for a group) and the brush. It is important to prepare the required instruments one for a group. Thus every child will learn to share and ask. After children get the containers with ice, we leave them in the classroom for some time and offer the children to watch their containers. Every group should be given a separate table where children can set their equipment. At this stage children watch the snow in their containers, observe where the snow is melting faster and express conclusions why it happens and discuss their ideas. After water melts, the members are suggested to observe the color of the snow, discussing it in their groups (we offer doing it by comparing with the objects the children got familiar with (the piece of paper, a white color, child's clothes, dishes).

We emphasize that children should formulate one conclusion from each group. During discussion children share their thoughts, learn to express their

minds, and listen to their schoolmates, formulate their own mind and understand that it is not pleasant when they are interrupted or not listened to, so they learn to cooperate.

In the second part – in order to learn the fact that the color of the ice is determined by the color of the water, we suggest that the children should choose the color and remember it. As the brush is only one, children should learn to share it and wait for their queue. Besides, different situations appear in the process of such activity, when children should ask to hold the container with water, colors, etc. And schoolers will understand that if one does not help his schoolmate, no one will agree to help him. When the container for freezing is ready, the educator puts it into the refrigerator. After the water freezes, he gives it back to the children.

The scholars observe that the color of ice depends on the color of snow. At the end of the experiment the preschool teacher should praise every group for their working together and should express his joy observing their cooperation and helping each other. The educator should emphasize that the positive result (he should generalize the conclusion the children made) is gained only in collaboration with each other.

Such an experiment can be continued by adding some oil (put multicolored pieces of ice in one container and add some oil, mix the ice and watch its melting and discuss the thought about the experiment). By the way, children should be given a chance to mix ice and oil - one by one or one child from the group. Thus, we will learn to interact with each other and cooperate.

And finally, The third part of the experiment can be in researching the form of the ice depending on the form of the container. We give every child from the group a container of a different form. Children can freeze the ice of different colors in these containers. The children will learn to discuss issues, deal with one another, help each other, that is cooperate.

The formulation of conclusions. The educator summarizes about the properties of water and about the children's work during the experiment. Schoolers ask questions which can appear during the research.

The pedagogue provides children with all the necessary materials in the process of the preparation, and the content of the experiments are formed by the children headed by the teacher. Thus, children experimentation is organized by the children's request and its structure can be as follows:

The role of the preschool teacher is a facilitator. He should appear off-screen. We advise to interfere only in exceptional cases, when there is misunderstanding between children when they can't deal by themselves (for example, children can't agree upon the instruments sharing). It's important to praise schoolers during and after the experimentation process. The educator should emphasize that the achieving of the positive result is possible only in collaboration, when children help and support each other, are concessive and patient.

To do this, we used Pearson's correlation analysis. The choice of this analysis is due to the need to establish a relationship between two independent data samples: X - the results of determining the level of older preschool children skills, Y - the results of teacher skills purposefully and effectively promote the development of cooperation skills in children in their experimental activities.

To calculate the Pearson correlation coefficient, we used the formula:

$$r_{xy} = \frac{N \cdot \sum x_i y_i - (\sum x_i)(\sum y_i)}{\sqrt{[N \sum x_i^2 - (\sum x_i)^2][N \sum y_i^2 - (\sum y_i)^2]}}$$

Final calculations show that 0.95. Thus, there is a direct link between the level of cooperation skills of older preschool children and the level of teacher skills to purposefully and effectively promote the development of cooperation skills in children in the process of their experimental activities.

Conclusions

Generalization of the scientific literature, the results of the teachers' interview, and the observation of the senior preschool children group activity in the process of experimentation helped to make such conclusions.

The social value of the cooperation skill was proven by the scientists and was confirmed by the pedagogical and life experience.

The teachers' interview and the observation of the senior preschool children group activity in the process of experimentation in the preschool establishments in Vinnytsia and Vinnitsa region proves the relevance of the teachers skills of intentionally and effectively contributing to the development the cooperation skill and in particular in the process of the experimentation activity.

In the course of the experiment preschool teachers should have excellent relations with children, should encourage cooperation and mutual help and should motivate children with positive comments about their success. On the other side, in the circumstances of the children experimental activity and creating the atmosphere of the collaboration and mutual support, preschool teachers get the opportunity to implement their manager function: to focus the children's thought process on the willingness to observe invisible, to understand hidden and to consider unusual in the common objects, to realize cause-effect relationship phenomena which are being explored.

The sphere of the further investigation comprises the search of the effective ways of cooperation of the preschool teacher and children's family forming together the collaboration skills.

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DYSONTOGENESIS AND REDUCTION OF CHILDREN'S GAME: ANALYSIS, CONSEQUENCES, WAYS TO SOLVE PROBLEMS

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Abstract. *The research focuses on the philosophical aspects of children's play. The aim of the study is to analyze modern approaches to the classification and development of preschoolers' play activities, the negative phenomena of dysontogenesis and reduction of play. The authors analyzed the results of a survey of undergraduate students in specialty Preschool Education and their relatives about children's memories of the play, game situations and the impact of play competence (or lack of it) on adult life.*

Basic research methods are interview, surveys, statistical analysis.

The main results of the study give grounds to claim that play is not the only leading activity of a senior preschooler. Even accepting the concept of "leading" and "non-leading" activities, it turns out that children's experimentation during preschool takes no less "leading" position than play. This fact radically changes the perception of conditions, goals and values in the organization of children's lives.

The author's team proved that the dysontogenesis of play and non-acceptance of children's experimentation in preschool age leads to further distortion of the trajectory of development. The author's interpretation of the terms "play reduction", "play dysontogenesis", "amplification" and "simplification" of children's play is proposed.

Keywords: *dysontogenesis; experimentation; habilitation of the play; play activities of preschoolers; reduction of the play; the leading type of preschoolers' activity.*

Introduction

The problem of reduction (attenuation) of the play and the reasons that put back the development of children's play remain one of the most topical for over 120 years. *Reduction* (Lat. *reductio* - return, restoration) means a process or action that leads to a reduction, weakening or simplification of something, sometimes to the complete loss of any objects or features. In *The Genesis of Animal Play*, Gordon M. Burghardt explores the origins and evolution of human and animal play. The author of the monograph hypothesizes and seeks confirmation of what can the play mean for our understanding of evolution, the brain, behavioral organization, and psychology (Burghardt, 2005). G.M. Burghardt found that although the play could be important for the origin of many things that we consider different from human behavior. It develops only through a set of interactions between developmental processes, evolution, environmental and physiological processes. The researcher also provides evidence of the friskiness of such unexpected groups of animals as kangaroos, birds, lizards and even fish that jump, juggle, etc. (Burghardt, 2014).

The results of the study are interesting for analyzing the consequences of the lack of variety of play activities and understanding the origin and development of the play. Observing modern children playing it can be stated that play is realized mainly in the form of simple manipulation of play paraphernalia. Preschoolers' play is short-lived, characterized by monotony, stereotype, narrow range of plots and limitations or lack of role-playing, initiative and creativity, which generally indicates the *simplification (attenuation) of play activities*. *Amplification of play activities* means enrichment at the expense of resources inherent in specific activities of preschoolers and the ability of adults to generalize children's experience and create conditions for its practical application by the child in play situations.

Play ontogenesis is characterized with an increase depending on age. Thus, the amount of creative component and initiative increases to the senior preschool age, the role of the factor of planning play actions grows, as evidence of the increasing complexity of game units by reducing their number does. The reduction of children's play activity is also influenced by external factors: information space with digital technologies, parental employment, etc. One of the reasons is the disintegration of the natural way of forming the game, when the educator adheres to the idea of the game as a regulated process and does not understand its specifics, has no idea what should be the game at each age of preschool childhood, does not have practical techniques of organizing the play and does not know how to play with children of different ages.

Play dysontogenesis we understand as impaired, which does not correspond to psychological regularities, the development of the child in preschool age, due to socio-cultural and educational factors. The term "play dysontogenesis" has not

yet become widespread in the field of education. Despite the fact that the cases of distorted play activities at preschool age and the presence of play deprivation in a significant number of children with normative development are mentioned in many studies. *Play dysontogenesis* we understand as the violation of the natural development of playing activities in general, or its individual structural components (play design, plot, content, roles, play actions, rules), as well as the pace and timing of development. This condition is due to the number of reasons. Among them there are both objective (globalization, climate problems, accelerating the formation of vital competencies, etc.) and subjective, namely:

- underestimation of the developmental potential of the play by significant adults (parents, educators);
- oversaturation of the subject-spatial environment with quasi-game attributes and toys of monofunctional purpose;
- incomprehension of the possibilities of sensory-enriched environment;
- artificial limitation of space and time resources for amateur free, child-initiated play activities;
- low level of competence of teachers to create conditions for children's creative play;
- a significant number of children in groups, etc.

The results obtained by the team of authors during the examination of the sensory-enriched environment were convincing, because they showed the strengths and weaknesses of the quality of the environment of a particular group (Krutyy et al., 2021). Therefore, the ECERS and SSTEWS scales, according to researchers, are universal and effective method of assessing the quality of the environment of kindergarten or any center for child development.

However, there is another reason that contributes to the reduction of the play. This is the uncertainty of terminology and, as a consequence, the substitution of concepts, which directly negatively affects the mass pedagogical practice. The results of the study of the play as interdisciplinary field are of great benefit to many other fields. So researchers should be aware of patterns and trends, take into consideration new theoretical and methodological approaches that enrich the understanding of the play. Thus, the aim of the article is to make an attempt to summarize scientific achievements and offer own interpretation of terminology on the leading types of activities of preschool children, to identify negative phenomena of dysontogenesis and reduction of the play.

The theoretical background

Many scholars often differ in their understanding of the meaning of the term "play". This leads to problems in the process of comparing research, formulating and testing hypotheses. Scientists have made many attempts to determine or identify the play in all its manifestations. Unfortunately, these attempts fail in the

narrow context in which they are developed because of conceptually different physiological, behavioral or cognitive approaches. Regulations about the play with an imaginary situation as the leading activity of preschoolers were first formulated by L. Vygotsky (Vygotskij, 1978). Note that there is often confusion or substitution of the terms "activity specy" and "activity type" in research. In our opinion, these terms should be clearly distinguished. *Activity specy is a generic concept to the activity type, ie in any activity type there can be several activity species.* Thus, in role-playing, as the leading type of preschooler's activity, there can be several species: communication, transformational, and so on.

Philosopher M.S. Kagan distinguishes theoretically in pure form the following activity species: transformative, cognitive, value-oriented, communicative (or communication). All activity species can be autonomous, but the implementation of each one is possible only with the assistance with other species (Kagan, 1975). The theory of leading activity clarifies which activity species are significant at a certain stage of development. Children prefer a certain type (specy) of activity depending on the stage of development: activity that corresponds to their real interests on the one hand, and that, obviously, plays a special role in the process of their development on the other hand. Careful study of the activity enabled Gordon M. Burghardt to identify five play criteria that can be used to assess the action of a living being: repetition, spontaneity, arbitrariness, voluntariness (satisfaction), not survival (safety) (Burghardt, 2005).

The formulation proposed by D. Elkonin that play is the only leading activity of a senior preschooler is accepted as an unconditional axiom in almost all domestic pedagogy and psychology textbooks (Jel'konin, 1999). However, M. Poddyakov argues that even accepting the concept of "leading" and "non-leading" activities, it turns out that *the activities of children's experimentation* during preschool childhood occupies no less "leading" position than play one (Podd'jakov, 1997). That changes radically the perception of conditions, goals and values in the organization of children's lives.

In our opinion, it is necessary to agree and support the point of view of M. Poddyakov that in the depths of play activity before the start of educational game there is a new type of leading activity - children's experimentation (Podd'jakov, 1997). *Children's experimentation* is a type of leading activity aimed at finding objective information about the structure of the Universe through individual practical experimentation with the object of study. Thus, *children's experimentation as a type of leading activity* contributes to the development of cognitive needs, facilitates mastering the method of scientific knowledge in the process of search activities and contributes to the formation of research skills of preschooler. Let's define that *the leading activity of the child is called* the activity which other new activities arise and within which they are differentiated, in which separate mental processes are formed or rebuilt, on which the basic changes of the child's personality mainly depend. We also outline the *scheme of development*

sequence of children activity leading types in early and preschool age: emotional communication → subject activity → amateur play → children's experimentation → elements of educational activity.

It is important for our research to recognize play and experimentation with leading types of preschoolers' activity and to understand the importance of these types of activity in ontogenesis and phylogeny. The lack of free and amateur play has consequences, which American Academy of Pediatrics warns about. Deficit of play undermines the foundations of a child's development. This fact is stated on the results of medical scientific research. The conclusions were based on German neurobiologist Gerald Hüther research. The researcher showed that *the best tool for child's development is free play*, not a minute-by-minute day consisting of developmental classes and workshops (Hüther & Quarch, 2016).

Mr. Hüther explains that during the play releases substances that are responsible for connections in the brain. Catecholamines, endogenous opiates and other peptides stimulate the development of neural networks. And neural connections do not arise as a result of developmental activities, but in free play. The neurobiologist insists that in order to stabilize the enormous potential of the brain and reveal the inherent talents in children, adults must provide them with the opportunity to play as long as possible. In their book *Rettet das Spiel*, G. Hüther and C. Quarch advocate consciously incorporating play into the daily routine of children's activities, emphasizing that "play is a fertilizer for the brain and food for children's souls" (Hüther & Quarch, 2016). Thus, *the transition to a new leading type of activity depends on the whole system of living conditions of the child*, not just on what the adult will teach the child.

Methodology, organization and results of the research

During September-October 2021 we conducted a survey of students aged 16 to 25 from Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University, parents of students aged 50 and older, younger family members aged 5 to 15, and relatives (grandparents, aunts and uncles) at the age from 35 years. The senior respondent was 77 years old at the time of the survey. The total number of respondents was 1,321 people. They were interviewed in equal proportions in terms of geographical location (city, town, village) and gender. Respondents were divided into four age groups (5-15 years, 16-25 years, 26-50 years, 51-75 and older). This age distribution is explained by objective components: from the youngest to the oldest one in the group of students. Other groups of respondents were selected the same way. The main research methods are survey, in-depth interview, focus group, statistical analysis. The questionnaire was generated at [google.com/forms](https://www.google.com/forms). Respondents filled out a questionnaire at a convenient time anonymously (materials of the survey are submitted in the bibliography). Such

precautions prevented formal evaluation of the survey results and reduced the risk of subjective evaluation by the researcher.

The questionnaire consisted of 7 open-ended and partially closed-ended questions. The content of these questions is: 1. What play was your favorite in your childhood? Were you an organizer of children's play? Who suggested the plot? 2. How many toys (approximate number) had you got? What toys were your favorite? 3. Did the parents (who specifically – mother, father or both of them) contribute to your children's play? Was there enough time for play? 4. Does the fact that a child was not able to play enough in childhood affect the further development of preschoolers, primary school children, adolescents? Can this affect adults? Justify your position. 5. Do you think, modern preschoolers play less than the previous generation? Why? Why are game plots impoverished? Has the pandemic affected the number of children's games and their quality? 6. Do you think, the infantilism of modern adolescents and young people is associated with the reduction (attenuation) of playing activities, or the inability to realize themselves in children's play? 7. Is there enough time given by modern teachers for playing activities to preschoolers? Justify your position.

The average score for each of the questions was calculated as the arithmetic mean obtained from the majority of respondents' answers. The following table shows the quantitative data obtained from the questionnaire.

Table 1 Quantitative data according to the questionnaire, % (created by the authors)

№ questions / age	1	2	3	4	5	6	7
5-15	17	37	33	9	7	10	15
16-25	21	30	27	11	12	17	19
26-50	26	21	23	37	34	40	29
51-75	36	12	17	43	47	33	37

Analyzing the results, we find them high quality and convincing, because they show the strengths and weaknesses of the development of play activities of a particular person in a particular period of his/her life. In summary, we can say, that the proposed questionnaire is an effective method of assessing the impact of reducing the play on the further development of individual. Here is an example of processing the results of question № 2. Data were processed using a nonparametric Mann-Whitney test and Cohen's d. Results. Results: at a significance level of 0.05, it was found that the number of toys respondents in the analyzed age periods (5-15 years, 16-25 years) had much more than older respondents (26-50 years and 51-75 years). Z - indicator is - 4,357 and $p < 0,001$. The importance of a variety of toys, measured by their number, is high. Cohen's $d = 1.33$. Conclusion: diversity is affected by both the quality of toys and their number, which was in each age group of respondents.

Thus, in *the first question* answers the most frequently mentioned games were: kvach, hide-and-peek, Cossack-and-robbers, chasing, flying through a ribbon of rubber threads, daughter-and-mother, traffic lights, ball games, football, volleyball. We should note, that there was no answer about basketball, the construction of halabuds, headquarters, and so on. In the age categories of 26-50 and 51-75 years, sports-oriented games predominate (26 and 36%), while younger respondents more often called games of a more passive nature (puzzles, constructors, chess, rubik's cube, mosaic, dolls, Barbie doll as a story hero, cars of different types and purposes, computer games, etc.). Among the reasons that led to such answers are the living conditions of respondents aged 51-75, as well as the level of family income, when childhood was in the late 80's and 90's of the XX century and the period of the collapse of the Soviet Union. Not having the opportunity to receive quality toys, the entertainment of this age period of the respondents' childhood was more in the natural environment.

In *the second question* answers such toys were named: dolls, cars, toys depicting animals, both domestic and wild, lego, and so on. The number of toys ranged from 5-6 to 120 toys. The table shows the distribution of the number of toys according to the age of the respondents. We have provided an error: the older respondents, the smaller number of toys they played with as children. However, respondents between the ages of 51 and 75 were more likely to provide details about the toy (doll name, machine type, color, size, combat, texture, etc.). These results show the brightness of the child's perception of what a girl or boy is playing with and what memories remain throughout the life of an adult. We also took into consideration that the Lego constructor appeared in active sale in Ukraine only at the end of the 20th century, like the Barbie doll. Of course, the older category of respondents did not indicate these toys. The obtained data coincide with the conclusions of O. Smirnova's research (Smirnova, 2015), which proves that the room of a modern urban preschooler has of almost 400 toys on average, and only 6% of which are actually used during play.

The fewer objects a child has to play with, the better the conditions for the development of his imagination and creativity are provided. A group of researchers (C. Dauch, M. Imwalle, B. Ocasio, A. Metz) from the University of Toledo (USA) found out that an excess of toys prevents children from developing creativity (Dauch, Imwalle, Ocasio, & Metz, 2018). According to psychologists, the excess of toys is often "counterproductive" for children's development. Over time, it becomes increasingly difficult for children to get the maximum "benefit" from the toys, they are quickly getting bored, their attention constantly switches from one subject to another. The child becomes literally uncontrollable and very impulsive. The authors emphasize that they do not encourage parents to refrain from buying new toys for the child. These are the toys that depict the products of human activity (tools, cars, weapons, household utensils), the more natural they are, the more accurately reproduce the "real" things, the more children like they.

Respondents' answers to *the third question* on parental support to children's play also varied depending on whether there was enough time for play. Modern children have plenty of time for play and leisure, parents (both mother and father) contribute to the deployment of play, buy new toys. Respondents in the categories 26-50 (23%) and 51-75 years (17%) indicated a small amount of time for childhood play.

The impact of the reduction of play activities on the further personality development was also identified with help of an in-depth interview as a method of informal individual conversation with respondents (37 respondents in total), which was conducted on the basis of tools (guides) with a list of mandatory topics for discussion. Preference is given to in-depth interviews in order to explore the problem when parents did not promote children's play activities (parents' income level was not included in the interview). This is a very sensitive, even painful topic. It should be noted that the majority of respondents aged 51 and older live in villages and settlements where involving children in household chores is traditional. Of course, this takes some time from children's leisure. However, the same respondents pointed to the quality of sports games in the natural environment.

The fourth question concerned situations where the child did not have the opportunity to play enough in childhood and its impact on the further development of preschoolers, junior high school students, adolescents. This question was closed for students. One of the irreversible consequences of preschool age play dysontogenesis is the emergence on the next stages of childhood (preschoolers, junior high school students, adolescents) the children which "did not play games enough", which are characterized by deficient personality development in their further life. Respondents indicated the possibility of influence, but did not directly connect play dysontogenesis with influence on further development.

Our hypothesis is confirmed by the data obtained during the survey. Of course, respondents aged 16 to 25 years (11%) do not yet see a direct correlation between play dysontogenesis and further self-development, while older respondents (26-50 and 51-75 years old) show this correlation significant - 37% and 43% of answers. Respondents of this age had a clear understanding of the need to create conditions for children's play activities.

Three focus groups, as an informal group discussion on the issue, were created to outline ways to prepare students to prevent play dysontogenesis and reducing play activities of preschool children. Focus groups (students, teachers, personal development trainers were involved) were led by specially trained specialists (moderators). The discussion was attended by 25 respondents during 1.5-2 hours.

The fifth question of the questionnaire was about the impact of the pandemic on the number of children's play and their quality. Unexpected answers were received from the age categories 26-50 (34% of respondents) and 51-75 years

(47% of respondents). Parents and their families believe that the conditions associated with quarantine restrictions have further "tied" children to monitor screens. Thus more time were spent for playing computer games, and so on.

However, the analysis of the results of answers to questions about the impact of the pandemic on play activities in the age group from 5 to 15 years showed that children slept more, felt happy much more often than sad, used their free time for play and experimentation, participation in new chosen independently classes, more often helped with household chores, enjoyed extra time with his family. The results of our study coincide with the data of Peter Gray, who also points to the possibility of anticipating increased play time to meet basic needs for autonomy, competence and the relationship between time and the environment for playing during a pandemic (Gray, 2020).

The sixth question about the reduction (attenuation) of play activities and the inability to realize oneself in children's play resonated with the fourth question. It became a kind of "trap question" to reveal the honesty, sincerity of respondents. However, the difference between the answers to these two questions was not critical. Thus, respondents aged from 26 to 50 believe that the infantilism of modern adolescents and young people is associated with a reduction (attenuation) of play activities, or inability to realize themselves in children's play - 40%. The same position respondents aged from 51 to 75 years old (33%) have.

Scientists (L. Vygotsky, K. Kruty, etc.) have proved that the play forms one of the key neoplasms of preschool childhood - productive imagination and its most important component - emotional decentralization (Vygotskij, 1978; Krutii, 2019). The state of play activity is an informative differential parameter in diagnosis. It indicates the beginning of the manifestation of the disease and signals severe signs of regression of the child play. A child who does not play is nonsense, rather an anomaly than the norm, something that worries parents, teachers and doctors. *Lack of experience of independent play activities* at preschool childhood naturally leads to intellectual consolidation, reduced ability to plan their own play activities. Play habilitation is the development of a child's unrealized play potential from an early age. The employment of parents affects the further development of the child. *The term "play habilitation"*, in our interpretation, means a set of pedagogical measures to prevent or correct the consequences of insufficient play experience of the child, which further affect the quality of life, ability to learn, work. The result of the lack of play habilitation is an immature adult who is unable to take responsibility for their actions and decisions with clear signs of prolonged mental infantilism.

The answers to the last, *the seventh question*, were distributed predictably. Thus, according to parents of students and their relatives, modern teachers have enough time for play activities with preschoolers (age category 26-50 years - 29% and 51-75 years - 37% of respondents). However, respondents aged 16-25 already

had a different opinion - only 19% believe that enough time is provided. The closest to the objective reality were respondents aged 5 to 15 (15%).

Our data coincide with the results of the study "Monitor of Engagement with the Natural Environment" (MENE) was conducted as a partnership project in London (sample - 10 thousand children from 2 to 16 years) (Natural England, 2016). The survey collected information on children's stay in the natural environment, including: frequency and destination, motives for visits, who visits, whether adults were present. In the last 12 months, only 88% of all children in England have been in nature at least once, and 70% of children have been in nature every week. 12% of children have never been in nature during the last 12 months! If parents have rarely or never been in nature during the last year, their children have rarely left the city streets (39% of children have been in the woods or park during the last year). The conclusion of the study is catastrophic: children walk on average less than those who are in penitentiaries, i.e. less than one hour a day (Natural England, 2016).

Conclusions

The results of the study confirm and supplement already known developments, as well as contribute to the receipt of new data under the studied problem. According to the results of the study, groups of data were obtained. It is confirmed the position of play among the leading types of activities at preschool age (L. Vygotsky, M. Kagan, M. Poddyakov, etc.) and the importance of amplification and habilitation of play activities, promoting children's experimentation (K. Krutiy, O. Holiuk, N. Rodiuk, G. Huether, C. Quarch, etc.). It is confirmed and expanded the data of scientists (C. Dauch, M. Imwalle, B. Ocasio, A. Metz, V. Dolnyk, O. Smirnova, etc.) on the quantity and quality of children toys and the feasibility of increasing them. It is supplemented the results of research (P. Gray and others) on the peculiarities of play activities during the pandemic. The reasons for the reduction of the play and the possibility of its amplification are specified (O. Bilaska, K. Kruty, O. Popovych, etc.).

The new results include: substantiation of the leading types of activities (play activities, children's experimentation) and confirmation that the dysontogenesis of play activities and failure to promote children's experimentation at preschool lead to further distortion of the trajectory of development and reduction of play. Ways to eliminate the dysontogenesis of the play should be methodological measures to habilitate the child's play activities as an original age, psychological, social and cultural phenomenon. To this end, a number of conditions should be created that require close attention to priority implementation in preschool education, among which the most important authors include: creating an adequate multifunctional enriched subject-spatial environment and improving the playful competence of educators as a basic qualification of preschool teachers.

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PEDAGOGU PAŠPALĪDZĪBAS STRATĒGIJAS UN SUPERVĪZIJA KĀ PAŠPALĪDZĪBAS AKTIVITĀTE PEDAGOGIEM

Teachers' Self-Care Strategies and Supervision as a Self-Care Activity for Teachers

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Abstract. Covid-19 pandemic has caused unprecedented challenges for teachers and the resources of teachers have been critically exhausted causing fatigue and burn-out. Self-care actualization and practice is one way to strengthen teachers' emotional health and resilience. Self-care is understood as engagement in activities to preserve or improve one's own health and well-being, in particular during periods of stress. Supervision is one of the activities where teachers can receive professional support, minimize negative emotions and develop stress resilience. The aim of this study was to investigate teachers' self-care strategies and experts' views on actualization of self-care strategies and supervision as a self-care activity within supervision. The research was executed in two stages - quantitative data analysis and qualitative interviews. In the quantitative part the participants of the research were 245 teachers in Latvia. Self-Care Strategies Questionnaire was used to collect answers and the 14 strategies were measured on a 4-point Likert scale. Self-care strategies were assessed on what is considered important and is attainable. The results showed that there are statistically significant differences between importance and attainability in all 14 self-care strategies. All strategies were assessed higher on importance than the attainability. Experts indicated that supervision should take place during working hours, be publicly funded, regular and carried out as long-term support.

Keywords: attainability, burn-out, importance, resilience, self-care, supervision, teachers.

Ievads

Introduction

Pasaules Veselības organizācija norāda, ka COVID-19 globālās pandēmijas īstermiņa un ilgtermiņa seku dēļ cilvēku psihiskā un fiziskā veselība kopumā ir pasliktinājusies (World Health Organization, 2020), un šī pandēmija ir negatīvi ietekmējusi cilvēku garīgo veselību un labizjūtu (O'Connor et al., 2021).

Viena no profesijām, ko COVID-19 ir ietekmējis īpaši, ir pedagogi. Kopš pandēmijas sākuma pedagogi saskaras ar paaugstinātām prasībām un ierobežotiem resursiem (Kim, Oxley, & Asbury, 2021). Pētījumi parāda, ka

pedagogu darbs arī pirms COVID-19 pandēmijas ir bijis sarežģīts, jo ir saistīts ar nemitīgu stresu (Smetackova, 2017), taču pandēmijas laikā stresa apjoms ir pieaudzis (Baker et al., 2021).

Galvenie stresa izraisītāji pedagogiem ir pieaugošais darba apjoms, augstās prasības, neskaidrība par nākotni, sociālā atbalsta trūkums un nepieciešamība rūpēties par citiem (Kim, Oxley, & Asbury, 2021). Paaugstinātais stresa līmenis veicina izdegšanu, kas ir fiziska, emocionāla un garīga izsīkuma stāvoklis, kā sekas ir bezspēks, negatīvas domas un izjūtas, kā arī neefektivitāte (Maslach & Leiter, 2017). Šāds izsīkuma stāvoklis ietekmē pedagogu labizjūtu, var pasliktināt arī attiecības un skolēnu sekmju rezultātus (Herman, Hickmon-Rosa, & Reinke, 2018) un nenoliedzami ir bīstams (Ansley et al., 2021). Lai izvairītos no minētajiem riskiem, pedagogiem ir nepieciešams atbalsts.

Kā viena no nozīmīgām atbalsta formām un resursiem ir jāmin pašpalīdzība (Rupert & Dorociak, 2019; Ansley et al., 2021), turklāt, kā liecina pētījumi, pašpalīdzības aktivitātes ir efektīva profilakse noguruma un tā negatīvo seku mazināšanai (Crawford, 2020). COVID-19 pandēmijas ietekmē pašpalīdzības un pašvadības jautājumi publikācijās ir kļuvuši īpaši aktuāli un piedzīvo renesansi (Mārtinsone, 2021).

Pašpalīdzību saprot kā iesaistīšanos aktivitātēs savas veselības un labizjūtas uzturēšanai un uzlabošanai, īpaši stresa periodos (Self-care, n.d.). Pētījumos kategorizē ne vien personīgo, bet arī profesionālo pašpalīdzību, tostarp profesionālo pilnveidi organizētās aktivitātēs un supervīziju (Dorociak et al., 2017; Miller & Grise-Owens, 2020; Ziede & Norcross, 2020; Rupert & Dorociak, 2019). Kā liecina pētījumi, pašpalīdzība palīdz pārvaldīt stresu un mazina izdegšanas risku (Blinder et al., 2017; Dorociak et al., 2017; Rupert & Dorociak, 2019; Smetackova, 2017; Ziede & Norcross, 2020). Pedagogi, kuri iesaistās apzinātās stresa pārvarēšanas stratēģijās, pašpalīdzībā, sociālajās un brīvā laika aktivitātēs, saskaras ar zemāku izdegšanas risku (Ansley et al., 2021).

Būtiska loma ir atbalsta mehānismiem, kas var sekmēt pašpalīdzību, un supervīzija, būdama pašpalīdzības aktivitāte, vienlaikus ir arī šāds atbalsta mehānisms pašpalīdzības stratēģiju veicināšanai. Latvijā saskaņā ar Latvijas Izglītības un Zinātnes ministrijas 2021. gada 27. maija ziņojumu "Par psihoemocionālā atbalsta pasākumiem COVID-19 pandēmijas radīto seku mazināšanai" ir apstiprināts, ka pedagogiem ir nepieciešami atbalsta mehānismi psihoemocionālās veselības uzlabošanai (Izglītības kvalitātes valsts dienests, 2021), un tiek akcentēta supervīzijas loma. Valsts pētījumu programmas Covid-19 seku mazināšanai apakšprojekta "Covid-19 epidēmijas ietekme uz veselības aprūpes sistēmu un sabiedrības veselību Latvijā; veselības nozares gatavības nākotnes epidēmijām stiprināšana" rezultāti apstiprināja, ka pašpalīdzība palīdz veicināt psihisko veselību un psiholoģisko noturību krīzes situācijās (Rancāns et al., 2021).

Supervīzija tiek izprasta kā mērķtiecīgi organizēts konsultatīvs un izglītojošs atbalsts supervīzējamajiem (tostarp profesionāļiem, profesionāļu grupām, komandām vai organizācijām) par jautājumiem, kas saistīti ar profesionālo darbību, un to veic supervīzors (Mārtinsons & Zakriževa–Belogradova, 2021). Supervīzija ir ne tikai nozīmīgs atbalsts un resurss pedagogu profesionālajai izaugsmei (Pumpiņa, 2021), bet arī ir būtisks instruments stresa un izdegšanas profilakses risku mazināšanai (Remerte & Pumpiņa, 2021), kas ir aktuāla problēma pedagogiem paaugstināta stresa un COVID-19 pandēmijas laikā.

Supervīzora profesijas standarts Latvijā pirmo reizi tika apstiprināts 2014. gadā (Mārtinsons & Zakriževa–Belogradova, 2021), tādējādi var uzskatīt, ka supervīzija kā profesionālā atbalsta aktivitāte ir salīdzinoši jauna prakse. Supervīzija vienlaikus ir gan pašpalīdzības aktivitāte profesionālās pašpalīdzības kontekstā (Dorociak et al., 2017; Miller & Grise-Owens, 2020; Ziede & Norcross, 2020; Rupert & Dorociak, 2019), gan arī vieta un telpa, kurā var aktualizēt un veicināt izpratni par dažādajām pašpalīdzības stratēģijām, lai arī izpratne par supervīziju kā pašpalīdzības aktivitāti profesionālajā jomā nav viennozīmīga.

Supervīzijas ietvaros ir iespējams saņemt ne tikai atbalstu, bet tā ir iespēja izglītot sevi par to, kā palīdzēt sev un veicināt savu labizjūtu. Supervīzija palīdz apzināties pašpalīdzības nozīmi un vērš uzmanību uz to, cik svarīgi ir rūpēties par savu labizjūtu un meklēt atbilstošu palīdzību (Lindo et al., 2015). Supervīzija ir būtisks atbalsta instruments gan jauniem, gan arī pieredzējušiem pedagogiem (Pāvula, 2021). Lai sagatavotos atbalstošam supervīzijas darbam ar pedagogiem, aktualizējot pašpalīdzību, pirmkārt, ir būtiski izpētīt pedagogu pašpalīdzības stratēģijas un noskaidrot, kuras stratēģijas pedagogi uzskata par sev nozīmīgām un kuras īsteno.

Šī pētījuma kontekstā pašpalīdzība tiek saprasta kā vērtība, kurai cilvēks piešķir lielāku vai mazāku nozīmīgumu. Ideja par nozīmīgumu un īstenojamību ir aizgūta no krievu psiholoģes Jeļenas Fantalovas jēdziena par vērtības nozīmīguma un īstenojamības attiecībām (Fantalova, 2013), un saskaņā ar šo teoriju katrs cilvēks piešķir konkrētām aktivitātēm savā dzīvē lielāku vai mazāku nozīmīgumu (Fantalova, 2013). Nozīmīgums parāda to, cik ļoti konkrētā aktivitāte cilvēkam ir svarīga, savukārt īstenojamība parāda, kādā mērā konkrētā aktivitāte tiek īstenota. Ja kādas aktivitātes nozīmīguma pašnovērtējums ir augstāks par īstenojamības pašnovērtējumu, tad veidojas “iekšējais konflikts”, jo vēlmais nesakrīt ar reālo situāciju. Savukārt, ja nozīmīguma un īstenojamības pašnovērtējumi ir līdzīgās proporcijās, tad ir līdzsvars starp to, ko cilvēks vērtē kā svarīgu un var īstenot, un šādā stāvoklī cilvēks lielākoties ir apmierināts ar dzīvi (Fantalova, 2013).

Šī pētījuma mērķis bija izpētīt pedagogu pašpalīdzības stratēģijas un ekspertu viedokļus par supervīzijas kā pašpalīdzības aktivitātes un profesionālā atbalsta formas aktualizēšanu pedagogiem. Lai sasniegtu šo mērķi tika izvirzīti trīs pētījuma jautājumi: (1) kādi ir pedagogu pašpalīdzības stratēģiju nozīmīguma

un īstenojamības rādītāji; (2) kādas ir pedagogu pašpalīdzības stratēģiju nozīmīguma un īstenojamības rādītāju atšķirības; (3) kādi ir ekspertu viedokļi par supervīziju kā pašpalīdzības un profesionālā atbalsta formu pedagogiem un risinājumiem tās aktualizēšanai.

Metodoloģija *Methodology*

Instrumentārijs. *Pašpalīdzības stratēģiju aptauja* (Mārtinsone, Perepjolkina, & Ruža, 2021), kas sastāv no 63 aktivitātēm, kuras cilvēki izmanto, lai palīdzētu paši sev, un kuras ir grupētas 14 faktoru struktūrā (Kronbaha alfa nozīmīguma un īstenojamības rādītājiem ir attiecīgi $\alpha=[0,75; 0,87]; [0,71; 0,89]$). Katra aktivitāte ir jānovērtē Likerta skalā no 1 līdz 4 divas reizes. Pirmajā reizē atbildot uz jautājumu par katras aktivitātes nozīmīgumu: Cik lielā mērā Jūs piekrītat, ka nosauktā aktivitāte palīdz sekmēt Jūsu veselību un labizjūtu personīgajā un / vai profesionālajā dzīvē (1 – nemaz nepalīdz / netiek izmantots, 2 – nedaudz palīdz, 3 – daļēji palīdz, 4 – palīdz). Otrajā reizē - par īstenojamību: Cik daudz laika (pēc savām iespējām / vēlmēm / vajadzībām) Jūs veltījāt nosauktajai aktivitātei pēdējā mēneša laikā (1 – nemaz neveltu laiku / nekad, 2 – nedaudz veltu laiku / reti, 3 – veltu gana daudz laika / bieži, 4 – veltu tik daudz laika, cik nepieciešams / ļoti bieži / regulāri).

Sociāldemogrāfiskajā aptaujā tika ietverti jautājumi par respondentu dzimumu, vecumu, izglītību, dzīves vietu, nodarbošanos un darba stāžu.

Dalībnieki.

Pētījumā piedalījās 245 respondenti, kuri sociāli demogrāfiskajā aptaujā kā savu nodarbošanos bija norādījuši *pedagoģiskais darbinieks*. No tiem 92 % bija sievietes un 8 % vīrieši vecumā no 20 līdz 75 gadiem ($M = 49,2; SD = 11,1$). Lielākajai daļai aptaujas dalībnieku bija maģistra grāds – 57 %, bakalaura grāds – 25 %. 15 % dalībnieku bija nepabeigta augstākā izglītība vai augstākā profesionālā izglītība, un neliela daļa respondentu, 2 %, bija ar doktora grādu. Tikai 1 % respondentu bija ar vidējo vai vidējo profesionālo izglītības līmeni. Darba stāžs bija, sākot no 1–3 gadiem līdz pat 16 gadiem un vairāk. Lielākā daļa respondentu, 78 %, bija ar darba stāžu virs 16 gadiem. 58 % respondentu norādīja, ka ir mācību priekšmetu skolotāji, 2 % norādīja direktora amatu, 6 % – direktora vietnieka amatu. 27 % savu amatu izglītības iestādē netika norādījuši, bet 7% norādīja citus amatus. 33 % respondentu strādā vidusskolā, 27% strādā pamatskolā, 27% izglītības iestādes veidu nenorādīja, bet 13% norādīja kādu citu izglītības iestādes veidu.

Procedūra. Pētījuma dati tika iegūti laikā no 2021. gada marta līdz oktobrim. Aptauja tika publicēta interneta vietnē www.visidati.lv un bija pieejama elektroniskā veidā. Pedagogi dalībai aptaujā tika uzrunāti, izmantojot interneta vietni www.e-klase.lv, kur 2021. gada jūnijā un septembrī tika publicēts

aicinājums piedalīties aptaujā, kā arī statistiska vizuāla aptaujas reklāma. Piedaloties aptaujā, respondenti sniedza informēto piekrišanu par konfidencialitāti, anonimitāti un datu drošību atbilstoši pētījuma ētikas prasībām.

Pētījuma kvalitatīvā daļa

Datu ieguvei tika organizētas trīs attālinātas individuālas ekspertu intervijas tiešsaistes platformā *Zoom* ar mērķi apkopot ekspertu viedokli par supervīziju kā pašpalīdzības aktivitāti un tās aktualizēšanu pedagogiem. Intervijās piedalījās trīs eksperti (tālāk tekstā – A, B, C), kas tika atlasīti, pamatojoties uz vairākiem iekļaušanas kritērijiem: vismaz piecu gadu pedagoģiskā darba pieredze vispārējā izglītības iestādē, supervizora profesionālā kvalifikācija un sertifikāts, vismaz triju gadu supervizora pieredze darbā ar pedagogiem, pašreizējā profesionālajā darbībā supervizē vai pārrauga pedagogus. Izvēlētie eksperti atbilda iekļaušanas kritērijiem. Interviju transkriptu analīzei tika izmantota tematiskā analīze pēc V. Braunas un V. Klārkas modeļa (Brown & Clarke, 2006). Iegūtie rezultāti tika saskaņoti ar ekspertiem, kuri piedalījās intervijās, un tika saņemts viņu atzinums par rezultātu precizitāti.

Rezultāti

Results

Vispirms, izmantojot Šapiro-Vilka testu (*W*), tika pārbaudīta aptaujas skalu atbilstība normālsadalījumam, un tika secināts, ka respondentu atbilžu empīriskais sadalījums neatbilst normālsadalījumam ($p < 0,001$; $p < 0,01$; sk. 1. tabulu), tāpēc tālākā datu apstrādē tika izmantotas neparametriskās statistikas metodes (t.i., Vilkoksona zīmju rangu tests, sk. 2.tabulā).

1.tabula. Pedagogu pašpalīdzības stratēģiju nozīmīguma un īstenojamības rādītāju atbilstības normālsadalījumam rezultāti (autoru veidots)

Table 1 Normality test results of importance and attainability indicators of teachers' self-care strategies (created by the authors)

Skalas nosaukums	Nozīmīgums				Īstenojamība			
	<i>M (SD)</i>	<i>Mdn</i>	<i>W</i>	<i>p</i>	<i>M (SD)</i>	<i>Mdn</i>	<i>W</i>	<i>p</i>
Veselības uzvedība	3,34 (0,61)	3,35	0,9	<0,001	2,55 (0,58)	2,50	0,98	0,007
Iedvesmas smelšanās dabā	2,84 (0,77)	3,00	0,95	<0,001	2,27 (0,69)	2,20	0,97	<0,001
Izklaide	2,13 (0,66)	2,00	0,95	<0,001	1,86 (0,53)	1,67	0,92	<0,001
Rekreācijas pasākumi	3,17 (0,7)	3,40	0,92	<0,001	2,16 (0,750)	2,20	0,96	<0,001

Skalas nosaukums	Nozīmīgums				1. tabulas turpinājums Īstenojamība			
	<i>M (SD)</i>	<i>Mdn</i>	<i>W</i>	<i>p</i>	<i>M (SD)</i>	<i>Mdn</i>	<i>W</i>	<i>p</i>
Sociālais atbalsts	3,25 (0,65)	3,25	0,91	<0,001	2,7 (0,66)	2,75	0,98	<0,001
Garīgas reliģiskas prakses	1,94 (0,94)	1,50	0,87	<0,001	1,53 (0,71)	1,25	0,77	<0,001
Garīgas nereliģiskas prakses	2 (0,84)	1,75	0,92	<0,001	1,61 (0,64)	1,50	0,85	<0,001
Rūpes par savu labizjūtu	2,63 (0,76)	2,60	0,97	<0,001	2,15 (0,66)	2,00	0,97	<0,001
Būšanā vienatnē un klusumā	3,01 (0,87)	3,00	0,88	<0,001	2,55 (0,8)	2,50	0,92	<0,001
Psiholoģiskā un profesionālā atbalsta saņemšana	1,91 (0,78)	1,75	0,91	<0,001	1,47 (0,55)	1,25	0,82	<0,001
Personīgās un profesionālās dzīves balanss	3,23 (0,66)	3,40	0,92	<0,001	2,5 (0,64)	2,40	0,98	0,004
Kolēģu atbalsts	2,75 (0,78)	2,80	0,96	<0,001	2,38 (0,71)	2,20	1,00	<0,001
Profesionālā attīstība	2,89 (0,74)	3,00	0,96	<0,001	2,54 (0,75)	2,60	0,98	<0,001
Laika plānošana	3,08 (0,73)	3,25	0,93	<0,001	2,63 (0,71)	2,50	0,98	<0,001
Pašpalīdzības kopēja skala	2,78 (0,48)	2,78	0,99	0,020	2,23 (0,42)	2,24	0,99	0,659

Piezīmes. *N*=245.

Lai atbildētu uz pirmo pētījuma jautājumu, proti, kādas ir pedagogu pašpalīdzības stratēģiju nozīmīguma un īstenojamības rādītāji, tika aprēķināti skalu nozīmīguma un īstenojamības vidējie aritmētiskie rādītāji (*M*), standartnovirzes (*SD*) un mediānas (*Mdn*) (sk. 1. tabulu).

Pēc nozīmīguma vērtības augstākie rādītāji tika konstatēti skalām *veselības uzvedība* (*Mdn* = 3,35; *SD* = 0,61), *rekreācijas pasākumi* (*Mdn* = 3,4; *SD* = 0,7), *personīgās un profesionālās dzīves balanss* (*Mdn* = 3,4; *SD* = 0,66) un *sociālais atbalsts* (*Mdn* = 3,25; *SD* = 0,65). Savukārt zemākie mediānas rādītāji tika konstatēti skalām *psiholoģiskā un profesionālā atbalsta saņemšana* (*Mdn* = 1,75; *SD* = 0,78) un *garīgas reliģiskas prakses* (*Mdn* = 1,5; *SD* = 0,94).

Pēc īstenojamības vērtības augstākie rādītāji tika konstatēti skalām *sociālais atbalsts* ($Mdn = 2,75$; $SD = 0,66$) un *profesionālā attīstība* ($Mdn = 2,6$, $SD = 0,75$). Savukārt viszemākie mediānas un vidējie aritmētiskie rādītāji pēc īstenojamības vērtības tika konstatēti skalām *psiholoģiskā un profesionālā atbalsta saņemšana* ($Mdn = 1,25$; $SD = 0,55$) un *garīgas reliģiskas prakses* ($Mdn = 1,25$; $SD = 0,71$).

Lai atbildētu uz otro pētījuma jautājumu, proti, kādi ir pedagogu pašpalīdzības stratēģiju nozīmīguma un īstenojamības rādītāju atšķirības, tika izmantots Vilkoksona zīmju rangu tests (sk. 2. tabulu).

2.tabula. *Pedagogu pašpalīdzības stratēģiju nozīmīguma un īstenojamības atšķirības rādītāju rezultāti* (autoru veidots)

Table 2 *Results of importance and attainability difference indicators of teachers' self-care strategies* (created by the authors)

Skalas nosaukums	Nozīmīgums	Īstenojamība	Atšķirības
	<i>Mdn (IQR)</i>	<i>Mdn (IQR)</i>	<i>T</i>
Veselības uzvedība	3,50 (2,83; 3,83)	2,50 (2,17; 3,00)	-12,938**
Iedvesmas smelšanās dabā	3,00 (2,20; 3,40)	2,20 (1,60; 2,60)	-11,755**
Izklaide	2,00 (1,67; 2,67)	1,67 (1,67; 2,00)	-7,581**
Rekreācijas pasākumi	3,40 (2,80; 3,80)	2,20 (1,60; 2,80)	-13,003**
Sociālais atbalsts	3,25 (3,00; 3,75)	2,75 (2,25; 3,25)	-10,704**
Garīgas reliģiskas prakses	1,50 (1,00; 2,62)	1,25 (1,00; 2,00)	-10,156**
Garīgas nereliģiskas prakses	1,75 (1,25; 2,50)	1,50 (1,00; 2,00)	-9,726**
Rūpes par savu labizjūtu	2,60 (2,20; 3,00)	2,00 (1,60; 2,60)	-11,281**
Būšanā vienatnē un klusumā	3,00 (2,25; 4,00)	2,50 (2,00; 3,00)	-8,135**
Psiholoģiskā un profesionālā atbalsta saņemšana	1,75 (1,25; 2,25)	1,25 (1,00; 1,75)	-10,134**
Personīgās un profesionālās dzīves balanss	3,40 (2,80; 3,80)	2,40 (2,00; 3,00)	-12,148**
Kolēģu atbalsts	2,80 (2,20; 3,40)	2,20 (2,00; 3,00)	-9,255**
Profesionālā attīstība	3,00 (2,40; 3,60)	2,60 (2,00; 3,00)	-8,217**
Laika plānošana	3,25 (2,75; 3,75)	2,5 (2,25; 3,12)	-8,955**
Pašpalīdzības kopēja skala	2,78 (2,49; 3,13)	2,24 (1,95; 2,51)	-13,501**

Piezīmes. $N=245$. **= $p<0,001$

Visās 14 pašpalīdzības stratēģijās tika konstatētas statistiski nozīmīgas atšķirības starp nozīmīguma un īstenojamības rādītājiem ($p < 0,001$), un visām stratēģijām nozīmīgums ir fiksēts ar augstāku vērtību kā īstenojamība.

Kopumā pašpalīdzības kopējā skala izceļas ar augstāko atšķirības rādītāju ($T = -13,501$; $p < 0,001$). Vislielākās atšķirības starp to, kas tiek vērtēts kā nozīmīgs un īstenojams, ir skalām *rekreācijas pasākumi* ($T = -13,003$; $p < 0,001$),

veselības uzvedība ($T = -12,938; p < 0,001$) un personīgās un profesionālās dzīves balanss ($T = -12,148; p < 0,001$).

Pašpalīdzības stratēģijas ar zemākajām atšķirībām starp to, kas tiek uzskatīts kā nozīmīgs un tiek īstenots, ir *būšana vienatnē un klusumā* ($T = -8,135; p < 0,001$), profesionālā attīstība ($T = -8,217; p < 0,001$) un laika plānošana ($T = -8,955; p < 0,001$).

Lai atbildētu uz trešo pētījuma jautājumu, proti, kāds ir ekspertu viedokļi par supervīziju kā pašpalīdzības un profesionālā atbalsta formu pedagogiem un risinājumiem tās veicināšanai, tika veikta ekspertu interviju transkriptu tematiskā analīze pēc V. Braunas un V. Klārkas modeļa (Brown & Clarke, 2006). Tika apkopoti 62 kodi, kas tika grupēti sākotnējās astoņās kategorijās – pedagogu zināšanas par supervīziju, izglītības iestāžu vadības loma, atbalsta trūkums, pedagogu darba specifika, ietekme no kolēģiem, paaudžu maiņa, studijas skolotāju izglītības programmā un laika un finanšu trūkums. Radniecīgas kategorijas tālāk tika apkopotas tēmās. Tematiskās analīzes rezultātā tika definētas piecas galvenās tēmas – supervīzijas kā profesionālā atbalsta formas atpazīstamība pedagogu vidū, kavējošie faktori supervīzijas ieviešanai (piem., pedagogu primārās rūpes par citiem, kādēļ pašpalīdzībai netiek pievērsta uzmanība), veicinošie faktori supervīzijas ieviešanai (piem., pedagogu motivācija mācīties no citiem un kolēģu atbalsta novērtējums); jauno un pieredzējušo pedagogu attieksmes pret profesionālo atbalstu un pašpalīdzību atšķirības; izglītības iestāžu administrācijas loma supervīzijas aktualizēšanā.

Pēc ekspertu viedokļiem, supervīzija pedagogu vidū ir pazīstama, taču kā pašpalīdzības un atbalsta aktivitāte netiek pietiekoši praktizēta, un var secināt, ka pedagogiem kopumā būtiski trūkst atbalsta.

Attiecībā uz supervīzijas kā pašpalīdzības un atbalsta formas atpazīstamību, tika teikts, ka “[...] skolotāji domā, ka supervīzija ir pieejama tikai projektu ietvaros [...]” (eksperts B) un “[...] regulāras supervīzijas būtu ieguvums gan pedagogiem kā personībām, gan arī mācību procesam, jo apmierinātāks pedagogs var labāk iedvesmot arī skolēnus [...]” (eksperts C).

Intervijās izskanēja, ka “[...]pedagogs ir vientuļā profesija [...]” (eksperts A)” un “[...]pedagogi nav raduši jautāt pēc atbalsta un ikdienā ir ar “perfekcionista” masku[...]” (eksperts C).

Eksperti minēja, ka pedagogiem ir ļoti svarīgs kolēģu atbalsts un “[...] pedagogi ieklausās citos pedagogos [...]” (eksperts C), un “[...] ir nepieciešams runāt par supervīzijas ieguvumiem ilgtermiņā [...]” (eksperts B).

Tika atzīmēts, ka šobrīd notiek paaudžu maiņa un jaunie pedagogi labprātāk iesaistās pašpalīdzības aktivitātēs, piemēram “[...] jaunie pedagogi ir atvērtāki jaunajam, tajā skaitā supervīzijām, prasa atbalstu un biežāk reflektē par savu darbu [...]” (eksperts B). Kā arī izskanēja ierosinājums, ka “[...] supervīziju vajadzētu iekļaut jau pedagoģijas studijās [...]” (eksperts A).

Visbeidzot bieži tika minēts par skolu vadītāju lomu pašpalīdzības aktualizēšanā. “[...] Ja supervīzija ir bijusi vadītājam, tad viņš to visticamāk arī ieviesīs saviem pedagogiem [...]” (eksperts C) un “[...] supervīziju pieejamība lielā mērā ir atkarīga no skolas vadītāja un vadības komandas [...]” (eksperts B). Tika minēta arī laba prakse, kad skolas vadība atvēl budžetu tieši supervīziju programmai.

Diskusija *Discussion*

Šī pētījuma rezultātā ir izpētītas pedagogu pašpalīdzības stratēģijas un ekspertu viedokļi par supervīzijas kā pašpalīdzības aktivitātes un profesionālā atbalsta formas aktualizēšanu pedagogiem.

Rezultāti parāda, ka pastāv statistiski nozīmīgas atšķirības starp to, ko pedagogi vērtē kā nozīmīgu un ko īsteno attiecībā uz pašpalīdzību, un arī to, ka visas pašpalīdzības stratēģijas ir vērtētas augstāk pēc to nozīmīguma.

Pedagogu novērtētās nozīmīgās stratēģijas parāda augstākus rezultātus nekā tās, kas tiek novērtētas kā īstenojamas. Attiecinot J. Fantalovas vērtību teoriju uz pētījuma rezultātiem, var novērot, ka pedagogiem pastāv iekšēja konflikta risks, jo vēlamais nesakrīt ar realitāti (Fantalova, 2013). Pašpalīdzības aktivitātes, kuras pedagogi novērtē kā nozīmīgas, netiek īstenotas, un, iespējams, pastāv iemesli, kuru dēļ nav iespējams tās realizēt. Šo iemeslu izpēte būtu veicama turpmākos pētījumos.

Pedagogi kā nozīmīgu vērtē *veselības uzvedību* un *sociālo atbalstu*, un šīm stratēģijām ir salīdzinoši augsti īstenojamības rādītāji. Pašpalīdzības skala *veselības uzvedība* sevī ietver tādas aktivitātes kā miega higēnas ievērošana, veselīga uztura lietošana, ēdienreižu ievērošana, relaksējošu aktivitāšu veikšana, fiziskās aktivitātes un pastaigas dabā. Pētījumi apstiprina, ka pedagogiem ir jā rūpējas par savu fizisko un mentālo labizjūtu, lai justos labi un rādītu piemēru saviem skolēniem (Blinder et al., 2017), taču nozīmīguma un īstenojamības rādītāju atšķirības norāda uz to, ka, iespējams, saistībā ar pieaugošo darba apjomu, pedagogiem šobrīd ir grūtības veltīt pietiekami daudz laika rūpēm par savu veselību. Lai arī minētās problēmas pētījumos identificētas jau ilgu laiku pirms Covid-19 pandēmijas, Covid-19 laikā veiktie pētījumi parāda problēmu saasināšanos dažādās profesionāļu grupās.

Pētījumi rāda, ka sociālais atbalsts ir svarīgs resurss, jo palīdz skolotājiem tikt galā ar pedagoģijas emocionālajām prasībām un ietekmē arī skolotāju iesaisti (Jovanović et al., 2021). Nozīmīguma un īstenojamības atšķirības parāda, ka resursa potenciāls pilnībā netiek izmantots, kas, iespējams, ir saistīts ar COVID-19 pandēmijas ierobežojumiem attiecībā uz pulcēšanos, ko nevar aizstāt komunikācija, piemēram, attālinātā formātā.

Sociālais atbalsts ir vērtēts augstu pēc nozīmīguma un īstenojamības, un šī stratēģija ietver tādas aktivitātes kā laika pavadīšana ar ģimeni, atbalsta saņemšana no ģimenes, draugiem un paziņām. Supervīzijā kā viena no daudzajām tēmām, nereti, ir darba un privātās dzīves līdzsvars un ir iespēja uzsvērt sociālā atbalsta nozīmīgumu.

Garīgas reliģiskas prakses ir viena no zemāk vērtētajām stratēģijām gan pēc nozīmīguma, gan īstenojamības. Arī pētījumā, kas tika veikts Valsts pētījumu programmas "Covid-19 seku mazināšanai" projekta ietvaros, lai noskaidrotu, kādas stratēģijas un aktivitātes tika izmantotas dažādās iedzīvotāju grupās, lai tiktu galā ar stresu pandēmijas ārkārtas situācijas laikā, ļoti reti kā pašpalīdzības avots tika nosaukts baznīcas, draudzes atbalsts, garīgas prakses, meditācija, lūgšanas un citas reliģiskās prakses (Rancāns et al., 2021). Var secināt, ka pedagogi maz pievēršas dažādām reliģiskām praksēm.

Pētījuma rezultāti parāda, ka zemākie rādītāji gan pēc nozīmīguma, gan īstenojamības ir *psiholoģiskā un profesionālā atbalsta saņemšanai*. Ekspertu intervijās arī izskanēja, ka pedagogi ir izvairīgi meklēt atbalstu sev un primāri ir raduši rūpēties par skolēniem. Arī iepriekš minētajā Valsts pētījumu programmas pētījumā 89,4 % no visiem respondentiem (N = 2608) norādīja, ka nemaz nav izmantojuši profesionālu psiholoģisko palīdzību (Rancāns et al., 2021).

Ņemot vērā pedagogu pieaugošo darba slodzi pandēmijas izraisītajos apstākļos, ar to saistītu stresu, kā arī mainīgos darba apstākļus, ir pamats domāt, ka pedagogiem ir īpaši jāaktualizē nepieciešamība pēc profesionāla atbalsta un pašpalīdzības kā atbalsta resursa (Baker et al., 2021). Ir konstatēts, ka cilvēki, kuri apzinās savus psiholoģiskos, fiziskos un sociālos resursus, ir noturīgāki pret stresu un spēj labāk tikt galā ar stresoriem savā darba vidē (Jovanović et al., 2021).

Pašpalīdzības stratēģija *psiholoģiskā un profesionālā atbalsta saņemšana* apkopo četras aktivitātes – dienasgrāmatas rakstīšanu, piedalīšanos atbalsta grupās, psiholoģiskās palīdzības pakalpojumu izmantošanu un supervīziju apmeklēšanu. Aptaujātie pedagogi šo stratēģiju, kas ietver arī supervīziju, ir novērtējuši kā vismazāk nozīmīgu un vismazāk īstenojamu. Arī intervijās aptaujātie eksperti norādīja, ka ir maz pedagogu, kuri ir piedzīvojuši supervīziju kā regulāru profesionālā atbalsta aktivitāti. Minētie rezultāti liecina, ka ir jāpievērš ievērojami lielāka uzmanība pedagogu informēšanai par iespējām saņemt psiholoģisku un profesionālu atbalstu, tostarp psiholoģiskās palīdzības pakalpojumus un supervīzijas. Spēja rūpēties par sevi un praktizēt palīdzošas stresa pārvarēšanas stratēģijas ir daļa no skolotāja darba un ir prasmju kopums, kas var uzlabot skolotāja ikdienu (Ansley et al. 2021), tāpēc var teikt, ka pedagogiem ir nepieciešams profesionālais atbalsts – un viens no tiem ir supervīzija, kas palīdz atbrīvoties no negatīvām emocijām profesionālajā vidē un attīsta spēju darboties paaugstināta stresa apstākļos (Remerte & Pumpiņa, 2021).

Neskatoties uz to, ka saskaņā ar Latvijas Republikas Izglītības un zinātnes ministrijas 2021. gada 27. maija ziņojumu "Par psihoemocionālā atbalsta

pasākumiem COVID-19 pandēmijas radīto seku mazināšanai", pagājušajā gadā ministrija lēma novirzīt līdzekļus Latvijas pedagogu psihoemocionālajam atbalstam, nodrošinot iespēju līdz 2021. gada beigām ikvienam pedagogam piedalīties bezmaksas supervīzijā (IKVD, 2021), taču, kā atzina eksperti, ne visiem pedagogiem bijusi iespēja piedalīties supervīzijās. Būtiski uzsvērt izglītības iestāžu vadītāju lomu supervīzijas popularizēšanā pedagogiem. Apkopojums no ekspertu intervijām parādīja, ka tad, ja iestādes vadības komandai ir pieredze supervīzijā, ir lielāka varbūtība, ka vadītāji organizēs un piedāvās supervīziju arī saviem pedagogiem.

Lai gan šajā pētījumā izmantotā Pašpalīdzību stratēģiju aptauja (Mārtinsone, Perepjolkina, & Ruža, 2021; Mārtinsone, Perepjolkina, & Ruža, in press) ir drošs, valīds un zinātniski pamatots instruments, pētījumam ir vairāki ierobežojumi. Pētījuma izlase ir salīdzinoši maza pret kopējo pedagogu skaitu valstī, un, tādējādi šī pētījuma rezultāti, iespējams, neatspoguļo visu pedagogu viedokli. Liela daļa pētījuma respondentu ir pedagogi ar lielu darba pieredzi. Iespējams, pieredzējušie pedagogi pievērs mazāku nozīmi pašpalīdzības aktivitāšu praktizēšanai, taču šo pieņēmumu būtu nepieciešams padziļināti izpētīt. Arī ekspertu intervijās tika runāts par paaudžu atšķirībām un to, ka jaunie pedagogi gan paši jautā pēc atbalsta, gan arī ir motivētāki piedalīties dažādās atbalsta aktivitātēs.

Turpmākajos pētījumos būtu ieteicams analizēt pedagogu pašpalīdzības stratēģijas dažādās grupās, piemēram, pedagogu grupās pēc darba stāža vai profesionālās darbības dažāda veida izglītības iestādēs.

Pētījumos ir aprakstītas dažādas pašpalīdzības stratēģijas, kas pozitīvi ietekmē psihisko un fizisko veselību, sekmē psihisko noturību un palīdz mazināt stresu un izdegšanas sindromu (Crawford, 2020). Konstatējot šī pētījuma rezultātos, ka *psiholoģiskā un profesionālā atbalsta saņemšana* ir viszemāk novērtētā stratēģija, rodas jautājums – kāda ir pedagogu informētība par supervīziju kā vienu no pašpalīdzības un profesionālā atbalsta formām? Līdz ar to, būtu ieteicams **pedagogiem plašāk skaidrot supervīzijas lomu**. Supervizoriem, izglītības iestāžu dibinātājiem un vadītājiem būtu jāsniedz informācija pedagogiem par iespējām saņemt psiholoģisko un profesionālo palīdzību, tostarp supervīzijas, un jāskaidro šo aktivitāšu nozīmība psihiskās veselības profilaksē.

Būtiska loma pedagogu informēšanā un iesaistei pašpalīdzībā ir izglītības iestādes vadībai. Pētījumi rāda, ka pedagogi, neskatoties uz atšķirīgiem amatiem un konkrētās izglītības iestādes specifiku, saskaras ar līdzīgām vajadzībām – atbalsta nepieciešamību pašpalīdzības īstenošanā un stresa pārvarēšanā (Blinder et al., 2017). Lai aktualizētu un ieviestu supervīziju izglītības iestādēs, vadībai būtu, pirmkārt, nepieciešama izpratne par supervīziju kā pašpalīdzības un psiholoģiskā un profesionālā atbalsta aktivitāti, otrkārt, jāzina, kur ir iespējams saņemt supervīziju, un, treškārt, jāseko līdzi, lai pedagogi izmanto šo resuru. Izglītības iestāžu vadītājiem ir noteicošā loma organizācijas kultūras veidošanā

un ir atbildība piesaistīt papildu atbalsta pasākumus (Latvijas Republikas Ministru kabinets, 2021). Tāpēc būtu ieteicams **supervīzijas pirmkārt ieviest izglītības iestāžu vadītājiem un vadības komandām.**

Svarīgi ir **sniegt pedagogiem iespēju izprast pašpalīdzības jēdzienu un analizēt savu pašpalīdzības praktizēšanu supervīzora vadībā supervīzijās.** Sesiju laikā pedagogus var veicināt uz refleksiju par to, kādēļ pašpalīdzības stratēģijas, kas tiek atzītas kā nozīmīgas, netiek īstenotas, rosināt savu pašpalīdzības vajadzību apzināšanos stresa apstākļos. Pētījumā ir pierādīts, ka grupas supervīzijas apmeklēšana kopumā palīdz attīstīt refleksiju un palīdz izprast sevi (Lindo et al., 2015). Supervīzijā ir iespējams izmantot dažādas intervences un metodes konkrētu mērķu un plāna definēšanai. Tomēr, lai atbalsts supervīzijā būtu efektīvs, svarīga ir pedagogu ieinteresētība patstāvīgi aktualizēt aktivitāšu plānu arī ārpus supervīzijas sesijām un lietot izvēlētajās pašpalīdzības stratēģijas, lai tās nostiprinātos kā regulāra prakse.

Kā vēl viens no ieteikumiem būtu **aktualizēt un ieviest supervīziju skolotāju izglītības programmās** saistībā ar studējošo pedagoģisko praksi izglītības iestādēs. Jāņem arī vērā, ka daudzi studējošie jau studiju laikā ir uzsākuši pastāvīgu pedagoga darbu izglītības iestādēs. Ekspertu intervijās tika konstatēts, ka jaunie pedagogi jau šobrīd aktīvāk meklē profesionālo atbalstu. Sniedzot supervīzijas pieredzi studiju laikā, pastāv lielāka iespēja, ka supervīzija tiks praktizēta tālākā profesionālajā darbībā.

Visbeidzot, lai supervīzijas būtu palīdzošas, būtu jāizvērtē iespēja **iekļaut psiholoģisko palīdzību valsts apmaksāto pakalpojumu sarakstā** (Rancāns et al., 2021), nosakot normatīvajos aktos supervīzijas kā obligātu praksi pedagogiem, un jānodrošina izglītības iestādēs organizatorisks un cita veida atbalsts, lai ikviens pedagogs varētu šo iespēju izmantot.

Supervīzijām būtu jānotiek darba laikā, jābūt valsts apmaksātām supervīzējamiem, regulārām un īstenotām kā ilgtermiņa atbalstam.

Secinājumi *Conclusions*

Tiek secināts, ka pastāv statistiski nozīmīgas atšķirības starp to, ko pedagogi vērtē kā nozīmīgu un ko īsteno attiecībā uz pašpalīdzību. Visām pašpalīdzības stratēģijām nozīmīgums ir vērtēts augstāk par īstenojamību.

Stratēģijai *psiholoģiskā un profesionālā atbalsta saņemšana*, kurā ir iekļauta arī supervīzija, pedagogi ir *piešķirušī viszemāko* vērtējumu gan pēc nozīmīguma, gan īstenojamības. Tomēr, lai pārvarētu dažādas psiholoģiskas un profesionālas problēmas, *psiholoģiskā un profesionālā atbalsta saņemšana* ir būtiska, un to ir iespējams saņemt supervīzijā, kas ļauj plašāk paskatīties uz kādu konkrētu situāciju, palīdz mazināt izdegšanas riskus, veicina pašrefleksiju un profesionālo attīstību.

Minētais norāda uz supervīzijas nepieciešamību pedagogu labizjūtas veicināšanā. Supervīzija ir gan pašpalīdzības aktivitāte, gan arī vieta un telpa, kur aktualizēt pašpalīdzību, veicināt izpratni par pašpalīdzības stratēģijām un to praktizēšanu. Supervīzijām ir jābūt vēlamām, regulārām un īstenotām ilgtermiņā, tas palīdzētu vairot supervīzijas ieguvumus – atbrīvoties no negatīvām emocijām, attīstīt stresa noturību, un kopumā veicinātu pedagogu labizjūtu profesionālajā vidē.

COVID-19 pandēmija ir radījusi būtiskas izmaiņas un paaugstinātu stresu pedagogu darbā. Pašpalīdzība un rūpes par sevi ir ļoti nozīmīga tēma pedagogu ikdienā, jo pedagoga darbs ir mainīgs, pakļauts nemitīgam stresam un izdegšanas riskam. Šis pētījums parāda, ka pedagogiem trūkst psiholoģiskā un profesionālā atbalsta, un ir jādomā, kā plašāk popularizēt supervīziju kā atbalsta formu pedagogiem. Supervīzija ir viena no iespējām, kur pedagogi var gūt psiholoģisko un profesionālo atbalstu.

Summary

There are statistically significant differences between what teachers' value as important and what they do in terms of self-care. The importance of all self-care strategies is rated higher than attainability.

Self-care strategy *receiving psychological and professional support*, which also includes supervision, has showed the lowest rating in terms of both importance and attainability according to the teachers. However, to overcome various psychological and professional challenges, *receiving psychological and professional support* is essential and can be obtained through supervision, which allows a broader view of a specific situation, helps to reduce the risks of burnout, promotes self-reflection and professional development.

This indicates the need for supervision in improving well-being of teachers. Supervision is both a self-care activity and a place to update self-care, promote understanding of self-help strategies and their practice. For a supervision to be truly helpful, supervision must be preferred practice, regular and implemented as a long-term activity – only then it can help to get rid of negative emotions, develop stress resilience, and generally improve well-being of teachers in the professional environment.

The COVID-19 pandemic has brought significant changes and increased stress to teachers. Self-care is a very important topic in the daily life of teachers, as the teachers' role is constantly changing, exposed to constant stress and the risk of burnout. This study shows that educators lack psychological and professional support, and there is a need to consider how to promote supervision as a form of support for educators. Supervision is one of the opportunities where teachers can get psychological and professional support.

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SEXUALITY EDUCATION TO PREVENT INTIMATE PARTNER VIOLENCE

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Abstract. *The “discovery” of intimate partner violence in the 1970s by the feminist movement, which considered it to be a private affair between two people, showed that the phenomenon is a recurrent one, occurring in a wide range of romantic relationships, whether committed, dating, or casual, and both current and former, across races, social classes, ages, adults and adolescents. Research has shown that existing criminal justice, health and social interventions do not address intimate partner violence. Changing culturally constructed attitudes that make men dominant and controlling, women dependent and invisible, and the use of gender-sensitive policies are key to addressing violence against women. It is argued that comprehensive sexuality education, as a preventive measure that introduces an appreciation of personal needs in terms of the well-being of the other person and of society, can help to address intimate partner violence. The aim of this article is to show the importance of a sexuality education perspective in the prevention of intimate partner violence against women. The study shows that in order to prevent intimate partner violence against women and girls, it is important to develop the ability to recognise violence related to unequal power in relationships, to be able to name types of violence, and to be able to identify symptoms of violent behaviour. The research design used was qualitative research, semi-structured interviews to collect data, and the participants were women who had experienced violence in intimate relationships.*

Keywords: *comprehensive sexuality education, intimate partner violence, prevention.*

Introduction

The World Health Organisation defines intimate partner violence in its 2002 report as behaviour, including physical aggression, sexual violence, psychological abuse and control, in an intimate relationship that causes physical, psychological or sexual harm to the persons involved (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002). The Italian researcher Troisi (2018) defines *intimate partner violence*, which takes place in a context of control and domination, with the most frequent perpetrator being the sometimes loving man, and the victim being the woman, as a systematically applied behaviour, with a particularly subtle and constant use of means of psychological influence that maintains a constant state of tension, anxiety and fear. The dynamics, duration and repetitiveness of such violence have led to it being identified as more damaging to health than catastrophic events (car accidents, hurricanes, earthquakes, floods, etc.) or physical or sexual assault by a stranger (Herman, 2006).

Although violence against women is recognised as a global health problem, interventions are not effective. The legal system, as a purely masculine structure,

is widely guided by traditional attitudes that excuse men and blame women (Moulin-Stozek, 2021). The health care system, which has historically focused on the diagnosis of illness and medical intervention, does not recognise its role in solving social problems (Kimmel, 2000). Social service institutions that have not seen the problem of intimate partner violence for a long time, and that have linked their activities to individual programmes to strengthen responsibility for life choices, to change the behaviour of the family and its members, and to improve interpersonal skills and conflict resolution, *aimed at adapting the family and its members to the social norms* (Gutierrez, 1987), are finding it difficult to adopt a different approach.

In turn, the lack of effectiveness of existing interventions to address intimate partner violence is even more pronounced in adolescent relationships (Gracia & Herrero, 2006). In the legal system, prosecution, punishment, and behaviour change programmes are difficult tools to apply due to age. Girls who have experienced violence, who are more likely than women to hide intimate details of their lives, and who find it harder to recognise the symptoms of inappropriate behaviour, have limited access to legal protection, health and social services, and violent online behaviour, as a new and unfamiliar phenomenon, is difficult to identify and to label as a criminal offence by all members of the general population (Moulin-Stozek, 2021).

In this way, societal attitudes, reinforced in families, values passed down from one generation to the next, which instil a sense of superiority in boys, giving them the right to control and dominate, and in girls, forcing them to be submissive and passive, also influence the attitudes and actions of service providers, making it difficult to effectively combat the phenomenon of intimate partner violence, especially in cases of children and young people. Research shows that, in the long term, positive change can be expected from a gender equality perspective, which creates the preconditions for a positive change in relations between men and women, in established traditions, stereotypes, behaviour, thinking and ways of acting. It is recognised that prevention is the most effective way of preventing violent relationships, and that by applying the principle of equality to *primary prevention* in the formal education system, it is possible to make the broadest possible contribution to shaping the attitudes of children and adolescents, to changing the values of their families and communities, and at the same time to reducing the level of tolerance of violence and to tackling the problem of intimate relationships in couples of all ages.

The aim of this article is to show the importance of a sexuality education perspective in the prevention of intimate partner violence against women. *The object of analysis* – sexuality education to prevent intimate partner violence.

Intimate Partner Violence in Sexuality Education

While the importance of sexuality education is recognised, implementation is not smooth, however, a study of sexuality education programs in 155 countries showed that sexuality education programmes are dominated by generic topics such as health, body anatomy and hygiene (World Health Organization, 2021), the differences between the male and female body, and the thinking, acting and feeling aspects that go with it, are still over-emphasised. At the same time, it is now recognised that such an approach, which is described as a *conservative, traditional perspective of sex education*, is inappropriate and cannot contribute to reducing gender inequalities, in order to contribute to the solution of the problem of violence in intimate relationships through primary prevention (Giniotaitė, 2018). It is believed that the *perspective of modern, or Comprehensive Sexuality Education*, which contributes to the deconstruction and re-evaluation of culturally and historically formed attitudes (Galtung, 1990), the recognition and acceptance of different sexual orientations and practices, and at the same time, the development of critical thinking, the introduction of the principles of equality, human rights, creates the prerequisites for a more equal society, and thus the elimination of the problem of violence in intimate relationships in the long term.

Features of Traditional Sexuality Education

As mentioned above, the traditional perspective on sexuality education does not see violence in intimate relationships as a cause of gender inequality. *Violence between men and women* is explained as a phenomenon influenced by biology, evolution or mental disorders, while *violence within the family* is explained as a result of poorly played roles, the inability to resolve conflicts constructively, the dysfunction of the family as a system and the resulting stress. From this perspective, men are seen as inherently more aggressive, competitive, dominant and controlling, while women, on the other hand, are seen as more passive, more emotional, and as linking their security and value to intimate relationships (Giniotaitė, 2018).

In contrast, the gender-based segregation in the traditional perspective is seen by scholars as a historically constructed construct. Galtung (2018) (cited in Dodi, 2019), a Norwegian sociologist and peace researcher, based on human physiology and hormonal phenomena, and DeKeseredy and Schwartz (2011), the fact that in 90% of cases abusers are able to behave in a non-conflict way in non-intimate settings, Kimmel (2000), who has pointed out that violence as a strategy for preserving one's own species is incompatible with the health problems of the partner and the children, and many other scholars disagree with the notion that gender determines the men's higher level of aggression, need for dominance and control, and that biology may justify a lower level of responsibility in the sexual relationship. As well as the fact that women are inherently more passive, tend to

be in the 'victim' role, or have higher levels of emotionality (Cavanagh, 2006). In turn, explanations of domestic violence in terms of the time family members spend together (Dobash & Dobash, 1979), the misrepresentation of gender roles or the tendency of children to replicate the patterns of interpersonal relationships seen in their biological families as if they were 'hollow beings' with no sense of justice and fairness, are not firmly established scientifically (DeKeseredy & Schwartz, 2011).

In this way, sexuality education based on traditional values, which establishes different expectations for the sexes, the right of men to dominate and control, and the right of women to be subordinate, is not only inadequate to deal with the problem of intimate partner violence, but also, on the contrary, tends to justify men's violent behaviour, and to portray it as a "normal" occurrence.

Comprehensive Sexuality Education Perspective on Intimate Partner Violence

Comprehensive Sexuality Education, as opposed to the traditional one, is a perspective that aims to ensure equal access to all human rights for all members of society, regardless of age, race, religion or other personal identity traits. *Comprehensive Sexuality Education* in the case of intimate partner violence against women is a way of changing culturally held attitudes that privilege men and devalue women to an equal treatment of both sexes, increasing gender equality, and eliminating the preconditions for the existence of gender-based violence.

International law has been referring to sexuality education for young people and to measures that can help protect children from inappropriate behaviour and eliminate the transmission of violent patterns from one generation to the next since the beginning of the 20th century. *The Geneva Declaration on the Rights of the Child* (United Nations, 1924) of 1924 obliges states to ensure children's right to a socially responsible education and, at the same time, to prevent their economic exploitation, while the *the United Nations Convention on the Rights of the Child* (United Nations, 1989) combats physical, economic and domestic violence and ill-treatment (Article 19). The Council of Europe's *Lanzarote Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse* (Council of Europe, 2007) obliges to combat sexual violence against children (Article 10), and *the Council of Europe Convention on Preventing and Combating Violence against Women and Domestic Violence* (Council of Europe, 2011) ((hereinafter referred to as the CECPCVAWDV) enshrines the obligation to ensure the right of children and adolescents to be free from violence, not only in the family, but in their romantic relationships, through the use of primary prevention, primarily in formal education, as part of sexuality education.

The CECPCVAWDV (Council of Europe, 2011) is considered to be the main international legal instrument to combat intimate partner violence against

women/girls and identifies key themes in Comprehensive Sexuality Education to be included in the curricula. Article 14 of this legislation states that in order to change the culturally established different patterns of behaviour between men and women, to eradicate prejudices, traditions and all other practices based on the idea of women's inferiority, and adapted to the age and abilities of the learners, young people must be taught, on the basis of scientifically based information, about *equality between women and men, non-stereotypical gender roles, mutual respect, non-violent conflict resolution in interpersonal relationships, gender-based violence against women and the right to security of the person*. Existing research already confirms that the use of the Comprehensive Perspective on Sexuality Education contributes to the development of intimate relationships with respect for self and others (Kyegombe et al., 2014), the development of awareness, responsibility and autonomy in the decision to engage in sexual intercourse, contributes to the reduction of sexually transmitted infectious diseases among adolescents and the reduction of unintended pregnancies (Blum, Mmari, & Moreau, 2017), and the reduction of intimate partner violence in adolescents, and possibly later on in their lives (Holden, Bell, & Schauerhammer, 2015).

Methodology of Research

Qualitative research is used to assess the experiences of women who have experienced violence in intimate relationships and to draw conclusions about the sexuality education programme, which enables the researcher to choose the style of interpretation and description that is acceptable to him/her, to look at the phenomenon in a broader and deeper way (Novelskaitė, 2012).

The sample of participants when performing qualitative research depends on the aim of the research (Bitinas, 2013). The sample elements for the qualitative study were selected using purposive sampling. The participants were 6 women (names have been changed in the study), aged between 33 and 52 from traditional families, living in urban and suburban areas, with and without children in common, who had experienced violence from current and former spouses. Such sample is sufficient, because when applying the semi-structured interview, the recommended sample size is from 5 to 30 people (Žydzūnaitė & Sabaliauskaitė, 2017).

The study, carried out in October, November and December 2020. The semi-structured interview method was chosen for the implementation of the research being one of the most convenient survey methods during which it is possible to obtain as much unstructured information about the research issue as possible, and to ensure less formal interaction between the researcher and the research participants.

The interview data were analysed using content analysis, which allows for drawing conclusions based on text (Bitinas, 2013). The category was selected according to the purpose of the work presented in the introduction, subcategories,

such as systemic violence, psychological violence, economic violence and sexual violence - as key concepts in international and local law relating to intimate partner violence (Table 1).

Table 1 Recognising intimate partner violence (created by author)

Category	Subcategory	Survey results
Factors that hinder the recognition of violence	Systemic violence	Gender roles justify violence
	Psychological violence	Violence is associated with love, caring for family and partner.
	Economic violence	Violence is associated with caring for family and children
	Sexual violence	Violence is treated as a marital obligation

The following ethical principles have been followed during the implementation of the qualitative research (interview): goodwill, respect for the dignity of a person, confidentiality, justice, voluntary approach, right to obtain accurate information (Bitinas, 2013).

Research Results

According to the data of Lithuanian Department of Statistics (2020), women are the most frequent victims of domestic violence in Lithuania (80% of all cases of violence), with the number of women victims having increased almost 12 times in the decade after the Law on Protection against Domestic Violence of Lithuanian Republic (Lietuvos Respublikos Seimas, 2011) (hereinafter referred to as the "Law") came into force (Purvaneckienė, Venclovaitė, Stonkuvienė & Žiliukatė, 2019). According to the Ministry of Social Security and Labour of Lithuanian Republic (Lithuanian Department of Statistics, 2020), an average of 64% of battered women do not seek help. The reasons for this can be attributed to the gender-neutral definition of violence in the Law, the incomplete description of violent and coercive behaviour, such as psychological manipulation, persistent coercive acts, harassment, as well as the legal system's failure to recognise violence other than physical violence, the underfunding of institutions providing specialised services, societal attitudes towards women who have experienced violence, and the failure to ratify the CECPCVAWDV (Council of Europe, 2011), which is perceived as a threat to traditional family values (Pilinkaitė Sotirovič & Vaigė, 2017).

The prevalence of intimate partner violence in adolescent relationships in Lithuania is not known and no official information is published. Sexuality education as a preventive measure against domestic violence is legally regulated by the Order of the Minister of Education and Science of Lithuanian Republic *on the Approval of the General Programme for Health and Sexuality Education and Family Preparation* (Ministry of Education and Science of the Republic of

Lithuania, 2016). However, the sexuality education programme is not smoothly implemented in the education system. There is no approved system for training teachers, there is a lack of methodology, and there is a traditional approach to sexuality, with a focus on physiological changes in the body, hygiene, and healthy lifestyles. Violence against women and girls, as a multifaceted and complex phenomenon, lacks attention: the concept of violence does not take into account the unequal power in intimate relationships, it does not consider violent relationships in a social context, and it does not provide a comprehensive list of forms of violence.

Systemic violence. Systemic violence is an IPV that differs from simple conflicts in its systematic control over the partner - complexity, dynamics, duration, repetitiveness, unequal relationships (Herman, 2006).

Women's stories show that more relationships on equal basis are hindered by cultural attitudes that divide responsibilities according to gender, with women delegating responsibility for the private, less valued „*And I stayed with the child all day long, I didn't do much.*“ (Jovita, 43 years old), and for men, for a public space that is more valuable and financially rewarding, giving them the right to dominate relationships „*What is allowed for a man is not allowed for a woman.*“ (Nijolė, 52 years old), to control the performance of marital duties „*I'm the wife, I have to...*“ (Jolita, 52 years old), punish with violence for disobedience „*My father said, you have to endure. All women suffer.*“ (Jovita, 43 years old).

As soon as I got married, there were immediate demands that I have to do as he wants, because I'm the wife, I have to... (Jolita, 52 years old).

My father said, you have to endure. All women suffer. The role of a woman is that of a housewife. Besides, a woman needs a man. <...> Of course, every day I was waiting for my husband to come home from work, and it seemed like, 'Oh, there's food to be cooked, my husband will come home tired. And I stayed with the child all day long, I didn't do much. (Jovita, 43 years old).

In general, women have children and fall out of friendships. <...> If you are sitting at home, raising children, it's not a job.<...> He owns everything. I have nothing. What is allowed for a man is not allowed for a woman. They want you to listen to them. (Nijolė, 52 years old).

We're still a family, you choose together, you have to negotiate together, but that was not the case. He used to get what he wanted. <...> ...everything had to be his way. <...> He had the last word. (Rita, 49 years old).

In this way, cultural attitudes based on gender, instilled in biological families, hinder the recognition and acknowledgement of systemic violence. Women who want a more equal relationship are forced by violence to conform to the rules of behaviour established in society, which, through sexuality education aimed at strengthening gender equality, by eliminating all practices, patterns of behaviour and attitudes based on the idea of women's inferiority, would be a precondition for the creation of egalitarian relationships (Kyegombe et al., 2014).

Psychological violence. Psychological violence is violence manifested in actions such as controlling, humiliating, degrading and belittling a partner, often justified by men's natural tendency to dominate, compete and envy (Troisi, 2018).

This study found that women have either never heard of psychological violence or have never heard of it „*Physical violence, of course, but I didn't know about psychological violence*“ (Audra, 51 years old), or are unable to recognise it. They equate their partner's actions such as intimidation, bullying, jealousy with love „*I thought, well, a man loves...*“ (Audra, 51 years old), prohibition to make their own decisions about an unplanned pregnancy with concern for the family “*I didn't really want to give birth, but he said you can't do anything, you have to and that's it*“ (Rita, 49 years old), humiliation and criticism with advice „*I didn't understand, because I thought that he was right and that I was a loser here and I was behaving badly.*“ (Vita, 33 years old).

The husband comes home from work and either the phone will be smashed, the door will be slammed or the food will be thrown away. <...>... Physical violence, of course, but I didn't know about psychological violence, I thought, well, a man loves.... (Audra, 51 years old).

When it was psychological, I didn't understand, because I thought that he was right and that I was a loser here and I was behaving badly. (Vita, 33 years old).
I didn't really want to give birth, but he said you can't do anything, you have to and that's it. And I thought, he wants a bigger family, he cares, he loves. (Rita, 49 years old).

Thus, the identification of psychological violence with the feelings that underlie the development of intimate relationships suggests that its recognition would be important for the prevention of any form of violence. The inclusion of the themes of love, care, respect, tolerance, jealousy, together with culturally widespread attitudes and gender stereotypes, in sexuality education curricula would help to develop young people's ability to identify potentially dangerous relationships in a timely manner.

Economic violence. Economic violence refers to manipulative actions aimed at controlling a partner's or family's finances, assets, forcibly keeping a woman in the home, or limiting spending (Dobash & Dobash, 1979).

The financial dependence of the women in this study on their partners was increased under the guise of motherhood, the family, constructs that reinforce women's subordination to men through the legitimisation of tasks such as childbirth, parenting, domestic work (Elshtain, 2002), followed by limitation of expenditure, isolation and exploitation. The study shows that women did not reflect the threat in their partner's behaviour, they saw it as a concern for the family „... he said, “*Well, why do you need to go to school? We can work together.*“ (Rita, 49 years old), my duty as a mother „...*of my daughter's disability I was unemployed.*“ (Audra, 51 years old) or to the normal difficulties of married life

„I was taken to a farmhouse to live, <...>... no plumbing, nothing.“ (Nijolè, 52 years old).

I gave birth and didn't even go back to school, because he said, "Well, why do you need to go to school? We can work together. <...>they didn't even give me money to buy groceries, even though I was working in the family business. I couldn't leave home without him. (Rita, 49 years old).

Because of my daughter's disability I was unemployed, so he used to say, who are you without me... (Audra, 51 years old).

I was taken to a farmhouse to live, I was just like locked up with two children, no plumbing, nothing. <...>. I needed shoes, he said, what do you need them for. The children were small, but I went to work. (Nijolè, 52 years old).

Economic violence is difficult to identify, according to research. However, talking about the form, consequences and causes of economic violence in the context of gender inequality will help to develop critical thinking in adolescents.

Sexual violence. Sexual violence is defined as acts or attempts of a sexual nature committed or attempted to be committed without the consent of the other person, through intimidation, manipulation or coercion (Troisi, 2018).

In this study, women were subjected to both force and intimidation through other forms of violence *„For me, it's not the worst thing...“ (Audra, 51 years old).* Ignoring and hiding sexual violence shows that it is the violence that is most socially normalised in society *„But so what, who do you complain to? Nobody will understand.“ (Jovita, 43 years old)* and, at the same time, for women experiencing violence, especially marital violence *„You live a family life, you are not forced to, but you have to.“ (Nijolè, 52 years old).*

Yes, I experienced it, but, well... For me, it's not the worst thing... (Audra, 51 years old).

Making love was not pleasant. You live a family life, you are not forced to, but you have to. (Nijolè, 52 years old).

He used to force me. But so what, who do you complain to? Nobody will understand. I didn't tell anyone about it, because it's a shame, let alone go to the police. (Jovita, 43 years old).

Symptoms of sexual violence, the more aggressive forms of which occur in the later stages of a relationship, are usually the result of attitudes that undermine women (Gustaitienė, 2005). Sexuality education based on gender equality, together with the CECPCVAWDV (2011) call for a special focus on increasing boys' level of responsibility, would be a possible primary prevention measure to combat sexual violence.

Thus, research on violent experiences shows that intimate partner violence is caused by unequal power relations. Sexuality education based on a clear terminology of violence, forms of violence and knowledge of the possible symptoms of violence could contribute to the earlier identification of signs of violence and the search for solutions for the future of intimate relationships.

Conclusions

The study shows that the conservative traditional perspective on sexuality education treats gender as a biological, evolutionary factor, sees heterosexual relationships as the only appropriate ones, and encourages sexual relationships to be associated with marriage. In contrast, the modern science-based, comprehensive sexuality education perspective explains gender differences in social terms, recognises different sexual orientations, and encourages a conscious, informed sexual decision-making stance.

The study showed that women lack knowledge about forms of violence other than physical violence. Psychological violence is often equated with love and care, humiliation and criticism – for advice. Economic violence, which then escalates into economic exploitation, exclusion and poverty experienced by women, is seen as a concern for the welfare of the family. Sexual violence, the most socially normalised, as a woman's marital duty.

The study shows that the lack of sexuality education in the education system prevents the formation of different attitudes in favour of equal relationships and the intergenerational transmission of violent relationship patterns. The study confirmed that education on systematic recognition of violence, types of violence, and their symptoms would encourage questioning of social norms and the benefits of egalitarian relationships, and contribute to solving the problem of intimate partner violence against women in the long term.

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SCHOOLTEACHERS-PARENTS INTERACTIONS AMID DISTANCE AND BLENDED LEARNING: TWO- YEAR EXPERIENCE OF OVERCOMING NEGATIVE INFLUENCES OF COVID-19 PANDEMIC

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Abstract. *The paper aims to show the shifts within the paradigm of schoolteachers-parents interactions amid distance and blended learning. The authors examine two-year experience of overcoming negative influence of the Covid-19 pandemic onto the system of general secondary school education. Two web-based questionnaires (for schoolteachers and for parents) were developed using Google Forms. The main objective is to get information from schoolteachers, on the one hand, and from parents, on the other hand, as for challenges they faced amid blended learning caused by the influence of the Covid-19 pandemic on the system of general secondary school education. The research methodology targeted at summarising theoretical issues on the topic and collecting empirical data comprises both the theoretical method of analysis and synthesis and the empirical method of web-based surveys. The research sample includes 2269 respondents (619 general secondary schoolteachers and 1650 parents) from different regions of Ukraine. As a general conclusion the researchers identified and substantiated the system of psychological and didactic tasks that are to be solved for harmonising further schoolteachers-parents interactions amid distance and blended learning caused by the Covid-19 pandemic. Moreover, the researchers do believe that the existing theoretical and methodological foundations of organising and providing the educational process at the stage of general secondary education are to be radically reviewed.*

Keywords: *blended learning, Covid-19 pandemic, distance learning, general secondary school, schoolteachers-parents interactions, system of psychological and didactic tasks.*

Introduction

The idea that family is a vital tool to affect schoolchildren's attitudes to education in general and to school in particular finds support in various studies aimed at finding out the role of a family on child education (Czerepaniak-Walczak, 2020; Safitri et al., 2019; Setyastuti et al., 2021). After the outbreak of Covid-19 in most countries of the world it was the parents who assumed teachers' responsibilities while their children were denied access to traditional

schooling. In this connection, reference can be drawn from the study carried out by a team of researchers who acknowledged that after school closures caused by the Covid-19 pandemic, parents “suddenly have the role of “home teachers” to help their children learn and understand the lessons” (Setyastuti et al., 2021). Unprecedented and unexpected shift to distance learning as one of the forced measures to protect schoolchildren against coronavirus showed that despite large-scale introduction of digital technologies into education over the past decades a significant number of schoolteachers lacked the necessary digital skills and were not ready to deliver instruction to schoolchildren remotely during the first weeks and even months of school closures let alone parents. Another significant problem for delivering quality distance education was that many schoolchildren, especially in low-income and middle-income families, lacked access to high-speed Internet, computers, smartphones etc. A review of the literature indicates that such a situation arose in many different countries (Agostinelli et al., 2022; Tadesse & Muluye, 2020; UNICEF, 2020a; UNICEF, 2020b) and Ukraine is not an exception. It also turned out that in such a desperate state parental involvement became a determining factor “for the success of the online education environment” (Czerepaniak-Walczak, 2020).

Like in many European countries social distancing measures including school closures were introduced in March 2020 in Ukraine. From then on Ukraine was divided into four areas of epidemiological safety, namely: red, orange, yellow and green. And since the division of Ukraine into such areas, all general secondary schools have been implementing either distance or blended learning depending on the area they are in (Ministry of Health of Ukraine, 2020). Caught in a situation which the mind could barely anticipate both schoolteachers and parents had to seek all the possible ways to create effective interactions to deliver quality distance education to schoolchildren. Thus, the main aim of this paper is to show the shifts within the paradigm of schoolteachers-parents interactions amid distance and blended learning considering the two-year experience of overcoming negative influence of the Covid-19 pandemic onto the system of general secondary school education.

Methodology

The research methodology targeted at summarising theoretical issues on the topic and collecting empirical data comprises both the theoretical method of analysis and synthesis and the empirical method of web-based surveys.

Conducting web-based surveys among Ukrainian general secondary schoolteachers and parents within the project “Organisation of Educational Process in the Content of Unpredicted Changes (the Covid-19 Pandemic): Comparative Analysis (Ukraine – EU countries)”, we found out that among major problems schoolteachers faced during the first weeks of school closures because of the outbreak of coronavirus in Ukraine were the following ones: the

lack of face-to-face interaction with parents; scarce opportunities for providing consistent feedback to parents and as a result misunderstanding and even conflict situations; parental dissatisfaction with the number of assignments allotted to their child/children and unwillingness of marginalised parents to take responsibilities for education of their child/children etc. (Topuzov, Malykhin, & Aristova, 2021). The results obtained got us thinking about the changes that had been taking place in the system of general secondary education and the acute need for showing shifts within the paradigm of schoolteachers-parents interactions amid distance and blended learning caused by the Covid-19 pandemic.

Due to restrictions caused by the Covid-19 pandemic the research was carried out remotely using two web-based questionnaires (for schoolteachers and for parents) developed by the team of researchers using Google Forms. The ideas expressed in the scientific works by Topuzov (2021) and Topuzov, Malykhin, & Opaliuk (2018) became the theoretical basis for developing web-based questionnaires. The web-based questionnaires were targeted at obtaining information from both schoolteachers and parents as for challenges they faced amid blended learning caused by the influence of the Covid-19 pandemic on the system of general secondary school education. In order to gain comprehensive insight into the shifts within the paradigm of schoolteachers-parents interactions amid distance and blended learning considering the two-year experience of overcoming negative influence of the Covid-19 pandemic onto the system of general secondary school education, the web-based questionnaires for both general secondary schoolteachers and parents contained the same open-ended questions:

1. *Can you list the problems schoolchildren faced immediately after the transition of traditional classroom teaching and learning to the distance and/blended ones caused by the Covid-19 pandemic?*
2. *What way did you do to keep in touch with a teacher/parents and who initiated the communication after the sudden shift to distance learning caused by the Covid-19 pandemic?*
3. *Do you believe that parents' engagement in school affairs is crucial for providing schoolchildren with effective distance and blended learning amid the Covid-19 pandemic? Explain your point of view.*
4. *Do you believe that regular and well-organised two-way communication between teachers and parents helps improve academic performance of schoolchildren amid distance and blended learning caused by the Covid-19 pandemic? Explain your point of view.*
5. *What modes of communication were the most useful for improving teachers-parents interactions before the outbreak of the Covid-19 pandemic?*

6. *What modes of communication do you find the most useful for improving teachers-parents interactions amid distance and blended learning caused by the Covid-19 pandemic?*
7. *Have there been any positive developments regarding teachers-parents interactions amid distance and blended learning caused by the Covid-19 pandemic?*

The web-based survey lasted for three months and took place in September-November 2021. The links to the web-based questionnaires were sent to the principals and teachers of general secondary schools in different regions of Ukraine the team of researchers cooperates with. The mentioned principals and teachers of general secondary schools were asked to share the links among their colleagues and parents. This resulted in 2269 responses from 619 general secondary schoolteachers who teach different subjects and 1650 parents from different regions of Ukraine. The sociodemographic characteristics of general secondary schoolteachers are given in Table 1.

Table 1 Sociodemographic Characteristics of General Secondary Schoolteachers Participating in the Web-Based Survey

<i>Variable</i>	<i>Number (n=619)</i>	<i>Percentage (100%)</i>
<i>Gender</i>		
<i>Female</i>	576	93
<i>Male</i>	43	7
<i>Position</i>		
<i>School Principal</i>	12	2
<i>A Category-1 Teacher</i>	93	15
<i>A Category-2 Teacher</i>	93	15
<i>A Higher Category Teacher</i>	173	28
<i>A School Counselor</i>	149	24
<i>A Teacher</i>	99	16
<i>Working Experience</i>		
<i>More Than 20 Years</i>	285	46
<i>From 10 To 20 Years</i>	148	24
<i>From 3 To 10 Years</i>	136	22
<i>Up to 3 Years</i>	50	8
<i>School level</i>		
<i>Primary school</i>	327	53
<i>Middle school</i>	186	30
<i>High school</i>	106	17

*Source: own study
n=619*

The sociodemographic characteristics of parents participating in the web-based survey are presented in Table 2.

Table 2 Sociodemographic Characteristics of Parents Participating in the Web-Based Survey

Variable	Number (n=1650)	Percentage (100%)
Age		
≤30	33	2
31-35	381	23
36-40	528	32
41-45	462	28
46-50	132	8
51-55	48	3
≥56	66	4
Family composition		
Full family (a father and a mother)	1353	82
A single-parent family (a mother)	248	15
A single-parent family (a father)	49	3
Number of children		
One	627	38
Two	858	52
Three	149	9
Four	16	1
Number of school-age children		
One	1139	69
Two	478	29
Three	33	2

Source: own study
n=1650

Research results

Table 3 The List of Problems Schoolchildren Faced Immediately After the Transition of Traditional Classroom Teaching and Learning to the Distance and/or Blended Ones Caused by the Covid-19

Respondents (n=2269)	Categories							
	<i>Internet Problems</i>	<i>Lack of Proper Digital Skills</i>	<i>Poor Independent Study Skills</i>	<i>Study-related Stress</i>	<i>Lack of In-person Communication</i>	<i>Lack of Proper Computer Equipment</i>	<i>Poor Housing Conditions</i>	<i>Health-related Stress</i>
<i>General Secondary Schoolteachers (n=619)</i>	589	504	305	312	497	564	207	543
<i>Parents (n=1650)</i>	1573	1297	1112	890	1179	803	387	1206

Source: own study
n=2269

The obtained results regarding the list of problems schoolchildren faced immediately after the transition of traditional classroom teaching and learning to the distance and/or blended ones caused by the Covid-19 pandemic in general secondary schoolteachers' and parents' opinion are given in Table 3. It should be noted that analysing the replies to the first question we tried to single out the similar problems mentioned by both schoolteachers and parents.

According to the obtained results, both general secondary schoolteachers (95%) and parents (95%) indicated that immediately after the transition of traditional classroom teaching and learning to the distance and/or blended ones caused by the Covid-19 schoolchildren experienced various problems with the Internet. 81% of general secondary schoolteachers and 79% of parents pointed out that one of the serious problems the majority of schoolchildren faced after the first wave of school closures was the lack of proper digital skills to study remotely. 49% of general secondary schoolchildren and 67% of parents stated that schoolchildren had poor independent study skills (mostly this problem concerned primary school pupils). Such problem as "Study-related stress" was mentioned by 52% of general secondary schoolteachers and 54% of parents. Both general secondary schoolteachers (80%) and parents (71%) admitted that schoolchildren lacked in-person communication and missed their friends greatly. And although schoolchildren had the opportunity to communicate with their classmates and friends online via different messenger and/or chat apps they felt terribly frustrated. 91% of general secondary schoolteachers were convinced that the most serious problem which prevented schoolchildren from coping with the curriculum was the lack of proper computer equipment at home (for instance, *obsolete laptops or PCs, absence of printers etc.*). But despite the fact that the same problem was mentioned by 49% of parents, it should be noted that parents did not consider it very serious (or maybe failed to recognize it because of different reasons). Reviewing their past experience, 33% of general secondary schoolteachers noticed that some schoolchildren had no opportunity to reach their full potential because of poor housing conditions (for instance, *did not have their own desk, , tablet or laptop let alone room, had to share one desk with a sibling (siblings) etc.*). Parents' opinions were not so critical and categorical as such a problem was identified by 23% of them. And the last problem mentioned by both general secondary schoolteachers (88%) and parents (73%) concerned health-related stress (for instance, *blurred vision, neck pain, headaches, shoulder aches etc.*).

Also we would like to exemplify some replies to question 1 given by parents:

P 397: *I have two children and one of them is a second-grade pupil. After the transition of traditional classroom learning to the distance one caused by the Covid-19 pandemic one of the serious problems my child faced was the poor independent study skills and digital skills to study remotely. And, to tell the truth, it was rather difficult to keep him motivated all the time. It was me who*

constantly tried to motivate him and even to force him to listen to the teacher and to complete all the allotted tasks. The next problem was the lack of in-person communication with his peers, the thing which is very important at his age.

P 10: Although everyone was talking about possible lockdown it took us by surprise. I have a daughter who is an elementary schooler and a son who is a high school student. The main and the most serious problems my children faced were the lack of proper computer equipment to study remotely (I mean at the same time) and the poor housing conditions for providing instruction in the home. We found it very difficult to organise their learning in a proper way (especially at the same time). Well, then if we speak about my daughter, from what I can tell she had poor independent skills to study remotely, was not very attentive and she needed to be controlled all the time. Concerning my son, as he is a high school student, I do believe that his learning load was too excessive. Then, the tasks in many subjects were of increased complexity and sometimes he had no opportunity to cope with them without teachers' explanations. And, unfortunately, my knowledge was not enough to explain him the material he didn't understand

The second question was aimed at finding out what way parents and schoolteachers kept in touch and who initiated the communication after the sudden shift to distance learning caused by the Covid-19 pandemic in March 2020. 100% of general secondary school teachers replied that it was their duty not only to open communication with parents but to initiate it. All general secondary schoolteachers mentioned that after the introduction of lockdown due coronavirus all parents were immediately contacted. 87% of general secondary schoolteachers replied that during the first weeks of the first wave of school closures which happened in March 2020, both teachers and parents were confused but then step by step the process of communication was established on a regular basis and many parents started to show more interest in academic performance of their child/children. It should be mentioned that 27% of general secondary schoolteachers (mostly primary school teachers) pointed out that some parents were proactive and they initiated the communication (via different messenger apps) even before the sudden shift to distance learning caused by the Covid-19 pandemic.

The third question we were interested in was: "Do you believe that parents' engagement in school affairs is crucial for providing schoolchildren with effective distance and blended learning amid the Covid-19 pandemic? Explain your point of view". So, replying to this question nearly all general secondary schoolteachers (98%) mentioned that parents' engagement in school affairs became really crucial for providing schoolchildren with effective distance and blended learning amid the Covid-19 pandemic. Unlike schoolteachers, only 62% of parents thought that their engagement was crucial. We do believe that

indifference of parents became one of the main problems for providing schoolchildren with quality education.

The fourth question was targeted at clarifying if regular and well-organised two-way communication between teachers and parents helped improve academic performance of schoolchildren amid distance and blended learning caused by the Covid-19 pandemic. All the general secondary schoolteachers (100%) stated that regular and well-organised two-way communication could help schoolchildren cope with the curriculum successfully. And only 57% of parents admitted that they tried to contact teachers to learn more about their children's school results or about problems they faced. These parents noted that since teachers regularly sent all the necessary information regarding study-related changes caused by the Covid-19 pandemic, the only thing they had to do was to follow all the instructions. Such ideas expressed by 57% of parents prove the fact that every second parent demonstrated indifference and underestimate the importance of two-way communication between teachers and parents.

The main aim of the fifth and sixth questions was aimed at finding out the most useful modes of communication for improving teachers-parents interactions before the outbreak of the Covid-19 pandemic and throughout the two-year experience of implementing distance and/or blended learning. Thus, both general secondary schoolteachers (93%) and parents (84%) noted that before the outbreak of coronavirus the most useful modes of communication were various in-person events (mostly face-to-face teachers-parents meetings and/or one-on-one meetings) which helped strengthen teachers-parents relationships. In their replies parents reported that they were able to come to the school and to discuss some troubling questions in person at the time of their convenience. It should be noted that about 63% of general secondary schoolteachers (mostly primary school teachers (51%)) explained that in addition to in-person events they communicated with parents using various messenger applications (for instance, *Viber, WhatsApp, Facetime* etc.). They also stated that these messenger apps did not enable them to have expansive conversations (for instance, *to discuss some study-related issues, to raise some questions or to address any doubts*) but to maintain regular communications (for instance, *information-sharing*) which was rather convenient. As for parents, we should point out that 34% of them stated that even before the outbreak of the Covid-19 pandemic they found it very difficult to attend face-to-face teachers-parents meetings on a regular basis and the opportunity to communicate via messenger apps was the best choice. And after the outbreak of the Covid-19 pandemic 67% of general secondary schoolteachers stated that they started to organise virtual teachers-parents meeting on a regular basis using some video-conferencing platforms (for instance, *Webex, Google Meet* etc.), phone-based conversations for parents who did not have access to the high-speed Internet or proper computer equipment as well as distributing study-related information via e-mail. However, acknowledging the fact that at the very beginning virtual

teachers-parents meetings were time-consuming and confusing, 67% of general secondary schoolteachers confirmed that with the passing of time and with parents' help and their willingness to support both their children and teachers such a mechanism for interaction was improved. It should be noted that in their replies to the sixth question 83% of parents reported that before the outbreak of the Covid-19 pandemic they underestimated the hard work of teachers and in most cases had taken everything for granted. After spending such a long period of time with their children at home and helping them coping with school curriculum, parents (83%) had to admit that the teachers-parents interactions played a very important role in establishing the best possible conditions for providing their children with quality distance and/or blended learning.

And the main aim of the seventh question was to find out if there had any positive developments regarding teachers-parents interactions amid distance and blended learning caused by the Covid-19 pandemic. The obtained results show that the transition to distance and/or blended learning was effective and rather painless for those general secondary schoolteachers (79%) who established well-organised interactions with parents prior to the outbreak the Covid-19 pandemic. And in most cases these were the primary and high school teachers. It also should be noted that for those general secondary schoolteachers who had to build communication with parents from the very beginning amid distance and/blended learning caused by the Covid-19 pandemic (21%) it took them more time and effort. Replying to this question, general secondary schoolteachers (79%) pointed out the format of communication between them and parents had changed (for instance, *the use of video-conferencing platforms, messenger applications and electronic mail etc.*) for better. 32% of general secondary schoolteachers reported that parents' willingness to support their children even helped parents enhance confidence between them. Parents (77%) stated that they welcomed the decision to use more technology for communicating with teachers.

So, the obtained results enable us to state that according to both general secondary schoolteachers and parents well-organised and systemic schoolteachers-parents interactions can create all the necessary conditions to provide children with continuous education in the home and not to lower its quality amid distance and/or blended learning caused by the Covid-19 pandemic.

Conclusions and Findings

In conclusion, the team of researchers identified and substantiated the system of psychological and didactic tasks that are to be solved for harmonising further schoolteachers-parents interactions amid distance and blended learning caused by the Covid-19 pandemic:

1. To establish different mechanisms (to devise various strategies) for regular teachers-parents interactions amid distance and/or blended learning caused by the Covid-19 pandemic taking into account preferable communication styles both for teachers and parents (virtual teachers-parents meetings via videoconferencing platforms, communication via e-mail and/or via messenger apps, face-to-face teachers-parents meetings etc.). It means that teachers-parents interactions cannot be limited to one communication strategy only. Moreover, for providing schoolchildren with more support at home, both school administration and general secondary schoolteachers should consider additional ways of communicating with parents who show less engagement in children's education.
2. To implement various "teachers-schoolchildren-parents", "teachers-parents", "parents-children" types of study-related and extracurricular activities throughout the school year to increase parents' motivation to get involved in their children's education.
3. To provide parents with information (by means of webinars, online workshops or video-lessons) on effective online teaching and learning methods considering schoolchildren's individual (age-related) differences.
4. To give parents opportunities to provide feedback related to effective or, in the alternative, ineffective approaches, methods and techniques to improve online instruction amid distance and/or blended learning caused by the Covid-19 pandemic.
5. To provide opportunities for parents to get to know about formative and summative assessment methods used in distance and/or blended learning caused by the Covid-19 pandemic and how to engage schoolchildren in self-assessment
6. To support the physical and emotional well-being of both teachers and parents during the Covid-19 pandemic (for instance, to organize online and/or face-to-face teachers-parents discussions on how to react to stressful events related to schoolchildren's reluctance to learn online or on how to cope with study-related changes caused by the Covid-19 pandemic etc.).

Moreover, the researchers do believe that the existing theoretical and methodological foundations for organising and providing the educational process at the stage of general secondary education are to be radically reviewed. Taking into account the fact that the spectrum of pressing issues concerning the delivery of subject-matter knowledge and lifelong skills at all levels of education, further research regarding teachers-parents interactions is needed to investigate parents' opinions, on the one hand, and, on the other hand, general secondary schoolteachers' opinions depending on school level.

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DIFFERENTIATION IN HETEROGENEOUS FOREIGN LANGUAGE CLASSES

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Abstract. *The article covers the issue of how to teach foreign languages most effectively in heterogeneous classes. Such classes have occurred in most schools and classrooms in recent years. There is an exploration of the latest pedagogical literature and research of the developments and practices in differentiation for mixed classes reviewed in the article. In addition to the theoretical analysis of the literature, practical recommendations from meta-analysis studies and pedagogical specialists are provided. The practical suggestions cover the subsequent steps (e.g., pre-assessment of the students, diversity of the content in the classroom, different learning methods, differentiating of learning outcomes, etc.), that should be implemented in heterogeneous class groups in order to maximize the effectiveness of learning of a foreign language, but the practical approach will be reviewed more widely on the further articles. The article also covers research-based information about the barriers in foreign language teaching to find the solution to the addressed issues. As the respective barriers, the following are named – lack of specific teacher education regarding the mentioned matters and lack of implementing the particular methods in mixed ability groups.*

Keywords: *differentiation, foreign language learning, heterogeneous foreign language classes.*

Introduction

Today, students in classrooms across the country continue to become more diversified and multiethnic. Similarly, teacher recognition has been drawn to different learners and inclusive educational practices. Differentiated instruction is an instructional framework that helps students to master outcomes in a variety of ways (Sun, 2021). Differentiated instruction, as opposed to whole-class or one-size-fits-all teaching, appreciates and values classroom differences to obtain educational objectives and personal growth through the use of multiple teaching programs and techniques tailored to students' requirements. Although previous studies have shown that differentiation has a beneficial impact, Kamarulzaman et al. (2017) believe that more research on the deployment of differentiated instruction or classroom management procedures, particularly in English language classrooms with gifted children, is required.

Methodology

The research aims to explore and determine the effectiveness of differentiation in heterogeneous foreign language classes by heterogeneity meaning different types of mixed abilities in one class. Specifically, it explores and answers the following questions: what steps should be implemented to heterogeneous class groups to make the learning of foreign languages more effective? What are the challenges connected to foreign language teaching, including mitigation measures? The research method involves a literature review where specific search terms like heterogeneity, mixed-ability classes, differentiation, and foreign language learning, will be used to explore databases like Google Scholar or EMBASE to search for peer-reviewed articles on the topic. This method is selected to help identify relevant studies on differentiation in mixed classes. It uses explicit approaches to recognize that which can be reliably said based on evidence (Torres-Carrión et al., 2018). The approaches are explicit and systematic to produce different and reliable outcomes. The selection of the article will be based on a given inclusion and exclusion criteria to enhance the reliability, relevance, and credibility of the research outcomes.

Literature Review

Despite making significant efforts suggested by published research, Suter (2021), Smale-Jacobse et al. (2019) in introducing methodologies and divulging the results on learners' achievement, differentiation persists among classroom teachers, perplexing instructors due to inappropriate deployment. Differentiated instruction, by description, is guidance intended to support individual learners' knowledge acquisition in a classroom setting with students from various backgrounds and with unique requirements (Tomlinson, 2001) or as highlighted by Baumgart (2009): "That students in one class do not do the same things with the same speed in the same way at the same time." OECD sees differentiation as "means building instruction from students' passions and capacities, helping students personalise their learning and assessments in ways that foster engagement and talents, and encouraging students to be ingenious" (OECD, 2018). As a result, the same overall principles governing differentiated instructional strategies for native speakers also apply to foreign language learners.

Five elements merit teachers' recognition and consideration when implementing differentiated instruction: material, methodology, product, impact, and educational environment. Three principles underlying these five dimensions are readiness, involvement, and learning profile. First, the educational content should be engaging and accommodate the various needs of students (Suprayogi et al., 2017). The appropriateness of educational content is determined by students' varying proficiency levels, student interests, and styles and strategies for

acquiring knowledge. Second, the process of learning, including skills and knowledge improvement, is linked to students' early educational styles, allowing for various instructional methods and speeds of knowledge acquisition (Suprayogi et al., 2017). Third, the product of studying, which is strongly connected to the assessment process, legitimizes the variety and options available in terms of educational outcome presentation methods. Fourth, interactions, cooperation, and communication between teachers and students are essential to meet the diverse emotive needs of students because these personal and social practices contribute to compassionate and dynamic connections and a supportive learning environment (Suprayogi et al., 2017). Finally, the cultural and psychosocial school environments should be inclusive and student-oriented to people with various personal interests and behavioral patterns. Effective implementation of differentiated instruction requires incorporating these five components supported by the three factors. This requires an integrated framework that considers inclusive rather than separate implementation and consideration.

Parallel to the increasing popularity of studies into the advantages of differentiated instruction; several inquiries have investigated the problems and obstacles of differentiated instruction implementation. A significant portion of the studies on this subject observes a misalignment between teachers' knowledge and understanding of differentiated instruction and their fundamental approaches to teaching. Manivannan (2020) published the results of a systematic review into twelve separate studies covering a vast geographical context. This study established that teachers still have a knowledge gap, whereas differentiated instruction had an almost negligible effect on student success. This knowledge gap is the reason for poor implementation and success rates for differentiated instruction. Contributing factors for the discrepancy range from a lack of relevant teacher preparation to inadequate pre-teacher training. A study by Brevik et al. (2018) featuring Norwegian high school students indicates a lack of teacher training targeted to implement differentiated instruction.

Developments in Differentiation for Mixed Classes

The development of differentiated instruction frameworks for Foreign Language Teaching in mixed ability classes has been documented for the more significant part of two decades. However, there has been much debate about establishing the correct foreign language learner substance, guidance, and evaluation (Spanou & Zafiri, 2019). As schools and teachers wrestled with this problem, it became clear that instructional equalization can only be accomplished if foreign language learners have access to the same academic subject matter as native language speakers. According to Pourdana and Shahpouri (2017), the most effective way to accomplish that objective would be through differentiated instruction that considers learners' English language proficiency and the

numerous other factors influencing learning. These factors include ability and learning disabilities.

According to Kotob and Ali Abadi (2019), academic outcomes show improvement after the instructional intervention was implemented in the experiment group; as anticipated, this effect is much more pronounced among low achievers than high achievers, as it guaranteed tremendous success growth in this group. After implementing the differentiated instructional methodology, low achievers' outcomes improved to a top standard, but differentiated instruction had less impact on top students because their success was already high (Siam & Al-Natour, 2016). This demonstrates that direct instruction works the best for low-achieving students because it allows them access to more focused attention. As a result, they improved or increased their academic success compared to their more advanced peers. This result underscores the efficiency of differentiated instruction methods in improving performance outcomes for learners, particularly among low-achievers (Siam & Al-Natour, 2016). As a result, the academic success of low achievers saw significant improvements among learners of the English language, ensuring a considerable change for the learners within a mixed ability class. Furthermore, differentiated instruction produces the best outcomes in a mixed ability class with various abilities (Smyth, 2018). As a result of the improved post-test scores, differentiated instruction proved successful.

As a way to get around their shortcomings, poorly prepared teachers in mixed-ability classes may tend to favor classroom instruction in rhythm with either the fastest or slowest learner (Tomlinson, 2017). This guarantees that whereas one of the sides in this divide enjoys being taught at a comfortable pace, the other has to deal with constant frustrations throughout the teaching-learning process. Given that one of the main duties of all teaching staff is to make sure that a significant proportion of their class masters the curriculum, classes should differ significantly: rather than trying to encourage the entire class to study and understand in the same fashion and to perform similar tasks, educators should give them the freedom to operate on different processes and projects (Spanou & Zafiri, 2019). One-size-fits-all guidelines risk leaving some of the class behind in the classroom context. When implemented in mixed-ability classrooms, these methods are also inefficient (De Neve & Devos, 2017). This results from underlying educational needs and learning impairments not being addressed.

Practices in Differentiation for Foreign Language Learning

Mixed ability or heterogeneous classrooms are composed of students with varying skill or learning proficiency levels. Such concepts are misleading because homogeneous classes cannot exist when no two learners are alike (Kotob & Ali Abadi, 2019). Consequently, learners in so-called heterogeneous classrooms may diverge in various ways. For example, they may respond differently to particular

methodologies of pedagogy and instructional techniques (Lunsford, 2017). They also have varying or present different opportunities and challenges. As a result, such considerations are only present in classrooms with diverse learners. There seem to be no classrooms with two learners who are identical in every way (Blaz, 2016).

Furthermore, mixed-ability classrooms are observed in every institution, where learners come from varying cultural backgrounds and have various background knowledge or competencies, confirming what was previously stated that students are not necessarily comparable according to Kotob and Ali Abadi in 2019. So, for individual students to learn and develop, teaching staff should facilitate them to work following their strengths by directing them in the proper direction. As a result, barriers to learning may be removed by directing and assisting them in developing their strengths.

According to Blaz (2016), the central objective for differentiated instruction classrooms is to provide equity in learning opportunities that create a difference for each learner. These opportunities are designed to account for differences in how students learn to provide equal access to the specific course material (Lunsford, 2017). Material may be adapted for learners who need more training with key aspects before progressing onwards; nevertheless, it is expected that changes in other factors will ultimately enable all learners to practice the same essential elements. It is critical to understand that differentiated instruction is an educational approach, not just a combination of strategies or tasks (Ginja & Chen, 2020). Effective differentiation necessitates the appropriate evaluation of students' requirements and careful consideration to designing an instructional strategy to achieve those goals. Teachers need to have a wide range of instructional strategies informed by inquiry at their disposal. However, they are required to come up with novel and innovative ideas to accommodate the specific requirements of each learner.

Barriers in Foreign Language Teaching in Differentiated Mixed-Ability Classes

Empirical studies show that differentiated instructions are not often offered in heterogeneous classes (Vock & Gronostaj, 2017). Also results of TALIS 2018 show that teachers who feel “well” or “very well” teaching in mixed ability settings are only close to 45% and there is a need to prepare teachers better for diversity and inclusion (OECD, 2020). The study reveals that teachers' beliefs of differentiation positively impact teachers' differentiating lessons (Warwas et al., 2011). Also, it is demonstrated in the study of Reuker and Künzell (2021) that diagnostic solid skills are as important prerequisites for differentiation.

One of the most significant barriers in differentiated instruction classrooms is a lack of depth of knowledge of multiple learning and instruction methods.

Despite their instruction and preparedness, teachers sometimes lack knowledge depth when it comes to methods of teaching and learning that apply to particular scenarios (Naka, 2017). Effective inclusion in the classroom depends on ensuring that teachers possess the right set of skills and knowledge to do so (UNSECO 2020). Taylors (2017) study revealed that teachers in differentiated instruction classrooms often lack the skill required to identify the learning needs of their students. This is coupled with an inability to modify the curriculum and instructional approaches to fit the specific learning needs of these students (Deunk et al., 2018). Additionally, a lack of knowledge of differentiated frameworks impedes the ability of these processes to succeed.

Also, teacher evaluation is crucial to promoting the quality of learning in the classroom. However, across countries, there are still equity and inclusion concerns in teacher evaluations that can disproportionately affect diverse teacher groups due to, among others, evaluation biases and mechanisms tied to student performance (Brussino, 2021). Evaluating teacher competencies and performance concerning inclusive teaching is key to promoting inclusive classroom environments for all. Teacher evaluations have two main components, improvement and accountability functions, aiming at improving teaching practices and making teachers accountable for their performance (Santiago & Benavides, 2009). As discussed above, there is a need for more solid teacher preparation for diversity and inclusion. Still, it is essential to underline that teachers often struggle or resist broadening their knowledge and changing their practices, especially in the area of diversity (Gay, 2013). Andreas Schleicher states that changing teachers' self-belief can represent the most critical leverage for change in education while often being one of the most challenging to achieve (Schleicher, 2020).

Literature also reveals that this lack of expertise affects the teachers' confidence when required to play a role in differentiated frameworks (Chien, 2015; Lunsford, 2017). As a result, their inspiration and self-assurance are impeded to the point where they oppose differentiation in their lessons for fear of losing control of the instructional setting. However, other studies negate this assertion and consider lack of knowledge insignificant. For example, Aldossari (2018), who conducted a study with similar objectives, observed that while educators in the Kingdom of Saudi Arabia stated that an insufficient knowledge on differentiated instruction was a concern, the report's statistics indicate that it was a minor issue when contrasted to other hurdles.

Due to complications, learners also present a significant barrier to differentiated instruction frameworks and implementation. Diverse classrooms offer a range of student challenges, including wide varieties of educational needs, lack of preparedness, and poor discipline (Aldossari, 2018). The success of differentiated instruction initiatives is heavily dependent on the intrinsic motivation and discipline of the students. This is precisely due to the importance

of group work and collaboration as a factor in differentiated instruction. Another key contributor to differentiated instruction success is student commitment to the process. According to Aldossari (2018), teachers encounter a significant challenge when learners are not aware of the significance and importance of differentiated instruction. The study also speculates that this comes about due to students being committed to traditional approaches and opposed to change. Attending to learners' needs in educational settings, on the other hand, boosts their self-assurance, which generates a zeal for learners to contribute or engage in the learning process.

More recent approaches to differentiation necessitate honoring critical teaching principles and a foundation of quality curriculum. An instructor should know what every learner needs to learn, understand, and be prepared to do at the end of the module when implementing specifications while developing and preparing instruction (Park & Datnow, 2017). The teacher is aware of learners' differences that impact their ability to understand the module and expands on these distinctions, improving the module's material, the diverse ways students handle the material, and the different products they generate to exemplify what they have understood. A pre-test or quiz, for instance, can be administered to assess existing knowledge of the material, student reflection can be analysed to determine obstacles and barriers, past exam results can also be used to evaluate improvement and preparedness levels, a multiple intelligences review can be used to assess different instructional profiles, or an inventory can be made to determine preferences (Tobin & Tippett, 2013). Differentiated instruction aims to improve students' learning by striking a balance between student-centered and instructor-led school systems, supplying opportunities for learners to work in various formats, working to develop instruction around the benchmarks and the "big picture" principle of the module, creating complex, demanding and considerate projects for all, and satisfying curriculum requirements and needs while optimizing student progress and individuality (Tobin & Tippett, 2013). Differentiation is supported by solid research. It places students' educational needs at the core of instructional strategies.

Recent studies by Naka (2018), Latkovska, and Zustrupa (2020) into the development, roll-out and results of differentiated instruction methodologies in heterogeneous classrooms have presented promising results. Most literature has established that the framework results in better achievements for low achievers and a moderate to negligible impact on high achievers. This observation is correlated to the fact that whereas high achievers can operate in less suitable environments, low achievers benefit more from targeted practices (Blaz, 2016). Foreign language learning, in particular, has benefited from the implementation of differentiated approaches, according to study observations from studies in these settings (Naka, 2017). However, the success of this implementation faces challenges from both teachers and students and established instructional practices.

According to Kotob and Ali Abadi (2019), no two learners are precisely similar, and this puts a strain on educators as they seek to create personalized educational strategies for learners.

Recommendations for implementing the Differentiated Instructions in the classroom

To give practical recommendations on how to implement the differentiated instructions in real classrooms, the following suggestions can be mentioned:

1. It is essential to determine the most appropriate level for the teaching of a foreign language.
2. The written and oral pre-assessment of the students shall take place to find out the learning style of the student.
3. Once the teacher has obtained complete information about the students in their class, the teacher's task is to offer all the students the content so that they can improve and learn according to the student's individual needs. Therefore, the teacher needs to know which are the most effective teaching methods that might deliver the best results in learning. Several focused studies measure the most effective teaching methods (e.g., Hattie, 2009), and it is worth taking a deeper look at these studies.
4. Bloom Taxonomy (1956) and Solo Taxonomy (Biggs & Kollins, 1982) allow the teacher to mark activities for students, ask questions, and search for answers considering the level of complexity; thus, providing students with broader and higher-level thinking challenges. The use of Bloom's and Solo taxonomies in preparing differentiated teaching materials is the key to success. A teacher can ensure the involvement and development of students of all abilities in the learning process.
5. Teachers shall pay attention to support through the learning environment.
6. Also, the monitoring of the student's results (e.g., summative and formative assessment) renders a significant impact on the results of the students (e.g., Hattie 2009).

Conclusions

The research confirms that differentiated instruction classrooms offer to learn equity and avenues that differentiate every learner. The learning avenues are structured to consider student learning variations, thus providing equal access to specific course material. Also, it is confirmed that differentiated instruction contributes to improved results in a mixed ability class with different capacities. Consequently, the enhanced post-test scores proved successful for differentiated

instruction. One of the main challenges experienced in implementing differentiated instruction classrooms is the lack of in-depth know-how of several methods of learning and teaching by teachers.

Therefore, further studies are needed to explore specific methods how to implement differentiated instruction in heterogeneous classrooms.

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WORKING MEMORY IN THE PROCESS OF TEACHING SONGS

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Abstract. *The control processes and mnemonic strategies used in working memory are important both in the general learning process and in the music learning process. In the acquisition of music, the working memory determines the formation of auditory notions, which is an essential dimension in the development of musicality. Its qualitative indicators are (1) accuracy - accurate perception and reproduction of memorized music material; (2) persistence - duration of remembrance. Therefore, it is pedagogically important to improve it at the primary school age, because working memory forms the basis for creating more complex conceptual content constructions both in music and in other fields. The aim of the research is to promote the development of working memory in the process of teaching songs. In order to achieve the goal of the research, a song teaching strategy for the development of working memory has been developed, a pedagogical observation of the music learning process for a duration of three years at the primary school level has been performed, and the obtained data have been analysed using descriptive statistics. The sample of the study consists of 200 primary school students. The data obtained in the article allow us to conclude that the purposefulness and regularity with which the chosen exercises are used, the quality of music perception and attention, and musical thinking all contribute to the development of musical memory in primary school music education. The relationship between song acquisition and working memory described in this publication expands the understanding of music educators and helps them improve their professional skills.*

Keywords: *music pedagogy, song teaching strategies, working memory.*

Introduction

Research on working memory in education is becoming an increasingly important field of research, including in music education. The results of studies confirming that music education is associated with improved work memory also continue to grow (Yurgil, Velasquez, Winston, Reichma, & Colombo, 2020). Music pedagogy increasingly emphasizes not only the importance of playing the instrument physically or using a voice device (skills), but also the importance of the processes that take place in the mind (Muceniece, Medne, & Gintere, 2020). Musical memory in the process of cognition, in unity with the perception and thinking of music, are identified as the main components in the study of music, which determine the musical activity of the composer, performer, and listener.

These components are also crucial in the music learning process. Therefore, it is considered that both performers and listeners need a high level of working memory for any musical activity (Pozenatto, 2020). Working memory is an essential component in the process of listening to music, making music and improvising, as it promotes the assimilation of the means of musical expression - melody, rhythm, texture, dynamics, tempo, etc. - in the process of music perception and performance (Pozenatto, 2020). For example, when singing songs, it would not be possible to play a melody after hearing it if the musical impressions were not perceived and stored in memory. While listening to music, working memory is directly related to the identification of tonal, harmonic, and rhythmic relationships that make any fragment of music understandable. Working memory uses the accumulated information and provides the selection of the necessary information to perform a musical activity (Vilde & Medne, 2014). The control processes and mnemonic strategies used in working memory are important both in the learning process in general and in the music learning process. In learning music, the working memory determines the formation of auditory notions, which is an essential dimension in the development of musicality. Therefore, it is important for both musicians and music educators to know the specifics of working memory and related processes, as well as techniques for improving this cognitive process in the pedagogical process, in order to use appropriate teaching strategies.

It is emphasized that not only musical experience, but also age, is an important variable in terms of working memory. The earlier education in music, the more sustainable the results are (Pozenatto, 2020). In order to promote this in practice, the issue of the relationship between the dimensions of individual development and social factors is raised, where the quality is determined by the experience of subjective acquisition of both things and social situations (Medne, 2019). At the primary stage, the aim of the music subject is to promote the development of students' musical abilities and skills, to acquire the skills necessary for creative musical activity, and to gain musical experience through individual, group, and collective music. Singing is one of the basic activities in music lessons at the primary school stage, and teaching a song after hearing it is a method of learning singing skills based on the ability to perceive, memorize, store the melody in memory, and reproduce it according to the real object – the song.

Therefore, it is pedagogically important to improve it at the primary school age, because working memory forms the basis for creating more complex conceptual content constructions both in music and in other fields. The aim of the study is to identify the development of working memory in the process of teaching a song. The aim of the study is to identify the development of working memory through song teaching by ear strategy.

Working memory in music pedagogy

The ways in which the brain processes perceived information and how an understanding of the image, melody, and rhythm of music is formed is consistent as information is processed in other areas, especially in the perception of language (Patel, 2010; Snyder, 2016). Musical memory ensures memorization, preservation, recall of the perceived musical image, means of expression and musical thought created in consciousness and reproduction of musical material (Vilde, 2013). Musical memory is a condition of human contact with music, because in order to understand the meaning of music, it is necessary to preserve the characteristics of sounds, harmony, melody and their characteristic intonations and changes in the flow of music (Sloboda, Lehmann & Woody, 2007). Musical memory captures not only the sound of music, but also the essence of human experiences, separating them or merging them with the image created by music (Juslin & Sloboda, 2011), integrates musical impressions, as well as the ways and techniques of their formation (Snyder, 2016). Understanding the types of musical memory can make it more effective to apply appropriate learning strategies and exercise tasks in the music learning process. Musical memory is divided into three types by the duration of information retention: short-term, working, and long-term memory. Working memory is based on both short-term memory information and activates long-term memory reserves (Vedins, 2011). Working memory helps to understand and intonate sounds. Its processes allow you to understand the content of music and the logic of its development, while allowing the body to physically perform the appropriate movements necessary for making sound using a musical instrument or voice apparatus. By repeating similar processes of working memory, certain skills can be improved, which is the result of storing information in long-term memory (Pozenatto, 2020). The main function of working memory is to create and preserve a musical image (wholeness) in the perception and performance of music. Without it, it is impossible to understand and intonate sounds. The image of music stored in the working memory also includes the psychological essence of understanding and experiencing music. For most people, the minimum unit of musical memory is a motif, and the maximum is a number of motifs or phrases. For musicians, the minimum and maximum size of the operative unit is much wider and can cover not only long melodies, but also detailed multi-layered music fragments. The amount of memory units can be influenced by the composer's level of mastery of the music language as well as the composition's stylistics (Startheus, 2003). Thus, it can be concluded that the image of music stored in the working memory also includes the psychological essence of understanding and experiencing music. Working memory participates in the process of learning music material from a long-term perspective, so it is essential in the process of learning a song. In singing, working memory is expressed in the ability to reflect the height of the perceived sounds and rhythmic

movements in the consciousness, the ability to detect changes and the logic of development, as well as the ability to reproduce the melody of a song (Vilde, 2013). Thus, when making music, working memory processes allow us to assimilate the concepts of music (dynamics, height, rhythm, texture, and tempo).

The development of musical memory is significantly influenced by the student's level of music perception and musical thinking, the quality of memory training, as well as the musical experience that arises from making music, composing, listening to and analysing music (Vilde & Medne, 2014). Working on the perception of the melody and analysis of the song, which includes the identification of the direction, characteristic intonation, and rhythmic movements of the melody, promotes the accurate perception and conscious memorization of the melody of the song. Therefore, musical memory is developing simultaneously with musical hearing, perception, and thinking, which helps to listen to and analyse what is heard, allows us to perceive music emotionally and intellectually.

In order to promote the improvement of working memory in music teaching, a strategy for teaching song by ear has been developed, which includes the activities of a music teacher and a student, reflecting the interaction between teaching and learning songs (Figure 1).

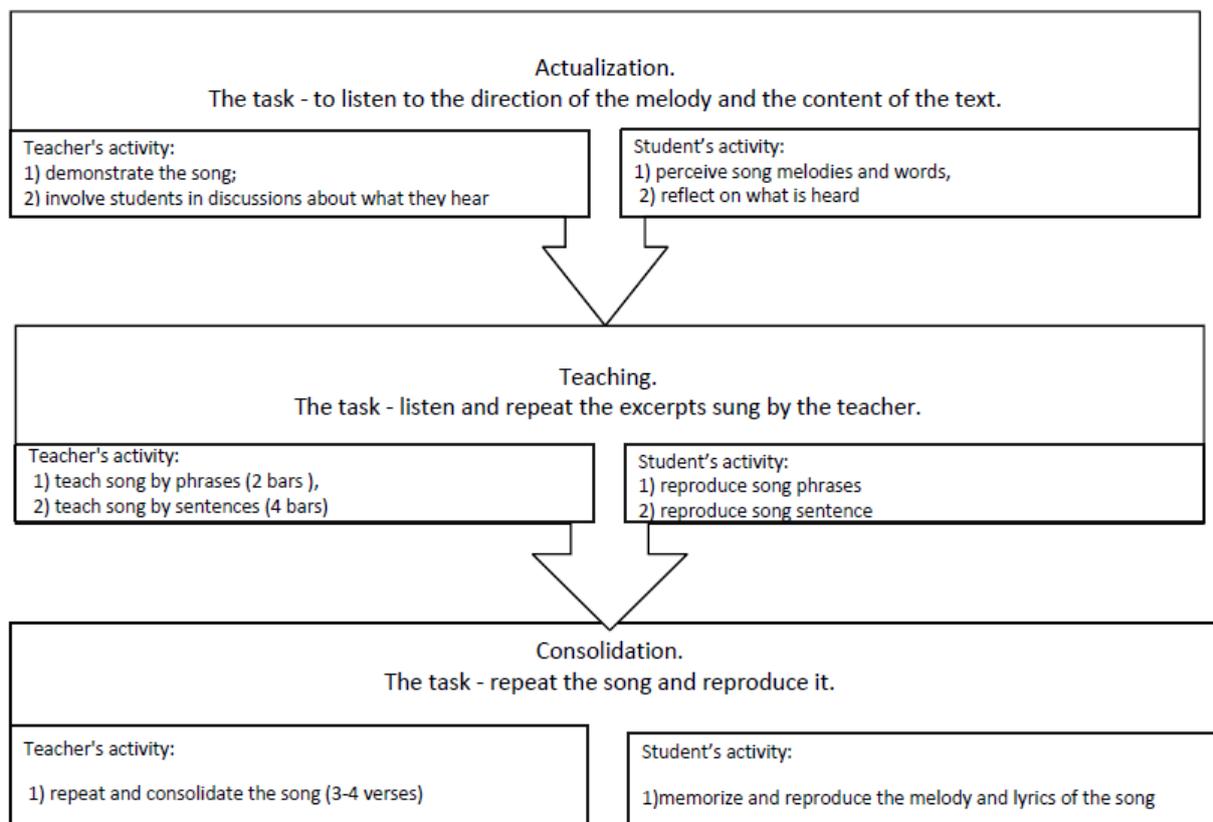


Figure 1 Song teaching by ear strategy (Compiled by the authors)

This strategy is based on a cognitive activation approach and involves three steps: (1) task-based learning promotes students' ability to focus on the content of

a particular activity; (2) teaching - involves teaching the song in stages - phrases and broader structures / sentences, using voice - echo techniques to determine the accuracy and extent of working memory; (3) consolidation involves the repetition and reproduction of the song in its entirety (with 3 or 4 verses) to determine the persistence of the working memory.

Organization of empirical research and substantiation of methods

The research was conducted in a school that implements the General Basic Education program, and music lessons in primary school take place twice a week. The study involved 200 respondents who, at the beginning of this research studied in grades 2 and 3 and at the end of this research were in grades 4 and 5. Such a group of respondents has been chosen according to musical working memory function, namely, that they form the basis for the development of more complex concepts, which are important both in music teaching and in the educational process in general. The study was conducted in accordance with research ethics: informed consent was obtained from the parents of all minor students.

Method: Pedagogical observation was identified as the most appropriate method to achieve the goal of the study. In this study, a structured observation methods (here - observational protocols) were chosen for the implementation of the research, which is characterized by an intensive preparation period when systematic observation maps corresponding to the research questions are developed. Observations are the best way to obtain first hand data (Creswell, 2014). The observation method in this study design included (1) the identification and leveling of the observation criteria, (2) and the assessment of the adequacy and reliability of the evaluation criteria, (3) the observation procedure. The observation was performed by an expert teacher (n=1) and students - future music teachers (n=6), self-assessment was performed by the pupils themselves (n=200). The person being studied (pupils) was also chosen as an observer. Because the musician is best able to feel and describe changes in his musical performance such a method of data acquisition is justified (Muceniece, Medne, & Gintere, 2020).

Observation criteria: In order to determine the level of development of working memory, the dynamics of development, and the amount of learning in music education, according to the explanation of skills acquisition levels in secondary education, five levels were determined, which are formed by the scale of headings (Table 1). To determine the amount of working memory, three criteria were chosen, which were determined using a hierarchy in terms of the amount of memory - from shorter, narrower to longer, wider constructions: 1. receives and repeats song phrases (approximately 2 bars), 2. perceives and repeats broader structures, i.e. the sentence of a song (approximately 4 bars), 3. sings a song memorized by heart. The students sang the song they learned during the data collection process in the next lesson.

Table 1 Criteria and levels of musical memory development (Compiled by the authors)

1. Perceives and repeats short phrases	Level 1 - Very poor perception and repetition of short phrases Level 2 - Poor perception and repetition of short phrases Level 3 - Moderate perception and repetition of short phrases Level 4 - Good perception and repetition of short phrases Level 5 - Excellent perception and repetition of short phrases
2. Perceives and repeats music material of a larger structure (4–8 bars)	Level 1 - Very poor perception and repetition of larger structures (4–8 bars) Level 2 - Poor perception and repetition of larger structures (4–8 bars) Level 3 - Moderate perception and repetition of larger structures (4–8 bars) Level 4 - Good perception and repetition of larger structures (4–8 bars) Level 5 - Excellent perception and repetition of larger structures (4–8 bars)
3. Sings a song by heart	Level 1 - Very poor singing of folk songs by heart Level 2 - Poor singing of folk songs by heart Level 3 - Moderate singing of folk songs by heart Level 4 - Good singing of folk songs by heart Level 5 - Excellent singing of folk songs by heart

Six independent experts (music teachers) were involved in testing the reliability of the observation criteria and their levels. The reliability of the evaluation tool was tested using the Cronbach's alpha coefficient. The reliability of the tool was evaluated for each criterion separately to determine whether the criteria and their levels are mutually consistent, and whether the evaluation tool provides reliable information. The evaluation tool's reliability in each section was good, the answers were mutually consistent, and the Cronbach's alpha test showed good reliability ($\alpha \geq 0.87$ and $\alpha \geq 0.87$). The reaction index of the articles and the limits of the reaction index were then calculated, which had to be in the range from -1.20 to 1.20. Evaluating the article response index, it is concluded that 13 of the 15 article response indices vary within the response index from -1.18 to 1.20 and should be included in the instrument. The discrimination index and article discrimination indices within the scales were also calculated. It was concluded that all criteria fall within the range of the discrimination index from 0.25 to 0.76 ($M = 0.55$). Assuming that the lower limit of the discrimination index is 0.20 and the upper limit is 0.80, and that all articles must fall within these limits, it can be concluded that all articles are relevant to the measurand. Analysing the result of the discrimination index within the scales, it can be concluded that in both scales, both the criteria and the levels fall within the desired range of the discrimination index from the lowest 0.20 to the highest 0.80.

Procedure. In order to evaluate the students' working memory in the music lesson, measurements were taken: at the beginning of the school year (starting the study, data code SMA), at the end of the semester (mid-term assessment, VMA), at the end of the school year (final assessment, BVA). The set of pedagogical

techniques for the development of working memory consisted of: (1) teaching the song by ear, using the developed song teaching strategy. The song was taught in stages, i.e. in the amount of a phrase (two bars) and a sentence (4 bars and more), using the voice-echo technique; (2) voice-echo exercises in singing, playing, and rhythm by ear and memory that promote pitch and rhythm accuracy, as well as duration of retention, without the use of sheet music, and (3) memory expansion exercises that promote the memorization and retention of perceived music over a long period of time through multiple repetitions, pitch, and rhythm enhancement, involving respondents in the analysis of music to determine melody direction, intonation, and rhythm structures. Descriptive statistics were used for data analysis, Friedman test.

Results

Evaluating the results of all stages of the study (Figure 2), it can be concluded that already in the first stage students' working memory is assessed at a high level (levels 4 and 5), thus it can be stated that respondents have a sufficiently developed ability to perceive and reproduce short phrases. These results can be explained by the fact that the respondents had good previous musical education (both pre-school and first grade). On the other hand, the ability to remember and repeat the longest structures (4-8 bars) and sing the learned song caused difficulties for the respondents, because many of the respondents sang with intonational and rhythmic errors. Often, a phrase of a longer structure was repeated with sufficient precision only after repeated demonstrations by the teacher. In the second stage, the amount of working memory for the respondents has expanded, because when comparing the levels with the results of the first stage of the study - the ability to repeat larger structures (4-8 bars) and sing the song learned by heart, there is a significant increase in the number of students with levels 4 and 5. The results of the third stage of the empirical study reflect (Figure 4) that levels 4 and 5 predominate. This shows that the working memory of the respondents develops evenly and in a balanced way. Significant development dynamics was found in the ability of respondents to perceive and repeat short phrases, where the highest percentage of evaluations came from level 5. Singing songs by heart - most of the respondents showed levels 4 and 5. In practice, it could be observed that the respondents remembered the song they had learned quite accurately - both melody and words.

According to the results of the Friedman Test, it can be concluded that the most significant differences between all stages of the empirical study can be identified; this is indicated by the coefficient - significance $p = 0.00$ in all indicators. Thus, the results of the research allow us to conclude that the working memory of the respondents has developed in the music learning process and that the pedagogical methods used are effective for improving working memory.

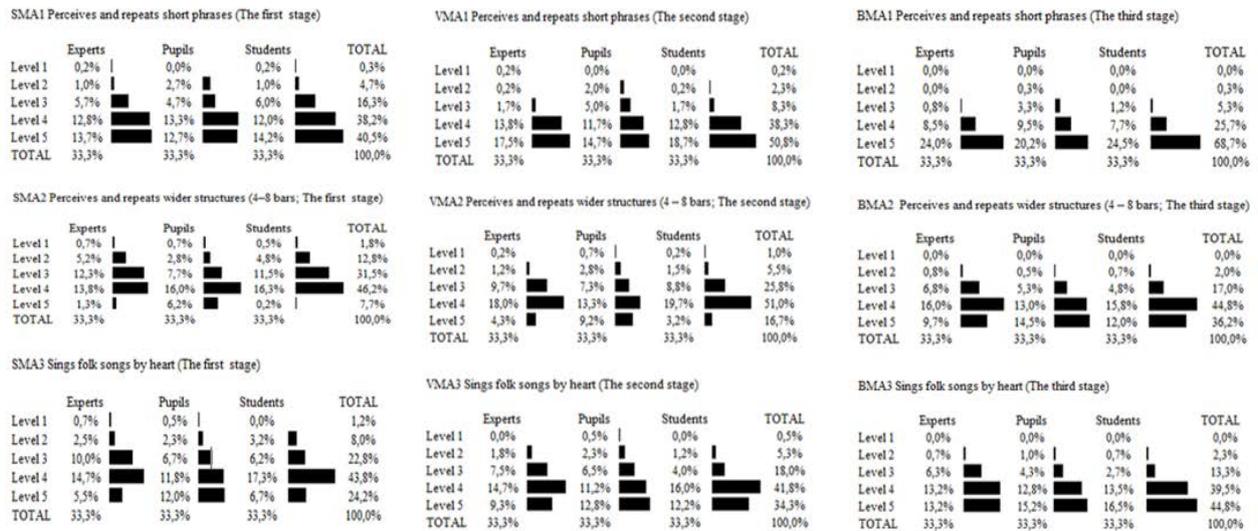


Figure 2 Measurement results of the research stages (Compiled by the authors)

Discussion and Conclusions

Music educators' understanding of working memory processes can facilitate the choice of effective learning strategies. One of them could be the use of a post-listening song teaching strategy, which consists of three steps: (1) actualization to promote students' ability to focus on the content of a particular activity through specific tasks, such as asking questions about the melody movement of the song being performed, the characteristic rhythm groups, and the content of the song's lyrics; (2) teaching, which includes the teaching of a song in stages - phrases and broader structures (4-8 bars), using the voice-echo technique; (3) consolidation, which involves repeating and reproducing the song in full (with three or four verses of the song). After mastering the song, it is recommended to encourage students to engage in creative activities such as composing or improvising the accompaniment of the song, using sound gestures or musical instruments.

The development of working memory was facilitated by the choice of exercise tasks appropriate to the level of education, the main functions of which were to listen to, memorize, preserve, and reproduce the musical material. In practice, it could be observed that the attention of the respondents is important in the performance of musical activity, the persistence of which is facilitated by various methodological techniques and changes in musical activities - singing, rhythmic using rhythm instruments, and sounding gestures. This conclusion is in line with the results of other studies, namely that an appropriate pedagogical process promotes changes in working memory capacity (Bergman Nutley, Darki, & Klingberg, 2014).

Although the study found correlations between the song teaching strategy and the increase in working memory at primary school age, the results of this

study are not generalizable and should be considered trends, as the study had significant limitations:

- the topic is not sufficiently known in the respective field,
- no industry-specific theoretical literature was found on working memory and its improvement for students in a general education school,
- the study did not take into account various side factors such as stress, health status, or music school attendance.

In search of answers to the discussion questions and expanding the boundaries of the research, the research could be continued to include the following dimensions of the research: firstly, by expanding the number of research participants; and secondly, by diversifying the research methods.

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SCHOOL STUDENTS' MOTIVATION FOR LEARNING PHYSICS: HOW DOES INSTRUCTIONAL CLARITY IN PHYSICS LESSONS ENGAGE?

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Abstract: *The article deals with the eighth-grade school students' motivation for learning physics. The spectrum of factors influencing the school students' motivation for learning physics is very wide. This study addresses the phenomenon of school students' motivation for learning physics in the light of an educational factor. We analyze the role of instructional clarity in physics lessons on school students' motivation for learning physics based on TIMSS 2019 data set of Lithuania and Finland. To disclose the influence of instructional clarity in physics lessons on school students' motivation for learning physics confirmatory factor analysis (CFA) and structural equation modelling (SEM) was used. The results of our research reveal that instructional clarity in physics lessons is directly and positively associated with school students' motivation for learning physics. SEM results disclosed not only significance but magnitudes of associations between instructional clarity in physics lessons and school students' motivation for learning physics as well.*

Keywords: instructional clarity in physics lesson, motivation for learning physics, school student.

Introduction

In the first decade of the 21st century, researchers were concerned about the motivation of students to study science “Yet in recent times fewer young people seem to be interested in science and technical subjects. Why is this?” (Osborne & Dillon, 2008). The motivation for learning science remains relevant for education policymakers and for researchers in the third decade of the 21st century (European Union, 2016; Lavonen et al., 2021).

Physics is one of the natural science subjects. School students regards physics as very difficult to learn, as a result, physics at school continuously loses importance (Fisher & Horstendal, 1997). Effective instructional behaviors are teaching styles or strategies that can motivate students to learn effectively (Chan et al., 2021). TIMSS 2019 provides an opportunity to explore the peculiarities of instructional clarity in physics lessons of different countries. Therefore, it is relevant to explore the instructional clarity in physics lessons and its links to students' motivation to learn physics.

The situation discussed highlights **the scientific problem**, which is formulated as a question: How does the instructional clarity in physics lessons relate to school students' motivation for learning physics? The study aims at contributing to this body of literature by analyzing the relationship between the instructional clarity in physics lessons and the motivation for learning physics of school students.

The purpose of the research is to reveal the relationship of instructional clarity in physics lessons and motivation for learning physics of school students' and to highlight the influence of instructional clarity on the motivation for learning physics.

Research methods. We performed secondary analysis of TIMSS 2019 data using confirmatory factor analysis (CFA) and structural equation modelling (SEM).

Literature review

In recent years, number of studies have been conducted to investigate ways to improve students' motivation. Many investigations have shown that teachers' instructional behaviors can affect students' perceived self-determination and learning outcomes (Núñez & León, 2019). Instructional behaviors of teachers encompass four components: instructional clarity, instructional support and feedback, instructional support for student autonomy, and instructional support for cooperative learning (Chan et al., 2021). Researchers analyzed the relationship between the perceived instructional behaviors of teacher educators and pre-service teachers' self-reported levels of learning motivation and found that teacher educators' instructional clarity have significant and positive influences on pre-service teachers' intrinsic learning motivation (Chan et al., 2021).

Instructional clarity of teachers is revealed through the ability of the teacher to explain course objectives and content, assignments clearly, explain how to do homework to explain concepts or new theories clearly (Bolkan et al., 2016; Chan et al., 2021; Simonds, 1997). Research has shown that instructional clarity, constructive feedback is positively associated with students' intrinsic learning motivation and subjective task value (Federici & Skaalvik, 2014; Lazarides et al., 2019; Roksa et al., 2017).

Yagan (2021) investigated the relationships between teachers' classroom management and instructional clarity skills, and students' mathematics achievement and revealed that teachers' instructional clarity and classroom management skills and students' attitudes towards mathematics increased, mathematics achievement also increased. Redish and Kuo (2015) states that there is a positive relation between Physics and Maths „we explore math as a language and consider the language of math in physics through the lens of cognitive linguistics.“ Very abstract content of physics based on math language is one of the reasons for reducing the school

students' interest in physics (Fisher & Horstendal, 1997). Effective instructional behavior, instructional clarity of physics teachers' is important in solving the problem with the school students' motivation for learning physics. Thus, we hypothesized: **H₁**. Instructional clarity in physics lessons will be positively associated with students' motivation for learning physics.

Methodology

Method of research. We performed secondary analysis of TIMSS 2019 data of two countries: Lithuania and Finland. To reveal the peculiarities of students' motivation to learn physics, we decided to choose countries being very similar in terms of students' achievements. According to Average Science Achievement and Scale Score Distributions of TIMSS 2019 Finland ranks sixth and Lithuania seventh places.

This research aimed to measure the impact of the instructional clarity in physics lessons on school students' motivation for learning physics. For this purpose, confirmatory factor analysis (CFA) and structural equation modelling (SEM) was used. CFA and SEM were performed using structural equation modelling software AMOS 17.

The instrument of the quantitative research. TIMSS 2019 context questionnaire items were developed to be combined into scales measuring a single underlying latent construct TIMSS 2019 *Instructional Clarity in Physics Lessons* scale at the eighth grade seeks to measure school students' perceptions about the clarity of instruction in their physics lessons based on their responses to seven statements (Table 1). For each of the seven statements, students were asked to indicate the degree of their agreement with the statement: agree a lot, agree a little, disagree a little, or disagree a lot. Cronbach's Alpha Reliability Coefficient of these items is sufficient and varies from .85 (Finland) to .91 (Lithuania).

Table 1 The questions from TIMSS 2019 about the instructional clarity in physics lessons (created by the author)

Code of question	Physics teachers' instructional activity
BSBP39A	I know what my teacher expects me to do
BSBP39B	My teacher is easy to understand
BSBP39C	My teacher has clear answers to my questions
BSBP39D	My teacher is good at explaining physics
BSBP39E	My teacher does a variety of things to help us learn
BSBP39F	My teacher links new lessons to what I already know
BSBP39G	My teacher explains a topic again when we don't understand

The *Students Like Learning Physics* scale encompasses nine items about motivation for learning physics (Table 2). Cronbach's Alpha Reliability Coefficient of these items shows good internal consistency of items: Cronbach's Alpha Reliability Coefficient .93 based on Lithuanian data and .86 based on Finnish data.

Table 2 The questions from TIMSS 2019 about the students like learning physics (created by the author)

Code of question	Items about the motivation for learning physics
BSBP38A	I enjoy learning physics
BSBP38B	I wish I did not have to study physics
BSBP38C	Physics is boring
BSBP38D	I learn many interesting things in physics
BSBP38E	I like physics
BSBP38F	I look forward to learning physics in school
BSBP38G	Physics teaches me how things in the world work
BSBP38H	I like to conduct physics experiments
BSBP38I	Physics is one of my favorite subjects

In the case of CFA and SEM analysis, it is important that normality condition is met.” We checked the normality of data including skewness and kurtosis, because TIMSS sample is large sized sample (e.g., $n > 300$). The data is normal if skewness is between -2 to +2 and kurtosis is between -7 to +7 (Byrne, 2010). The result of normality is desirable and can undermine CFA and SEM analyses (Table 3), (Table 4).

Table 3 Normality of motivation for learning physics data: asymmetry coefficients test (created by the author)

		BTBS								
		38A	38B	38C	38D	38E	38F	38G	38H	38I
LTU	Skewness	1.026	.953	.980	2.321	1.129	.454	2.052	1.998	.206
	Kurtosis	3.944	4.177	4.947	6.436	4.782	4.658	4.665	4.861	2.219
FIN	Skewness	1.650	1.391	1.848	2.202	1.767	1.362	2.348	1.784	1.002
	Kurtosis	6.039	6.248	6.290	6.660	6.709	5.070	6.128	5.331	6.580

Table 4 Normality of clarity in physics lessons data: asymmetry coefficients test (created by the author)

		BTBS							
		39A	39B	39C	39D	39E	39F	39G	39H
LTU	Skewness	1.749	1.761	2.025	2.396	2.083	2.182	2.009	1.749
	Kurtosis	6.890	6.819	6.713	6.240	5.717	5.972	6.829	4.890
FIN	Skewness	1.865	1.526	1.481	1.514	1.704	1.768	1.904	1.865
	Kurtosis	6.707	5.982	5.962	7.008	6.227	5.667	5.866	6.707

The sample and sampling. We used TIMSS 2019 survey databases. The TIMSS survey ensures the reliability and representativeness of the survey samples. We removed incomplete questionnaires from the Lithuanian and Finnish databases. In our study, the Lithuanian sample consisted of 1600 students, the Finnish - of 1100 students.

Results

This research aimed to measure the influence of the instructional clarity in physics lessons on the school students' motivation for learning physics. TIMSS 2019 context questionnaire on the instructional clarity in physics lessons and motivation for learning physics items were developed based on theoretical background and updated to be combined into scales measuring a latent construct: the Instructional Clarity in Physics Lessons (ICPH) and the Motivation for Learning Physics (MLPH) (Figure 1).

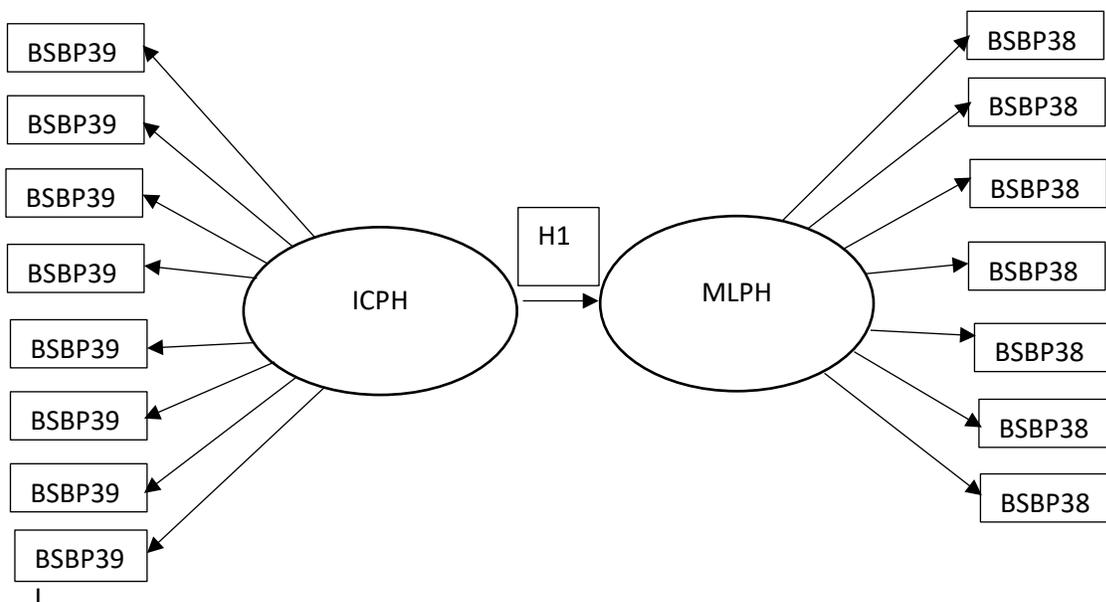


Figure 1 The theoretical model of the instructional clarity in physics lessons (ICPH) and students' motivation for learning physics (MLPH) (created by the author)

The measurement model fit the Lithuanian (LTU) and Finland (FIN) data well (Table 5). In our study **I**nstructional **C**larity in **P**hysics **L**essons (ICPH) latent variable is measured with seven observed variables (BTBP39A—BTBP39G), **M**otivation for **L**earning **P**hysics (MLPH) — variable with eight observed variables (BTBP38A—BTBP38I). The observed variables of both latent variables were measured by ordinal scale: a lot agree, agree a little, disagree a little, disagree.

Table 5 *The fitness of items of measurement model: the instructional clarity in physics lessons and motivation for learning physics (created by the author)*

	Absolute fit index			Relative fit index		
	χ^2/df	RMSEA	GFI	IFI	TLI	CFI
Assumed model (LTU)	4.212	.046	.969	.983	.973	.983
Assumed model (FIN)	4.233	.065	.945	.983	.974	.983
Acceptance value	1-5	<.08	>.80	>.90	>.90	>.90

We analyzed the latent variable (MLPH) by the unstandardized beta (B), the standard error for the unstandardized beta (S.E.), the standardized beta (β), and the probability value (p) (Table 6). The probability value (p) shows that accept two cases based on Finland data (I enjoy learning physics; I wish I did not have to study physics) observed variables are significant when predicting the dependent latent variable (MLPH) (Table 6).

Table 6 *Results of CFA: the latent construct is students' motivation for learning physics (MLPH) (created by the author)*

Country	Observed variable	B	β	S.E.	p label
LTU	I enjoy learning physics	1.000	.884	.031	***
	I wish I did not have to study physics	-.508	-.405	.029	***
	Physics is boring	-.479	-.403	.024	***
	I learn many interesting things in physics	.784	.705	.021	***
	I like physics	1.067	.885	.021	***
	I look forward to learning physics in school	.850	.793	.030	***
	Physics teaches me how things in the world work	.804	.756	.029	***
	I like to conduct physics experiments	1.002	.888	.020	***
FIN	I enjoy learning physics	.080	.933	.035	.023
	I wish I did not have to study physics	.072	.072	.038	.058
	Physics is boring	.944	.060	.021	***
	I learn many interesting things in physics	1.015	.864	.019	***
	I like physics	.957	.909	.016	***
	I look forward to learning physics in school	.982	.932	.032	***
	Physics teaches me how things in the world work	.962	.876	.029	***
	I like to conduct physics experiments	.960	.911	.018	***

The analysis of the Lithuanian database revealed that unstandardized beta (B) is the highest for variable I like physics (Table 6). This value represents the association between predictor variable (I like physics) and the dependent variable (MLPH). It means that for every one unit increase in variable I like physics, the dependent variable (MLPH) increases by 1.067 units. The variable I like physics expresses an emotional attitude of school students towards the subject of physics. Thus, the secondary analysis of the Lithuanian database revealed that the emotional variable is an important variable of motivation for learning physics.

The analysis of the Finland database revealed that unstandardized beta (B) is the highest for variable I learn many interesting things in physics (Table 6). It means that for every one unit increase in variable I learn many interesting things in physics, the dependent variable (MLPH) increases by 1.015 units. The variable I learn many interesting things in physics expresses an intelligent attitude towards the subject of physics. It means that the variable of intellectual character is an important variable of Finland school students' motivation for learning physics.

We analyzed the latent variable Instructional Clarity in Physics lessons data (ICPH) by the main parameters: unstandardized beta (B), the standard error for the unstandardized beta (S.E.), the standardized beta (β), and the probability value (p) (Table 7). All independent variables (I know what my teacher expects me to do; My teacher is easy to understand; My teacher has clear answers to my questions; My teacher is good at explaining physics; My teacher does a variety of things to help us learn; My teacher links new lessons to what I already know; My teacher explains a topic again when we don't understand) statistically significant) predict instructional clarity in physics lessons (Table 7).

Table 7 Results of CFA: the latent construct is instructional clarity in physics lessons (ICPH) (created by the author)

Country	Observed variable	B	β	S.E.	p label
LTU	I know what my teacher expects me to do	.956	.894	.020	***
	My teacher is easy to understand	.973	.883	.027	***
	My teacher has clear answers to my questions	1.003	.831	.025	***
	My teacher is good at explaining physics	1.065	.825	.029	***
	My teacher does a variety of things to help us learn	1.015	.783	.024	***
	My teacher links new lessons to what I already know	.956	.765	.026	***
	My teacher explains a topic again when we don't understand	1.000	.629	.	***
FIN	I know what my teacher expects me to do	.879	.911	.022	***
	My teacher is easy to understand	.987	.849	.022	***

My teacher has clear answers to my questions	1.012	.915	.022	***
My teacher is good at explaining physics	1.020	.925	.023	***
My teacher does a variety of things to help us learn	1.022	.947	.021	***
My teacher links new lessons to what I already know	.971	.897	.022	***
My teacher explains a topic again when we don't understand	1.000	.881	.	***

We performed an unstandardized beta (B) values analysis based on the Lithuanian and Finnish databases and observed very similar trends. Based on both the Lithuanian and Finnish databases, the highest coefficients were determined for the following variables: My teacher has clear answers to my questions ($B_{LTU} = 1.003$; $B_{FIN} = 1.012$); My teacher is good at explaining physics ($B_{LTU} = 1.065$; $B_{FIN} = 1.020$); My teacher does a variety of things to help us learn ($B_{LTU} = 1.015$; $B_{FIN} = 1.022$) (Table 7). Hence, instructional clarity in physics lessons is mostly associated to the ability of a physics teacher to give clear answers on students' questions, to the ability explain the physics phenomenon, and to the ability to aid in learning physics.

The main purpose of this study was to reveal the role of the instructional clarity in physics lessons in the motivation for learning physics of school students. We examined the one direct effect for significance and magnitudes (Table 5). We found that the direct path was significant in the final model (Table 9). The statistically significant path coefficient in the model was detected based on Lithuanian and Finland data (Table 9).

Table 9 The associations between the students' motivation for learning physics and instructional clarity in physics lessons: paths coefficients and statistical significance (created by the author)

Country	Hypothesis	Paths	Paths coefficients (β)	p value	R ²	Results
LTU	H₁ . Instructional clarity in physics lessons is associated with students' motivation for learning physics.	Instructional clarity in physics (ICPH) → students' motivation for learning physics (MLPH)	.770	***	.515	Support
FIN	H₁ . Instructional clarity in physics lessons is associated with students' motivation for learning physics.	Instructional clarity in physics (ICPH) → students' motivation for learning physics (MLPH)	.634	***	.487	Support

We performed hypotheses testing by aspect of R-squared (R^2). Our model has independent variables that are statistically significant and has high R-squared value (Table 9). This combination of p-value and R-squared indicates that the independent variables are correlated with the dependent variable and explains much of the variability in the dependent variable (Table 9).

Discussion

The purpose of this study was to determine the associations between instructional clarity in physics lessons and school students' motivation for learning physics. The results obtained in the study are in accordance with our hypotheses (H_1). The results of our study are in the line with these theoretical insights. Teacher can reduce students' extraneous cognitive loads in learning physics using several methods in their teaching including segmenting information, providing concise and uncluttered information to students, and getting rid of unnecessary or redundant course material (Mayer & Moreno, 2010).

We revealed the highest unstandardized coefficients of these variables: My teacher has clear answers to my questions ($B_{LTU} = 1.003$; $B_{FIN} = 1.012$); My teacher is good at explaining physics ($B_{LTU} = 1.065$; $B_{FIN} = 1.020$); My teacher does a variety of things to help us learn ($B_{LTU} = 1.015$; $B_{FIN} = 1.022$) (Table 7). Researchers (Bolkan et al., 2016) revealed that motivation interacted with instructor clarity to increase test scores. Results of their study indicated "that even with clear instruction, test scores were not increased when students' motivation to process was low" (Bolkan et al., 2016, p.129).

These results highlight the limitations of our study. We did not examine the relationship between instructional clarity, motivation, and students' achievement. We focused exclusively on school students' motivation for learning physics in the light of instructional clarity in physics lessons, but it is possible to include more factors (achievement, gender, performance, self-confidence in physics learning) at the class level and establish the mediating role of other factors on students' motivation for learning physics.

Conclusions

The results of SEM analysis revealed that the instructional clarity in physics lessons statistically significantly predicts Lithuanian and Finnish school students' motivation for learning physics. SEM results disclosed not only statistical

significance but magnitudes of associations between instructional clarity in physics lessons and school students' motivation for learning physics as well.

The results of CFA disclosed that instructional clarity in physics lessons is mostly associated to the ability of a physics teacher to give clear answers to students' questions, to the ability explain the physics phenomenon, and to the ability to aid in learning physics.

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THE EFFECTIVENESS OF IMPLEMENTATION OF CROSSFIT TOOLS IN THE PROCESS OF PHYSICAL EDUCATION OF HIGH SCHOOL PUPILS

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Abstract. *There is justified in the article the importance of the need to improve physical education process for high school students with CrossFit tools.*

There have occurred positive changes in high school students' dynamics in the EG in functional indicators and physical preparation in the experiment condition.

The optimization of physical education process for high school pupils with CrossFit tools. There were observed the indicators of physical condition of organism, physical preparation and experimentally checked the effectiveness of the program with CrossFit tools implemented into physical education process. There were 63 pupils as participants in the research (boys, 16 years old). Analysis of literature sources, physiological methods of research, pedagogical researches (control norms passing); pedagogical experiment; mathematical statistics methods. There is presented and scientifically justified program of CrossFit tools implementation into physical education lessons for high school pupils. The content of program includes combination of power and aerobic exercises, stretching, and exercises to restore breath and to relax muscles. The elaborated program is implemented into studying program and there was proved its effectiveness. The results of research have shown its positive impact on functional indicators and physical preparation of high school pupils, that is proved by mathematical statistics methods.

Keywords: *CrossFit, high school pupils, physical education.*

Introduction

The interest of high school pupils in motor activity is extremely important to consider on the present stage as far as the level of activity has been definitely decreased recently (Bodnar et al., 2015; Bodnar et al., 2016; Novokshonov, Solovei, Yaroshyk, & Rymar, 2019). Generally accepted methodic does not get any excitement among majority of high school pupils. That is why, it is extremely important to give attention to those tools that are not only available, but also that are popular among youth (Kukhar, Sorokolit, Yavorsky, Rymar, & Khanikiants, 2021; Khanikiants et al., 2021).

One of the possible ways to improve physical education of high school pupils is to elaborate and apply innovative technologies, precisely to implement the variety of different fitness branches into system of school physical education, that will promote renovation of physical education classes for high school pupils (Turchyk, Romanchuk, Sorokolit, Kemin & Lukjanenko, 2021).

There are elaborations in the modern works about implementation of fitness-technologies into the process of physical education of high school pupils, that are dedicated to increase the interest level to physical exercising that will finally promote physical development, health strengthening, and to prevent different diseases (Solovei & Rymar, 2013).

Some aspects of theoretical and methodic application of modern fitness programs into educational process of pupils are described in domestic and foreign authors' works (Glassman, 2007; Bodnarchuk, Rymar & Solovey, 2018; Sarkauskiene, Noble, & Kardeliene, 2019).

There has become popular such fitness type as Cross Fit in recent years in Ukraine. Cross Fit is highly intensive training, that includes simultaneous performing of interval trainings exercises, aerobic endurance, weightlifting, athletics, powerlifting, gymnastics (Barfield & Anderson, 2014; Borisova, Shastakova, & Titova, 2018). The researches of Kokorev, Veprikov, Vetericyn and Bodrov show, that physical preparation, that is organized for Cross Fit rules, has huge benefits, comparing to interval (circle) training (Kokorev et al., 2016).

However, the analysis of literature sources shows, that the question of implementation of Cross Fit into physical education of high school pupils is not studied well, as far as we can observe the lack of basic scientific works and created methodic from the issue is not discovered by domestic scientists. That is why, we believe, that implementation of Cross Fit into physical education lessons of high school pupils is extremely actual problematic.

The goal of the work. To perform comparative analysis of impact of Cross Fit and athletics tools of the functional indicators and physical preparation of high school pupils.

Materials and methods

The research was from 2020 till 2021. The have been investigated the functional and physical preparation of high school pupils and experimentally proved the effectiveness of the program of applying Cross Fit into physical education. The contingent of pupils under investigating consists of 63 boys of high school age, passport age of which in the beginning of pedagogical experiment was 15 years old.

To achieve the goal, next methods were applied:

- analysis of literature sources;
- physiologic research methods (in order to cardio-respiratory level of functional condition of pupils' organism: life index (ml/kg) – ratio of life capacity of lungs to body mass, Ruffier index (con.un.) – the value of frequency of heart beats in different time periods of recovery after relatively not high pressure; Robinson index (con.un.) – the multiple of heart rate and arterial (systolic) pressure); and also power index – the ratio of power (more powerful) of brush towards body weight and accordance of weight and health of body according to T. Krutsevych, G. Bezverhniya (2010).
- Pedagogical observation of passing of indicative standards (60m run, long jump from the place, lean forward from sitting position, pull-ups hanging on the crossbar, flexion and extension of the arms in the supine position). The passing of these standards was performed during physical education classes in school. The results are written in the protocol.
- Pedagogical experiment took place based on general educational schools. The contingent of participants in the experiment consists of 31 pupils (boys) from control group and 32 pupils from the experimental group. The pedagogical experiment was performed with high school pupils (11th grade), that are from main studying department according to health condition and do not have and restriction to perform power exercises.
- High school pupils from the experimental group were doing sports according to proposed program twice a week, 45 minutes each class according to studying classes. Pupils from the control group were doing sports according to traditional program of physical education, that consist paragraph Athletic gymnastics.
- Mathematical statistics methods. All statistical analyses were performed using SPSS Version 21. For each characteristic, average values, standard deviations, and student criterion for unrelated samples were determined. The 0.05 levels of probability were used to indicate statistical significance (Vincent, 2005).

The results of the research

Cross Fit can be characterized as a special system of exercises for power development that consists of permanently changeable functional exercises of high intensity. Its goal is to get the perfect general physical preparation. It influences heart and breath endurance (the oxygen is used effectively); general endurance; power; flexibility (joints flexibility); speed; agility; coordination (consistency of movements and actions); equilibrium and precision (Kokorev et al., 2016).

Such direction as Cross Fit is represented by variety of different programs. The program of physical exercises with Cross Fit tools for high school pupils was elaborated by us.

There were outlined main programs' standards, which were taken into account very seriously during forming the classes content: adequacy of loading according to individual specifics; combination of power exercises and exercises dedicated to development of general endurance; creation of optimal conditions for stimulation of heart and breath system activity; the amount of encumbrances during performing of power exercises is from 30 to 70% out from individual maximum; combination of exercises, directed to develop power endurance and maximal power; step-by-step increasing of loading by rise of quantity of exercise and later by step-by-step increasing of exercises intensity and decrease of rest time.

The program was elaborated for 2.5 months (20 classes) and is divided into 2 stages: preparation (6 classes) and main (14 classes). The tasks of preparation stage: adaptation to physical pressure, studying of the technique of performing Cross Fit exercises; studying of self-control and self-insurance. The tasks of main stage: to improve physical preparation and functional indicators.

Each class consists of program, where power and aerobic exercises are combined, breathing exercises are performed, exist exercises for muscle relaxation and exercises for muscles stretching.

Preparation part means warming up, the context of what is in performing exercises while walking, running, general development exercises at the place and while moving. Special attention is put on the exercises for rise of activity, nobility of those joints, that will get the biggest training pressure in the main part of training.

The main part of classes consists of exercises from Cross Fit. The complex of exercises is created according to rule "scattering" of load (alternation of different muscle groups during performing of physical exercises in order to prevent occurrence of serious muscles exhausting and relatively equal influence on muscle groups).

The final part includes stretching tools in combination with breath exercises. Its goal is to stretch, relax tensed muscles, renovate and normalize functional and psychological indicators.

In the preparation stage of the program complexes from 2-4 exercises are applied, that are performed in 2-3 approaches. Complexes include exercises with weighting of pupils' own body. Exercises are performed with moderate intensity (with heart rate between such indicators as 140-160 beats/min), restoration of heart rate during rest to 100-110 beats/min.

In the main stage of the program were applied complexes of 3-6 exercises, that are performed in 3-4 approaches. Complexes include exercises with external weights. Exercises are performed with high intensity (with heart rate 160-180 beats/min), restoration of heartbeat during rest between approaches to 110-120 beats/min.

The basis of the program with Cross Fit tools consists of exercises with weighting of pupils' own body, exercises with external weights and cycle exercises.

The checking of the effectiveness of experimental-investigating work according applying of Cross Fit into physical education of high school pupils is performed in the process of control comparison of the results of the constant and forming stages of the research.

In the process of the experiment have been found out the impact of suggested program on the improvement of functional and physical preparation. The general checking of the results of forming experiment was performed and reliability of the received data was determined.

The analysis of the results of research shows, that in the beginning of the experiment there was no reliable difference between indicators of functional and physical preparation in the control and experimental groups. This allows to state, that groups were homogeneous according to level of indicators in the beginning of the experiment.

The important indicator of evaluation of functional possibilities of the apparatus of external breath is determination of life index (LI) of high school pupils. The performed analysis of life index shows that the average result in the EG was $50,96 \pm 1,42$ ml/kg before the experiment, and $59,61 \pm 1,45$ ml/kg after the experiment (Fig.1). The comparative analysis shows that difference between indicators of the EG before and after the experiment is 8,65 ml/kg and has positive reliable changes ($t=5,22$) $p < 0,05$.

According to results of life index of the CG before the experiment, the average result was $51,09 \pm 1,44$ ml/kg, and $52,98 \pm 1,17$ ml/kg after the experiment. The comparative analysis shows that difference between indicators of the CG is 1,89 ml/kg and has positive, however, not reliable changes ($t=1,25$) $p > 0,05$).

The dynamics of indicators of life index of high school pupils from the EG and CG has positive dynamics. However, indicators of the CG gave not changed reliably in comparison with primary data ($p > 0,05$) during studying. From the other side, we notice the reliable difference ($p < 0,05$) in the EG, that is the result

of increase of functional possibilities of breathing system of pupils in the process of doing Cross Fit.

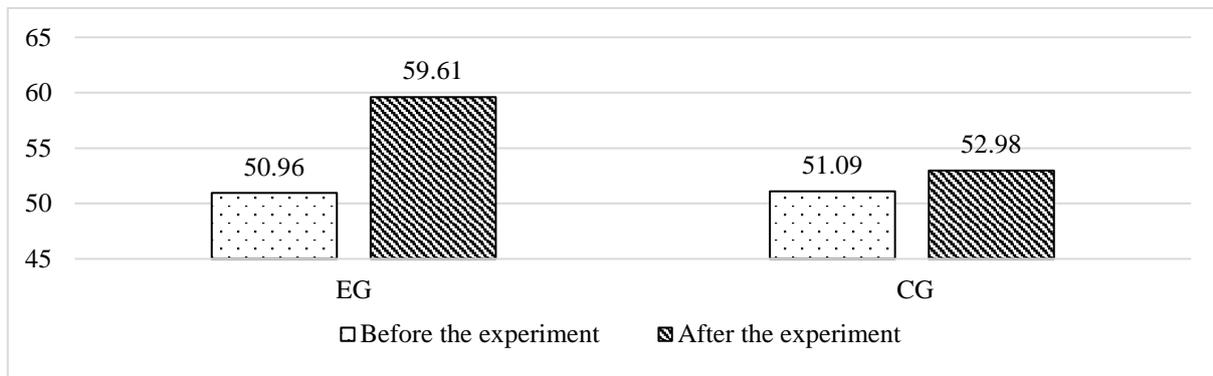


Figure 1 The dynamics of LI of high school pupils from the EG and CG during the experiment, ml/kg (created by the authors)

The important indicator of diagnostics of functional condition of heart system is determination of Ruffier index. According to results of analysis of Ruffier index in the EG, it was stated that the average result was $10,60 \pm 0,29$ con.un. in the beginning of the experiment, and $9,80 \pm 0,28$ con.un. after the experiment. The comparative analysis shows that the difference between indicators in the EG is 0,80 con.un. and has positive, reliable changes ($t=2,43$) $p < 0,05$. The average result in the CG in the beginning of the experiment was $10,13 \pm 0,25$ con.un., and $10,03 \pm 0,28$ con.un. after the experiment. The comparative analysis shows that difference between indicators from the CG is 0,57 con.un. has positive changes, however, not reliable ($t=1,71$) $p > 0,05$ (Fig.2).

The dynamics of indicator of Fuffier index among high school pupils from the EG and CG has positive dynamics, however, indicators of the EG have not reliably vary from the primary data ($p < 0,05$). We have discovered reliable difference in the EG ($p < 0,05$), that is the result of increase of functional possibilities of cardiovascular system of pupils in the process of doing Cross Fit.

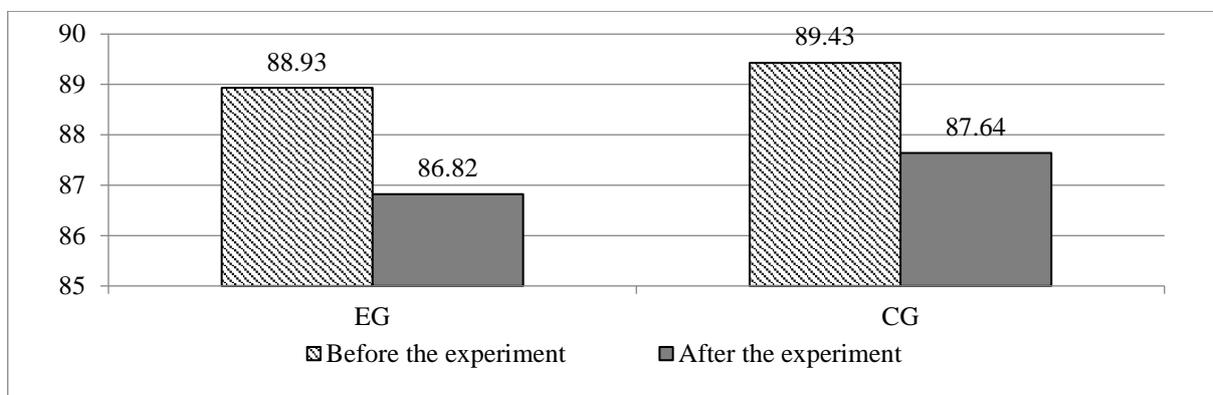


Figure 2 The dynamics of Ruffier index for high school pupils from the EG and CG during the experiment, con.un. (created by the authors)

The investigation of life index and Ruffier index that characterize the performance of cardio-respiratory system shows that during the experiment values have reliably increased in the EG ($p < 0,05$), and have not had significant difference in the CG ($p > 0,05$). This can be justified with the fact, that CrossFit lessons include lots of cardio exercises, that positively influence heart and respiratory systems activity among high school pupils.

There was performed the analysis of Robinson index that represents level of hemodynamic pressure on heart system and characterizes the work of heart muscle (Fig. 3). Thus, according to analysis of results of Robinson index, the average result was $88,93 \pm 1,21$ con.un. in the beginning of the experiment in the EG and $86,82 \pm 1,26$ con.un. after the experiment. Comparative analysis shows that difference between indicators from the EG is 2,11 con.un. and has positive, however, not reliable changes ($t = 1,44$) $p > 0,05$).

The same results we can notice in the CG. The average result was $89,43 \pm 1,35$ con.un. in the beginning of the experiment and $87,64 \pm 1,40$ con.un. after the experiment. Th comparative analysis shows that difference between indicators of the CG is 1,79 con.un. and has positive, though not reliable changes ($t = 1,12$) $p > 0,05$).

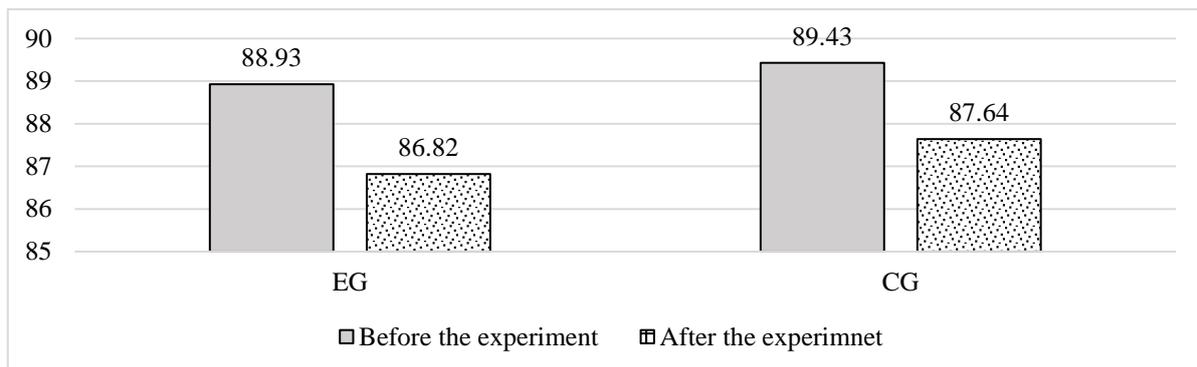


Figure 3 The dynamics of Robinson Index among high school pupils from the EG and CG during the experiment, con.un. (created by the authors)

Our research shows, that as in experimental, so in control groups the Robinson index has grown in the process of the experiment, however, these improvements are not reliable. We believe this is caused by the fact, that for calculation of Robinson index the indicators of systolic blood pressure were applied and the reliable positive changes require longer period of time to occur.

The analogical situation is noticed with the indicators of compliance of body height and weight. Our research shows, that as in the EG, so in the CG the ratio of weight to height in the process of the experiment has positively grown, however, these improvements are not reliable. Such conclusion is obvious and logic, as far as change of weight-height ratio requires long-term experiment (Fig.4). Thus, according to results of the analysis of indicators of compliance of body height and weight, the average result is $-0,37 \pm 0,21$ points in the EG in the

beginning of the experiment and $-0,23 \pm 0,13$ points after the experiment. The comparative analysis shows that difference between indicators of the EG is 0,14 points and has positive, but not reliable changes ($t=0,67$) $p>0,05$). The same situation is noticed in the CG. The average result is $-0,27 \pm 0,18$ points in the beginning of the experiment and $-0,20 \pm 0,11$ points after the experiment. The comparative analysis shows that difference between indicators from the CG is 0,7 points and has positive, but not reliable changes ($t=0,38$) $p>0,05$).

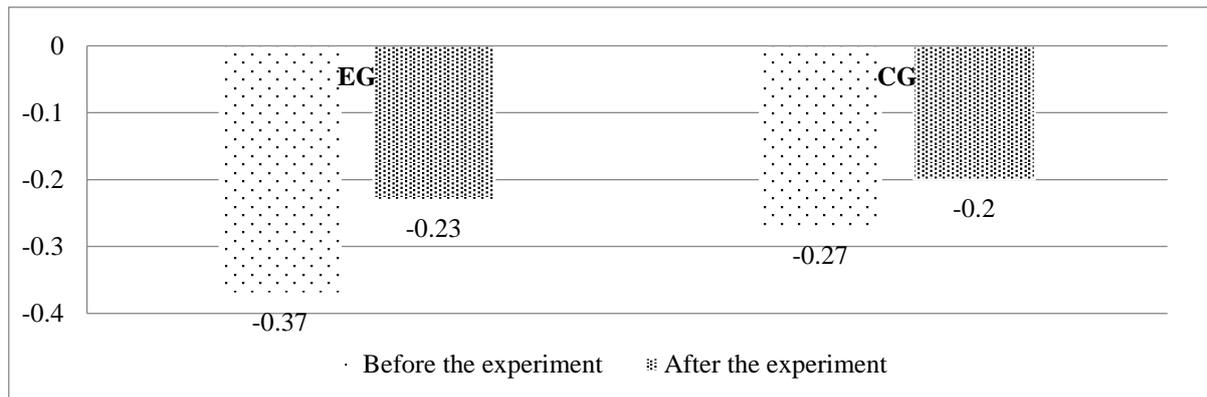


Figure 4 *The dynamics of compliance body height and weight among high school pupils from the EG and CG during the experiment, points (created by the authors)*

The high level of statistical probability characterizes the change in indicators of power index among high school pupils from the EG (Fig.5). Thus, according to results of the analysis of power index in the EG it was determined that difference between indicators is 4,11% and has positive reliable changes ($t=2,62$) $p<0,05$). The comparative analysis shows that difference between indicators is 2,71% in the CG and has positive, however not reliable changes ($t=1,71$) $p>0,05$).

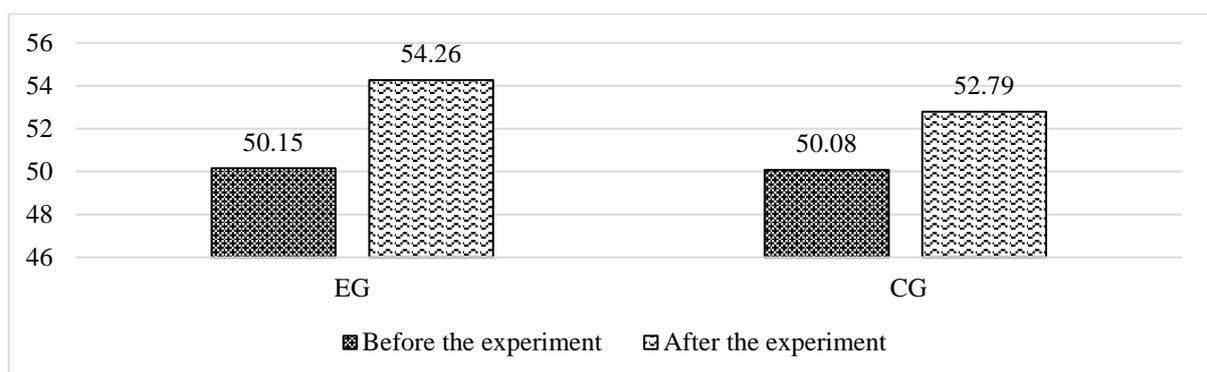


Figure 5 *The dynamics of power index among high school pupils from the EG and CG during the experiment, % (created by the authors)*

The research of indicators of power indicators has shown significant influence of doing Cross Fit on the development and improvement of muscle system of high school pupils from the experimental group.

To discover the effectiveness of author program about the improvement of physical preparation of high school pupils, we have investigated the indicators of the level of physical qualities development of pupils from the EG and CG after the results of test exercises. There was also determined its dynamics in the process of pedagogical experiment.

Pedagogical experiment (testing) was performed after control exercises according to existing program of physical education, particularly: 60m run, long jump from the place, lean forward from sitting position, pull-ups hanging on the crossbar, flexion and extension of the arms in the supine position.

Table 1 The indicators of physical preparation of pupils from the control and experimental groups (created by the authors)

Indicators	Before the experiment		After the experiment		p
	CG	EG	CG	EG	
Run 60m, (sec)	8,96±0,6	8,89±0,7	8,88±0,6	8,69±0,5	p<0,05
Long jump from the place (cm)	183,20±1,4	181,70±1,4	184,13±1,3	190,13±2,6	p<0,05
Pull-ups hanging on the crossbar, (times)	5,40±0,72	5,17±0,6	6,17±0,8	7,40±0,9	p<0,05
Lean forward from sitting position, cm	3,93±0,3	3,33±0,2	3,73±0,3	5,83±0,3	p<0,05
Flexion and extension of the arms in the supine position, (times)	16,50±0,53	16,07±0,65	18,07±0,52	23,07±0,66	p<0,05

(n=63)

The comparative analysis of dynamics of physical preparation of high school pupils from the EG and CG allows to determine high level of statistical probability of results improvement p<0,05 (table 1).

The highest level of increase of result of high school pupils from the EG is in development of hands muscles power, that is characterized by test exercise – “Flexion and extension of the arms in the supine position” and speed and power qualities – “long jump from the place”. Thus, in the test exercise “Flexion and extension of the arms in the supine position” the indicator has increased from 183,20±1,4cm to 184,13±1,3cm (t=0,79; p>0,05) in the CG, however, we noticed even more significant change of the result in the EG – from 181,70±1,4cm to 190,13±2,6 cm (t=3,56; p<0,05).

In the test exercise “Pull-ups hanging on the crossbar” indicator increased from 5,40±0,72 times to 6,17±0,8 times (t=0,83; p>0,05) in the CG, and from 5,17±0,6 times to 7,40±0,9 times in the EG (t=2,58; p<0,05).

The analysis of test exercise “60m run” shows that in the EG the indicator increased from 8,89±0,7 sec to 8,69±0,5 sec and has positive reliable changes

($t=4,58$; $p<0,05$). Positive changes have also appeared from $8,96\pm 0,6$ sec to $8,88\pm 0,6$ sec among the high school pupils from the CG, however we noticed these changes are positive, though not reliable ($t=1,69$; $p>0,05$).

The significant increase has got exercise “lean forward from sitting position”. The increase was from $3,33\pm 0,2$ cm to $5,83\pm 0,3$ cm ($t=7,06$; $p<0,05$), while no significant changes were noticed in the CG.

Thus, the indicators of motor testing in the CG and EG were higher after the experiment than before the experiment. Positive changes of the results can be explained by natural rise of qualities and by impact of doing sports systematically. However, the comparative analysis of the dynamics of development of physical qualities among high school pupils that do Cross Fit shows reliably better results. There were more positive changes among high school pupils from the EG, as far as author program includes a lot of power, speed, and speed-power exercises.

Discussion

Modern physical education provides implementation of innovative effective ways to organize motor activity for health strengthening. One of such ways is implementation of innovative tools of healing, condition, and sport directions in the process of physical education of high school pupils.

The optimization of physical education classes can be provided through implementation of Cross Fit, that will promote not only the renovation of physical education classes, but also would promote health strengthening, increase the level of functional and physical preparation.

The results of our research were confirmed and supplemented by scientists' well-known developments from this sphere (Bodnar, Stefanyshyn, & Petryshyn, 2016; Sorokolit, Shyyan, Lukjanchenko, & Turchyk, 2017).

There were reliably improved indicators of functional and physical preparation level among high school pupils from the EG in the result of application of author program using Cross Fit tools. The results we got prove the positive impact of the elaborated methodic.

The combination of Cross Fit tools, stretching and breath exercises in the classes improves the functionality, heart and breath systems, has positive influence on the level of development of physical qualities among high school pupils.

After the pedagogical experiment we have noticed the improvement of functional indicators and level of physical preparation in the EG and CG that is the result of biological development of child organism (Bodnarchuk et al., 2018; Sarkauskiene, Noble, & Kardeliene, 2019; Rymar, Sorokolit, Solovey, Yaroshyk, & Khanikiants, 2021; Zavydivska, Rymar, Khanikiants, Malanchuk, & Solovey, 2021) and directed pedagogical experiment.

The application of Cross Fit into physical education classes facilitate the improvement process of power, speed, power-speed qualities and flexibility, that is proved by significantly higher results of level of physical preparation of high school pupils from the experimental group.

Thus, our author program with application of Cross Fit into physical education classes allows to solve main tasks of physical education of high school pupils, such as healing, providing of harmonized organism development, improvement of functional indicators, increasement of the level of physical preparation, considering favorable periods of development of physical qualities and increasement of interest to doing sports.

Conclusions

The performed pedagogical experiment of implementation into practice of the author program applying Cross tools allows to form conclusions about its benefits, in comparison with traditional program. Positive changes of indicators among high school pupils from the EG had preferential character in comparison with indicators from the CG.

Thus, in the result of implementation of experimental methodic we have noticed improvement of indicators of life index and Ruffier index, that characterize human's cardio-respiratory system work. In particular, its values in the EG have reliably improved ($p < 0,05$) During the experiment. The high level of statistical reliability characterize also changes of indicators of power index of high school pupils from the EG. Thus, it was determined that difference between indicators has positive reliable changes ($t=2,62$) ($p < 0,05$) according to the results of analysis.

Positive changes are noticed also in indicators of Robinson index as in the EG, so in CG, however these improvements are not reliable ($p > 0,05$). The analogic situation is noticed with indicators of compliance of body weight to health of high school pupils. However, we believe, that change of weight-height ratio requires more time of experiment.

The checking of the effectiveness of experimental-research work shows positive influence of suggested methodic for improvement of the development level of high school pupils' physical qualities. The dynamics of indicators of physical preparation of pupils from the EG is heterochrony, that is explained by general biological rules of growing and development of child body (Moskalenko, 2009; Krutsevych, Bezverhniya, 2010; Bodnar, Petryshyn, 2016). Thus, the comparative analysis of the dynamics of development of physical qualities of high school pupils that do Cross Fit has discovered reliably better results. The analysis of results from: 60m run show that difference between indicators of the EG is 0,2 sec and has positive reliable changes ($t=4,58$; $p < 0,05$); long jump from place show that difference between indicators of the EG is 8,43

cm and has positive reliable changes ($t=3,56$; $p<0,05$); lean forward from sitting position show, that difference between indicators of the EG is 2,50cm and has positive reliable changes ($t=7,06$; $p<0,05$). The analysis of results of pull-ups hanging on the crossbar show that difference between indicators in the EG is 2,2 times and has positive reliable changes ($t=2,58$; $p<0,05$).

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SKOLAS KĀ INFORMĀCIJAS KANĀLS ALKOHOLA LIETOŠANAS IERADUMU MAZINĀŠANAI JAUNIEŠU VIDŪ

Schools as Information Channel to Reduce Alcohol Usage Habits Among Adolescents

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Abstract. *The purchase of alcohol and the use of such substances among adolescence is prohibited in Latvia by the legal system of rights. Despite the legal ban alcohol consumption is widespread among Latvian adolescence and starts at very early age. Recent studies show that most of 15-year-olds have consumed alcohol in Latvia. In order to proactively inform and reduce alcohol consumption among young people, a number of information and education programmes have been implemented, mainly in the school environment. Most of these programmes lack an assessment. Consequently, there is a lack of data on the programme effectivity and the link of programme with young people's knowledge and confidence in their alcohol consumption-related behaviour. The purpose of the study is to identify information channels where adolescence are most frequently gain information, to assess the level of knowledge of grade 9 pupils and its relevance to potential action in alcohol consumption situations. The empirical data of this study is based on a survey with grade 9 pupils. The results of the study show that the school environment is important information channel, but it is essential to offer a diverse information content, involving a number of experts to provide information. High levels of knowledge have a positive impact on young people's confidence in alcohol consumption-related situations, but do not have a significant impact on alcohol trying rates.*

Keywords: *adolescent alcohol consumption, information channel, knowledge and self-confidence, school.*

Ievads

Introduction

Jautājumi, kas saistīti alkohola lietošanas izplatību nepilngadīgo jauniešu vidū, ir aktuāls un plaši pētīts temats gan Latvijā, gan ārvalstīs. Legālo atkarību izraisīto vielu, piemēram, tabakas un alkohola tirdzniecību un pieejamību Latvijā nepilngadīgām personām ierobežo valstī esošais normatīvais regulējums (LR Saeima, 2004), tomēr veiktie pētījumi liecina, ka Latvijā nepilngadīgajiem jauniešiem alkohols ir pieejams, un to pamēģina lietot ļoti agrā vecumā. Vidējais vecums, kad jaunieši pamēģinājuši alkoholu, ir 12,5 gadi (Slimību profilakses un kontroles centrs, 2020).

Izvērtējot pieejamo statistiku par alkohola lietošanas uzsākšanu un turpmākajiem lietošanas ieradumiem Latvijā, var secināt, ka pat normatīvi aizliedzot iegādāties alkoholiskos dzērienus, tendence nepilngadīgiem jauniešiem lietot vai pamēģināt lietot alkoholu ir augsta. Ja ar esošo normatīvo regulējumu nav iespējams pilnībā novērst problemātisku uzvedību jauniešu vidū, tad augsta nozīmība šo vielu lietošanas prevencijai ir jauniešu informētībai par alkohola lietošanas aspektiem un potenciālajām tā lietošanas sekām.

Lai gan atkarības profilakses programmas, kas paredzētas jauniešu informēšanai un izglītošanai izglītības iestādēs, ir plaši pieejamas, tomēr bieži tās ir neregulāras, bez noteiktas sistemātikas, kā arī pēc programmas ieviešanas vairumā gadījumu netiek nodrošināta atgriezeniskā saite un novērtēta sniegtās informācijas izpratne skolēnu vidū. Atgriezeniskās saites jeb īstenotās apmācību programmas novērtējuma trūkumu kā problēmu identificēja Slimību profilakses un kontroles centra (SPKC) 2017.gada pētījumā intervētie atkarību profilakses politikas plānošanas eksperti, norādot uz to, ka “atkarību profilakses darba novērtēšana ir vāji attīstīta, proti, profilakses darba novērtēšana ir vairāk saistīta ar īstenoto aktivitāšu norises novērtēšanu (procesa novērtēšana), nevis ar to ietekmes novērtēšanu. Īstenoto profilakses aktivitāšu novērtēšana ir saistīta ar dalībnieka viedokļa noskaidrošanu vai zināšanu pārbaudi” (Slimību profilakses un kontroles centrs, 2017). Veicot atkarību profilakses programmu satura un ietekmes pētījumus, programmu izvērtējuma trūkumu kā problēmu veiksmīgai programmu attīstībai aktualizējuši vairāki ārvalstu pētnieki (Adolfsen et al., 2017; Dave, Corman, Kalil, Schwartz-Soicher, & Reichman, 2021; Hurley, Dietrich & Rundle-Thiele, 2019). Līdz ar novērtējuma iztrūkumu, trūkst vispārējas atgriezeniskās saites no skolu jauniešiem par atkarību profilakses programmas ietvaros apgūto vielu, tās ietekmi uz alkohola lietošanas ieradumiem un jauniešu pārliecību par sevi potenciālās alkohola lietošanas situācijās.

Pētījuma mērķis ir apzināt informācijas vidi un kanālus, kuros šobrīd jaunieši visbiežāk saņem informāciju par alkohola lietošanas aspektiem un sekām, izvērtēt 9. klases skolēnu zināšanu līmeni un tā saistību ar potenciālo rīcību alkohola lietošanas situācijās. Pētījumā tika izmantota kvantitatīvo datu ieguves metode, veicot 9. klašu skolēnu aptauju.

Alkohola lietošanas ieradumi jauniešu vidū un programmas to prevencijai *Alcohol use patterns among adolescence and prevention programs*

Atkarību izraisošo vielu lietošana skolu jauniešu grupā socioloģijas teorētiskajās disciplīnās tiek aplūkota gan kā “pārejas deviance” (Baker, 2014), gan analizēta “atkarību teoriju kontekstā” (Shafiee, Razaghi, & Vedadhir, 2019). Vērtējot jaunāko pētījumu datus par Latvijas skolu jauniešu ieradumiem saistībā ar alkohola kā atkarību izraisošo vielu lietošanas izplatību, var secināt, ka sākot no 15 gadu vecuma alkohola lietošana iezīmē “pārejas deviances” procesu.

2020.gadā Latvijā 15 gadu vecumā vairums jauniešu bija lietojuši alkoholu, un “tikai 39,5% zēnu un 31,8% meiteņu nekad nebija lietojuši alkoholiskos dzērienus” (Slimību profilakses un kontroles centrs, 2020). Tomēr no otras puses pētījumi liecina, ka “alkohola lietošana Latvijā, lielai daļai jauniešu jau agrīni nostiprinās kā stabils uzvedības paterns (Rīgas domes Labklājības departaments, 2010), kas norāda uz potenciālo atkarības veidošanos jau agrīnā vecumā.

Vairākos ārvalstīs veiktajos pētījumos to autori pievēršas alkohola kā atkarību izraisošas vielas lietošanas motivācijai skolu jauniešu vidū, saistot šā ieraduma rašanos ar vecuma posmu, kas sakrīt ar pusaudžu krīzes laiku. Sākotnēji atkarību izraisošo vielu lietošana skolu jauniešu vidū ir kā “problemātiskas situācijas” risināšanas mehānisms, kas pakāpeniski pāriet uz “normu” un pusaudžu uztverē tiek pielīdzināts pieaugušā dzīvesstila “ideāltipam” (Sobkin, Abrosimova, Adamchuk, & Baranova, 2005). Pētījumos secināts, ka zems pašvērtējums akadēmisko sasniegumu jomā “esmu slikts skolēns” un uzvedības “esmu palaidnis” definēšana ir cieši saistīta ar atkarību izraisošo vielu lietošanu pusaudžu vecumā (Dudovitz, Chung, & Wong, 2017).

Ar mērķi uzrunāt jauniešu auditoriju par alkohola lietošanas negatīvajām sekām Latvijā patlaban tiek īstenoti vairāki valsts un starptautisko institūciju finansēti projekti, kā arī atkarību profilakses programmas tiek ieviestas ar Nevalstisko organizāciju (NVO) atbalstu. Kā piemērus jaunākajām šāda veida atkarību profilakses programmām var minēt ar Veselības ministrijas atbalstu patlaban pilotēto programmu “Unplugged” (Eiropas Narkotiku un narkomānijas uzraudzības centrs, 2019). Vairumā gadījumu šo apmācību programmu informācijas izplatīšanas vide ir izglītības iestādes, iekļaujot sagatavoto informāciju mācību saturā. Būtiski informācijas izplatīšanas kanāli ir arī jauniešu interešu grupas un biedrības, kā arī tiek sagatavota informācija pārrunām ar jauniešiem ģimenes lokā. Skolu jauniešu mērķa grupai paredzēto informatīvo programmu sagatavošanā visbiežāk tiek adaptēta ārvalstu pieredze, piemēram, biedrības “Go Beyond” īstenotās skolēnu apmācību programmas “Runājot par alkoholu”, izstrādei tika pielāgots Zviedrijā izstrādāts apmācības materiāls “Talk about alcohol” (Tengstrom, 2018), kā arī pašlaik pilotētās “Unplugged” programmas pamatā ir Eiropas narkotiku profilakses centra (European Drug Addiction Prevention (EU-Dap) Centre) izstrādātā atkarību profilakses programma (Vigna-Taglianti et al., 2014). Pozitīvi vērtējams šāds adaptēto programmu ieviešanas ērtības aspekts un iespēja sadarboties ar programmā iesaistītajiem speciālistiem ārpus Latvijas. Tomēr, adaptējot apmācības metodoloģiju, tās saturs ne vienmēr ir pilnīgs un universāls visām valstīm. Sagatavojot jauniešu mērķa grupai paredzētas atkarību prevencijas programmas, nepieciešams ņemt vērā starpkultūru atšķirības alkohola lietošanas ieradumos (Horvath et al., 2021). Izvērtējot atkarību profilakses programmas ietekmi, būtiski ir novērtēt dominējošo vietējās sabiedrības viedokli par šo rīcību: vai skolu jaunieši kā alkohola lietotāji sabiedrībā tiek definēti, kā “nevainīgas

personas, kurām ir nepieciešama izglītošana par alkohola lietošanas negatīvajām sekām, vai kā likuma pārkāpēji, kuru alkohola lietošanas ierobežošanai ir nepieciešams sods. Ideālā gadījumā skolu jauniešu alkohola lietošanas prevencijas programmām būtu jāietver abi šie virzieni – atbalstošā un kontroles tehnika” (Ven, 2004).

Nozīmīgs aspekts, kuru ņēmuši vērā tikai daļa atkarības profilakses programmu ieviesēju Latvijā, ir izpratnes un efektivitātes izvērtējums, programmai noslēdzoties. SPKC 2017. gada īstenotā pētījuma eksperti atzīst, ka “līdztekus labas prakses piemēriem Latvijā tiek īstenotas neefektīvas universālās profilakses iniciatīvas” (Slimību profilakses un kontroles centrs, 2017), ar “universālās prakses” piemēriem saprotot tāda veida atkarības profilakses programmas, kas integrētas mācību priekšmetu saturā, un kā to galvenos trūkumus norādot iesaistīto speciālistu sagatavotību, programmas periodiskumu un tās rezultātu apsekojuma iztrūkumu.

Atgriezeniskās saites par īstenotās atkarības profilakses programmas efektivitāti apgrūtinātas, ka izglītības iestādes vide nav vienīgā, kurā jaunieši saņem informāciju par alkoholu un tā lietošanas aspektiem. Rīgas domes Labklājības departamenta 2010. gadā veikto pētījumu rezultāti apstiprina, ka “gan skolai, gan vecākiem jāuzņemas kopēja atbildība par atkarības vielu lietošanas riska faktoru mazināšanu starp jauniešiem” (Rīgas domes Labklājības departaments, 2010). Vecāku iesaiste jauniešu atkarības profilakses programmās ir ieteikta kā vēlamā prakse vairākos ārvalstu pētījumos, gan, vecākus iesaistot programmu sagatavošanas posmā (Hurley et al., 2019), gan programmu realizācijā un novērtējumā (Adolfson et al., 2017). Arī Latvijā, līdztekus izglītības iestādēs īstenotajām atkarību profilakses programmām, ir pieejamas programmas, kas sniedz atbalstu vecāku komunikācijai ar jauniešiem par alkohola lietošanas aspektiem, piemēram, LR Veselības ministrijas, SPKC un Valsts policijas kopēji īstenotā programma “Lai būtu skaidrs” (LR Veselības ministrija, SPKC, 2015) sniedz praktiskus ieteikumus šādas sarunas veikšanai. Tomēr jāņem vērā, ka atšķirībā no izglītības iestāžu atkarību profilakses programmās iekļautās informācijas, kas ir izstrādāta atbilstoši kopējām vadlīnijām, vecāku sniegto informāciju ietekmē gan viņu personiskās iezīmes, gan personiskā attieksme pret alkohola lietošanu. Latvijā alkohola lietošanas līmenis pieaugušo vidū kopumā ir augsts — pieaugušo vidū absolūtā alkohola patēriņš uz vienu 15 gadus vecu un vecāku iedzīvotāju litros ir augstāks nekā Eiropas Savienībā vidēji (Organisation for Economic Co-operation and Development, 2020). Personīgais piemērs var potenciāli negatīvi ietekmēt jauniešu uzticēšanos vecāku sniegtajai informācijai (Brauer & De Coster, 2015). Jauniešu sarunas ar vecākiem par alkohola lietošanas uzsākšanas potenciāli negatīvajām sekām vairumā gadījumu nevar tikt uzskatītas par preventīvu līdzekli, jo “visbiežāk vecāki uzsāk sarunu ar jauniešiem tad, kad alkohola lietošana jau ir uzsākta” (Slimību profilakses un kontroles centrs, 2020).

Nozīmīgs informācijas kanāls, kas veido jauniešu attieksmi pret alkohola lietošanu, ir plašsaziņas līdzekļi. Informācija, kas pieejam interneta vidē ir visvairāk izmantotais informācijas kanāls jauniešu vidū, kas neietver personisku komunikāciju, bet individuālu informācijas interpretāciju (Martinovic, Un Kim, & Stanarevic Katavic, 2021). Kā liecina Kultūras ministrijas (KM) un Latvijas Universitātes (LU) 2017. gadā veiktā pētījuma par 9 līdz 16 gadus vecu bērnu un pusaudžu medijpratību Latvijā rezultāti, internets ir visvairāk un visbiežāk jauniešu mērķa grupā lietotais informācijas kanāls, kurā “64 % meklē informāciju ne retāk kā reizi nedēļā” (LR Kultūras ministrija, 2017). Lai gan savas prasmes atrast nepieciešamo informāciju par interesējošo tematu skolu jaunieši vērtē kā augstas, tomēr pētnieki norāda uz jauniešu grūtībām kritiski izvērtēt iegūto informāciju. Pētījumā “respondentiem tika uzdots jautājums par to, vai viņi prot salīdzināt dažādas interneta vietnes un mājaslapas, lai saprastu vai informācija tajās ir patiesa. Tikai puse no bērniem vecumā no 9 līdz 12 gadiem (50 %) atzina, ka viņi to prot” (LR Kultūras ministrija, 2017).

Iepriekš aplūkoti informācijas par alkoholu kā atkarību izraisošas vielas lietošanu kanāli skolu jauniešu mērķa grupai ir tikai daļa no iespējamajiem informācijas saņemšanas veidiem. Ārpus tiem pastāv virkne netiešas informācijas avotu, piemēram, vienaudži, reklāmas masu medijos, filmu un seriālu sižeti u.tml.

Tomēr izglītības iestādes un ģimenes kā informācijas kanālu gadījumā tā vairumā gadījumu būs ar tendenci novērst alkohola lietošanu preventīvi, vai mazināt tā izplatību. Interneta kā informācijas kanāla gadījumā būtiska loma ir skolu jauniešu spējai izvērtēt saņemtās informācijas patiesumu. Veicot šā pētījuma rezultātu izvērtējumu, tika analizēti 9. klases skolēnu visbiežāk lietotie informācijas kanāli un vēlamie informācijas kanāli, kā arī jauniešu zināšanu kopējais līmenis par alkohola kā atkarību izraisošas vielas lietošanu.

9. klašu skolēnu pētījuma metodoloģija *Research methodology for 9th grade students*

Pētījuma datu analīzē tika izmantota daļa no Latvijas skolēnu kvantitatīvās aptaujas, kas veikta kā longitūdināls pētījums ar mērķi novērtēt metodiskās biedrības “Go Beyond” īstenotās skolēnu apmācību programmas “Runājot par alkoholu” (Alcohol Education Trust, 2015) ietekmi, papildus gūstot arī padziļinātu ieskatu Latvijas 7.–9. klases skolēnu attieksmē un alkohola patēriņu veidojošajos faktoros. Kopumā šā longitūdinālā pētījuma laikā periodā no 2015. gada līdz 2018. gadam tika veiktas četras secīgas kvantitatīvas skolēnu aptaujas, sākot ar periodu, kad jaunieši uzsāka mācības 7. klasē, un beidzot ar 9. klases otro semestri. Pētījuma izlase tika veidota, ņemot vērā sekojošus raksturlielumus: izglītības iestādes atrašanās vieta (novads, apdzīvotas vietas veids un novada iedzīvotāju skaits) un lielums. Ar mērķi izlasē nodrošināt homogēnu vecuma

struktūru viena pētījuma cikla ietvaros, no izlases tika izslēgtas specializētās mācību iestādes, profesionālās mācību iestādes un vakara maiņas skolas.

Dalību pirmajā pētījuma ciklā uzsāka 1754 skolēni, taču pētījuma laikā bija atsevišķas izglītības iestādes vai to klases, kuras no tālākas dalības pētījumā atteicās, līdz ar to pētījumu pabeidza kopumā 1166 skolēni. Šī pētījuma datu analīzē ir izmantota informācija no pēdējā pētījuma posma, kas norisinājās 2018.gada pavasarī, 9. klašu skolēnu grupā.

Visas pētījumā iekļautās kvantitatīvās aptaujas bija anonīmas, un tās tika veiktas interneta vidē. Skolēniem bija iespēja patstāvīgi aizpildīt pētījuma anketas. Lai novērstu savstarpējo komunikāciju respondentu vidū, aptaujas laikā telpā, kurā notika aptaujas aizpildīšana, kopā ar skolēniem atradās pētnieks – novērotājs. Vienas klases jaunieši anketas aizpildīja vienlaicīgi.

Pētījuma realizācijā tika adaptēts instrumentārijs no 2013.gadā Lielbritānijā publicētā pētījuma par ieviesto alkohola prevencijas programmu skolās (Lynch, Styles, Dawson, Worth, Kerr, & Lloyd, 2013). Uzsākot skolēnu longitudinālo pētījumu Latvijā, tā anketa tika papildināta ar Eiropas skolu aptaujas projektā par alkoholu un citām narkotiskām vielām (European School Survey Project on Alcohol and Other Drugs, 2015) standartizētajiem jautājumiem. Pētījuma instrumentārijs tika papildināts arī ar speciāli izveidotiem jautājumiem par esošajiem un vēlamajiem informācijas avotiem par alkoholu, kas ir šīs publikācijas pamatā.

Pētījuma datu analīzei tika izmantoti dati, kas atspoguļo 9. klases skolēnu viedokli par kanāliem, kuros visvairāk saņemta informācija par alkoholu, tabaku, apreibinošajām vielām un to lietošanas sekām, un vēlamajiem kanāliem, kuros saņemt šāda veida informāciju. Grupēti un analizēti dati par šo skolēnu zināšanām par alkohola lietošanas aspektiem un iespējamajām sekām, kā arī dati par alkohola lietošanas izplatību mērķa grupā un potenciālo rīcību alkohola lietošanas situācijās vienaudžu grupās.

Pētījuma rezultāti ***Results of Research***

Ar mērķi izvērtēt skolēnu informētību, izpratni un attieksmi pret alkoholisko dzērienu lietošanu 9. klašu skolēnu grupā tika novērtēta četru aspektu savstarpējā saistība. Šie aspekti ir:

1. skolēnu informētība par alkohola lietošanas aspektiem, ietekmi uz veselību un alkohola lietošanas potenciālajām sekām,
2. informācijas kanāli, kuros skolēni patlaban saņem informāciju par alkohola ietekmi, un skolēnu izvirzītie vēlamie informācijas avoti šādas informācijas saņemšanai turpmāk,
3. alkohola lietošanas personiskā pieredze,

4. pārliecība par savu rīcību situācijās, kas saistītas ar alkohola lietošanu vienaudžu vidū.

Kopumā no pētījuma rezultātiem var secināt, ka 9.klases mācību gada noslēgumā alkoholu vismaz vienu reizi ir lietojuši 82 % no aptaujātajiem skolēniem, no tiem 54 % atzīst, ka alkoholiskos dzērienus ir lietojuši vairāk nekā vienu reizi. Savas prasmes un pārliecību par rīcību situācijās, kad tiek lietoti alkoholiskie dzērieni vienaudžu vidū, skolēni vairumā gadījumu vērtē viduvēji. Augstāka pārliecība jauniešu vidū, ko apstiprina vairāk nekā puse aptaujāto skolēnu, ir par to, ka lēmums lietot vai nelietot alkoholu vienaudžu pasākumos ir tikai viņu pašu lēmums (tam pilnībā piekrīt 66 %), kā arī, ja ir pieņemts lēmums nelietot alkoholu, tad neviens cits nevar pamudināt mainīt šo lēmumu (tam piekrīt 52 % no aptaujātajiem jauniešiem). Zemāka pārliecība par sevi ir situācijās, kurās citi vienaudži alkoholu lieto, šāds gadījumos 46 % jauniešu atzīst, ka būtu viegli atteikties no alkohola lietošanas, bet 11 % norāda uz to, ka viņiem būtu “neērti pateikt “nē”, ja kāds man piedāvā alkoholiskos dzērienus”.

Informācijas avoti, kur 9. klases skolēni visbiežāk ir saņēmuši informāciju par alkoholu, tabaku, apreibinošajām vielām un to lietošanas sekām, ir izglītības iestāde, visbiežāk tās ir bijušas sociālo zinību vai klases stundas. Izglītības iestādes kā informācijas avotu par alkoholu minējuši 76 % no aptaujātajiem skolēniem. Kā nākamie biežāk minētie informācijas avoti ir informācijas meklēšana interneta vidē (72 %) un vecāku sniegtā informācija (60 %). Kā vēlamākos informācijas avotus šāda veidā saņemšanai turpmāk vairumā gadījumu jaunieši min izglītības iestādes, īpaši sociālo zinību stundas (50 %) un klases stundas (46 %). 35 % no aptaujātajiem 9. klases skolēniem vēlamo informāciju atrastu paši internetā, bet 28 % to labprāt saņemtu no vecākiem.

1.tabula. Skolēnu informētības līmeņa noteikšanai izmantotie apgalvojumi (autores veidota)

Table 1 Statements used to determine the level of information (created by the author)

Nr. p.k.	Apgalvojums	Pareizās atbildes īpatsvars kopvērtējumā	Vidējais pareizo atbilžu % izlasē
1	Lietot alkoholu ir kaitīgi	10 %	93 %
2	Lietot alkoholu un vadīt automašīnu ir bīstami	10 %	90 %
3	Alkohola ietekmē mazinās cilvēka spēja reaģēt	10 %	88 %
4	Alkohola lietošana kaitē veselībai	10 %	87 %
5	Alus un sidrs ir alkoholiski dzērieni	10 %	86 %
6	Personām līdz 25 gadu vecumam, iegādājoties alkoholu, ir jāuzrāda personu apliecinošs dokuments	10 %	78 %
7	Vieglie alkoholiskie dzērieni nerada atkarību	10 %	68 %
8	Pilngadīgais drīkst iegādāties alkoholu manām vajadzībām	10 %	68 %
9	Kafija, auksta duša un gāzēti dzērieni palīdz samazināt alkohola daudzumu asinīs	10 %	57 %
10	Ir aizliegts lietot alkoholu cilvēkiem, kas ir jaunāki par 18 gadiem	10 %	24 %

Lai novērtētu 9. klases skolēnu informētības līmeni un izvērtētu optimālos informācijas kanālus tās sniegšanai tika uzdoti 10 jautājumi saistībā ar izpratni par alkohola lietošanu. Katra pareizā atbilde veido 10 % kopējā vērtējumā. Apgalvojumu definējumu skat. 1.tabulā.

9. klases skolēnu vidējais pareizo atbilžu īpatsvars ir 74%, tātad kopumā skolēnu zināšanas par alkohola lietošanas aspektiem izlasē vērtējamas kā vidējas. Skolēnu pareizo sniegto atbilžu dalījumu skat. 1.attēlā.



1. attēls. *Skolēnu informētības novērtējums* (autores veidota)

Figure 1 *Assessment of information among students* (created by the author)

Kopumā 22 % 9. klašu skolēnu zināšanas un informētība par alkohola lietošanas aspektiem un potenciālajām tā lietošanas sekām ir vērtējamas kā zemas - šo skolēnu pareizo atbilžu proporcija nepārsniedz 60 %. 43 % 9. klašu skolēnu zināšanas vērtējamas kā viduvējas (70–80 % pareizo atbilžu), bet 35 % skolēnu zināšanas ir augstas, pareizo atbilžu īpatsvars pārsniedz 90 %. Salīdzinot iepriekš aprakstītās zināšanu un informētības līmeņu skolēnu grupas, ir vērojamas atšķirības šo grupu informācijas kanālu lietojumā, vēlamo informācijas kanālu izvēlē, alkohola lietošanas pieredzē un pārliecībā par savu spēju rīkoties un pieņemt pastāvīgus lēmumus alkohola lietošanas situācijās.

Jaunieši, kuru zināšanu līmenis par alkohola lietošanu un potenciālajām sekām ir augsts, kā avotus, kur patlaban saņem informāciju par alkohola lietošanu, min vairākus avotus nekā 9. klašu skolēnu izlasē vidēji, turpretī tie skolēni, kuru zināšanas vērtējamas kā zemas, vairāk norādījuši, ka informāciju par alkohola lietošanu patlaban nesaņem nekur. Kā vēlamos informācijas avotus, kuros saņemt informāciju par alkohola lietošanu turpmāk, tie skolēni, kuru zināšanu līmenis ir vidējs vai augsts, vairāk min izglītības iestādes mācību stundas, piemēram, sociālās zinības un klases stundas, kā arī vairāk vēlētos saņemt informāciju no

pieaicinātiem ekspertiem, piemēram, policijas darbiniekiem un citiem speciālistiem, kas pasniedz vieslekcijas skolā. Jaunieši ar augstām zināšanās, kuri jau ir vairāk saņēmuši informāciju no vecākiem un citiem ģimenes locekļiem, piemēram, brāļiem un māsām, labprāt šīs sarunas turpinātu un arī kā vēlamās informācijas avotus ģimenes locekļus min vairāk nekā pārējās skolēnu grupas. Jaunieši ar zemāku informētības līmeni kopumā norāda uz mazāku skaitu vēlamās informācijas avotu. Salīdzinot ar citām jauniešu zināšanu līmeņu grupām, jaunieši ar zemām zināšanām vairāk kā vēlamās informācijas avotus min draugus, vienaudžus un pieaugušos ārpus ģimenes.

Izvērtējot pētījumā iegūto informāciju par alkohola lietošanas ieradumiem 9. klases skolēnu vidū, var secināt, ka tie skolēni, kuriem ir zems zināšanu par alkoholu līmenis, ir lielāka atkārtota alkohola lietošanas pieredze (58 % no šīs grupas skolēniem ir lietojuši alkoholu atkārtoti), kā arī zemāka pārliecība par savu rīcību situācijās, kad alkohols tiek lietots vienaudžu grupās. Piemēram, 42 % no šīs grupas jauniešiem ir pilnībā pārliecināti par to, ka “pats varu izvēlēties — lietot vai nelietot alkoholu” (salīdzinoši par šo aspektu pilnībā pārliecināti ir 77 % ar augstām zināšanām), 30 % no jauniešu grupas ar zemām zināšanām piekrīt tam, ka, ja ir pieņemts lēmumus pasākumā nelietot alkoholu, tad neviens cits nevar jaunieti pamudināt mainīt šo lēmumu (jauniešu ar augstām zināšanām grupā šim uzskatam piekrīt 62 %). Īpaši maz (salīdzinot ar jauniešiem ar augstām zināšanām) ir to jauniešu, kuru zināšanas ir vērtējamas kā zema pārliecība par to, ka būtu viegli atteikties no alkohola lietošanas, ja piedalītos pasākumos, kuros citi lieto alkoholu (tam piekrīt 27 % jauniešu ar zemu informētības līmeni).

Diskusija *Discussion*

Līdz šim veiktie pētījumi liecina, par jauniešu ieinteresētību informācijā par alkohola lietošanu un šīs rīcības ietekmi uz veselību (Martinovic et.al., 2021), tomēr būtiski ir piedāvāt skolu jauniešiem uzticamu, saprotamu informāciju, kas preventīvi mazinātu iespējamību uzsākt alkohola lietošanu agrā vecumā. Izvērtējot Latvijā īstenotās atkarību profilakses programmas, kā arī ārvalstīs veikto atkarības profilakses programmu efektivitātes pētījumus, var secināt, ka skolas vide ir ļoti nozīmīgs informācijas kanāls, taču būtiski ir piedāvāt daudzveidīgu informācijas saturu, iesaistot vairākas personas, jeb ekspertus šo programmu sagatavošanā un informācijas sniegšanā jauniešiem. Vairāku jomu eksperti tika iesaistīti Islandē īstenotajā IPM (Islandic Model of Primary Prevention of Substance use) alkohola profilakses programmā, kuras ietekmē Islandē šobrīd ir viens no zemākajiem jauniešu alkohola lietošanas rādītājiem Eiropas Savienībā. Šī modeļa pamatā ir piecu soļu programma, iesaistot jauniešu atkarību profilaksē plašu ekspertu un jauniešu kontaktpersonu loku, piemēram, izglītības iestādes pārstāvjus, jauniešu vecākus, politikas veidotājus, sabiedrības

veselības ekspertus, sākot no programmas izstrādes soļiem, līdz tās novērtējumam (Kristjansson et al., 2020). Arī analizētie 9. klašu skolēnu pētījuma rezultāti apliecina, ka nozīmīgs aspekts augsta vispārējā informētības līmeņa nodrošināšanai skolu jauniešiem ir vairāku informācijas avotu kombinācija. Aptaujāto 9. klašu skolēnu, kuru zināšanas vērtējamas kā augstas, atbildes norāda uz vēlmi iegūt informāciju no dažādiem kanāliem, gan izglītības iestādes vidē, gan komunicējot ar ģimenes locekļiem. Jaunieši, kuru zināšanas patlaban vērtējamas kā zemas, izteikti mazāk ir ieinteresēti informācijas saņemšanā izglītības iestādē un no vecākiem, bet vairāk uzticas vienaudžu viedoklim, kā arī citu, ārpus ģimenes dzīvojošo pieaugušo viedoklim. Augsts zināšanu par alkohola lietošanas aspektiem līmenis pozitīvi ietekmē jauniešu pārliecību par savu rīcību ar alkohola lietošanu saistītās situācijās, taču tam nav būtiskas ietekmes uz alkohola pamēģināšanas rādītājiem. Turpretī jaunieši, kuri zināšanu līmenis par alkoholu ir zems, kopumā ir ar zemāku pārliecību par spēju patstāvīgi pieņemt lēmumus alkohola lietošanas situācijās, un šīs grupas jauniešiem ir vairāk raksturīga atkārtota alkohola lietošana.

Kopumā izglītības iestādēs sniegtā informācija par alkoholu un tā lietošanas aspektiem jauniešu auditorijā ir ievērota un pozitīvi novērtēta arī kā potenciālais informācijas kanāls nākotnē. Tomēr efektīvai jauniešu informācijas līmeņa paaugstināšanai ir ieteicams izmantot vairāku informācijas avotu kombināciju, pieļaujot iespēju jauniešiem pašiem meklēt informāciju un to pārrunāt ar uzticamiem ekspertiem.

Šī pētījuma datu analīze ietver dažus no jauniešu atkarības profilakses programmu efektivitātes aspektiem – tās izplatības informācijas kanālu novērtējumu un nepieciešamību pēc šo programmu izvērtējuma, tomēr jāņem vērā, ka informācijas uztveri skolu jauniešu vidū ietekmē vairāki vides un informācijas uztveres aspekti, piemēram, informācijas avota uzticamības jauniešu vidū (Animosa, Johnson, & Cheng, 2015, p.3-6), individuālās jauniešu uztveres īpatnības, intereses, ko ietekmē jauniešu dzimums (Martinovic et.al., 2021. p.11) un vecuma grupa (Dave et al., 2021, p.214). Šie aspekti būtu ņemami vērā, turpinot šobrīd Latvijā īstenoto skolu jauniešiem paredzēto atkarību profilakses programmu rezultātus.

Summary

Despite the fact that the purchase of alcohol in Latvia by minors is prohibited, regular studies among young minors have shown that alcohol consumption among young people is widespread, most young peoples have at least tried to consume alcohol when finishing grade 9. With a view to preventing or reducing the alcohol consumption among young people, a number of information programmes are introduced in the country, in most cases these programmes are adapted from abroad, and schools are used as the main

information channel for the introduction of programmes. Although overall, the introduction of such programmes in the field of information availability is positive, but they do not, in most cases, provide for an assessment of the results achieved. The assessment of the programmes is difficult because the information channels on alcohol and the consequences of its consumptions are extensive and cover not only those included in the school programme.

In order to assess which aspects of information on alcohol and its consumption are currently the most common among young people, the extent to which the information received in these channels contributes to the knowledge and self-confidence of young people in an alcohol-drinking situation, as well as to find out the channels where young people would like to receive such information, the data of the study of grade 9 pupils was analysed. In general, it was concluded that the level of awareness of young people about alcohol and its consumption aspects is closely linked to confidence in their ability to have an individual opinion on alcohol consumption in groups. In order to ensure a high level of awareness, a number of sources of information must be involved at the same time, in both education and personal relations, but it is the school environment that is the most common and preferred information channel for most young people. The digital environment is an important source of information, in which young people seek information themselves, and it is important to focus on the interpretation of this information in the youth group.

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VALUE RELATIONS OF PARTICIPANTS - CONDITION OF EFFECTIVE PEDAGOGICAL PARTNERSHIP

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Abstract. *Accessibility and openness of information and reference bases with spreading of the distal format of training is determined by the main advantage during both stages of the empirical research. The level of satisfaction is higher than in directions: Information formatting, simplicity of algorithmic submission and clear content of tasks with artistic, productive activity.*

The article makes it clear that parity through equal accessibility contributes to the harmonization of educational goals and objectives for the formation of valuable attitudes of the participants of the educational process is achieved in a constructive dialog. Mobility of educational interaction in the system "Teacher – pupils, parents of the child". The study confirmed that parity presupposes the use of the information offered and available in the network through educational cooperation. It is important to establish a strong consistent connection for detailed discussion of hot topics, avoiding the diversity of the proposed primary sources, personalization of educational experience gained during the distance execution of specific educational tasks due to individual possibilities (knowledge of language, ability to work with different content, etc.). Parity provides stable open access to the necessary educational information, cognitive activity, which is clearly observed during use of distance learning tools. This reveals the possibility of reflexia as an element of the logical structure of parity of educational interaction. Careful attitude to the position, opinions of each participant of the educational process, equality in the right to express a personal vision of one or another element of the educational and methodical complex will help to form valuable attitudes.

Keywords: *artistic and productive activity, child, pedagogy of partnership, quality of education, valuable attitudes.*

Introduction

Problem statement. The world pedagogical community and Ukrainian educators will unite the problem of forming valuable attitudes of the participants of the educational process. Ukrainian education in a state of active change is oriented on positive experience of the USA, Poland, Finland and other countries.

Objective: To summarize the results of the empirical research on the formation of valuable attitudes of participants of the educational process for effective pedagogical partnership taking into account cultural values of Ukraine.

The significance of effective pedagogical partnership is difficult to overestimate. Modern educational space of educational institutions in Ukraine, Poland and Finland has common priority features. Among these we have identified: Basic needs of the child in study, additional needs (for children with special educational needs); balance between educational activities initiated by the teacher and on the initiative of children; possibility for children to make their own choice; opportunities for development of new and improvement of existing practical skills, knowledge acquisition; positive attitude to each other.

The relevance and feasibility of this study is also conditioned by the development of concrete actions and measures for the participants of the educational process of educational institutions in the context of implementation of the global program of action on education for sustainable development (UNESCO, 2014), Implementation of the United Nations Convention on the Rights of the Child (UNICEF, 2019), solving urgent problems concerning formation of national and cultural identity in children.

The main values of the teacher in the creation of educational environment for the quality of education, in our opinion, are as follows: respect each child; believe in the success of each child; be honest and recognize their own mistakes; be able to listen and adhere to confidentiality; be consistent and fair; to have high expectations for each student, including pupils with special educational needs; to appreciate personal efforts of children; to organize a motivating educational environment; to constantly renew their knowledge about children's development.

In view of the realities of transformational processes in society and education, in this article we present an analysis of the empirical research of the values of participants of the educational process (children, their parents, and teachers). We note that the educators of Ukraine, Poland, and Finland are united in the positions of attentive attitude to the use of the powerful resource of pedagogical partnership and digital applications in the establishment of cooperation between the teacher and parents of the child in for actual classes constructive educational, cognitive, constructive creative activity.

The survey confirmed our hypothesis that all respondents use the global Internet network. The advances in digital applications and the didactic potential of digital services reveal the advantages of remote learning formats for the quality of education. Interestingly, Ukrainian teachers in pre-school and general education use professional printed publications to prepare lessons on artistic and productive activities. This shows that the pre-school education institution has its own professional library, which is replenished and updated during the calendar year. Online library practice is also being developed.

Polish and Finnish teachers also use professional publications, but to a smaller extent. This confirms and demonstrates that respondents use the Internet in their professional activities and have certain skills to search for information and thus have basic knowledge of information and communication technologies and are constantly updating them.

In the course of studying the experience of cooperation of parents and teachers of the countries, which are in the field of our pedagogical attention, we found that exactly Finnish teachers give more freedom to parents in raising children, constructive, artistic activity of children in Finland is freer, does not provide strict regulation. This is conditioned by the concept of phase of integration processes in education and human inclusion in society, represented (Helminen & Iso-Heiniemi, 1999).

In the context of the declared theme, the practice of supporting families of emigrants – the opening of the Finnish Red Cross is quite interesting (Ruhanen ja & Martikainen, 2006).

Note another detail Ukrainian, Polish and Finnish teachers in preschool education noted that children most like drawing, constructive activity in nature.

The questions about pedagogical parallels, which prove the value of complex systematic researches of the points of interest to the kinds of constructive activity of children, ways of support of partnership between teachers and parents in organization of lessons of creativity, drawing with the use of digital applications, remain topical and not developed till now.

The systemic nature of the stated goal and the value-oriented direction of the chosen problem led to a choice of methods of scientific search: analysis of empirical data obtained in the course of the survey and two stages of pedagogical observations, development of methodological cases of partnership cooperation between educators and parents of children in the organization of artistic and productive activity taking into account the valuable comparative experience of Ukraine, Poland, Finland.

Theoretical Framework

The theoretical basis of our empirical research was pedagogical and interdisciplinary approaches, among which we will highlight the following: transparent (transparency, transparency of the educational institution, support of conscious fatherland), partisan (activity of participants of the educational process in achieving consensus and ensuring quality of education), diversification (diversity of the directions of innovative pedagogical activity, teachers, teachers, teachers) synergistic (systemic nature of activity on formation of valuable attitudes in participants of educational process, sources of disaster, incoherence and development), emergence (use of potential of complex open self-organized systems of digital network space), primary (planning and designing of

professional activity), non-physiological (conditions of creation of new, criteria of novelty, traditions and innovations), mechanisms of development and ways of reproduction).

For our research a significant theoretical basis was the idea of innovative education as such, which is oriented on dynamic changes in the world educational and educational activity, aimed at development of thinking, creative abilities, social and adaptive possibilities of personality. Features of innovative training: openness of the future, ability to predict and forecast on the basis of constant reevaluation of values, readiness for active and constructive actions in rapidly changing situations.

It is valuable in view of the topic of our publication is the structuring of the logical essence of parity as the basis of educational cooperation: understanding – thinking – activity – reflection. Let us note here that parity as the basis of educational cooperation during the traditional and use of distance learning is fully coordinated with the competent approach (preparation of the specialist, who possesses professional skills required at the labour market, corresponding "hard skills" and "soft skills", potential of career and personal growth in the modern world).

Methodology of research

In the study of the problem of formation of valuable attitudes of participants of educational process on the basis of partnership we have served methodological principles of integral modern system of education and its realization in practice, dialectical of subject-object relations of participants of educational process, nature preservation and consideration of cultural and age peculiarities. This enabled practically to develop methodical cases and recommendations for teachers taking into account the valuable world experience, in particular teachers of Poland and Finland.

A comprehensive approach to the study of the phenomenon of quality implies understanding of this concept as a level of knowledge and skills, intellectual, moral and physical development of the applicants of general education in accordance with the set goals; level of provision of educational activity and provision of educational services to the participants of educational process by educational institution. Features: compliance with educational standards, formed competence, degree of development of personality, its preparation for continuation of study, independent life.

During the development of research materials we were guided by such principles. Purposefulness. A clear learning objective, which specifies the expected result and the predicted way of its achievement: The formation of valuable attitudes. Designing the contents of training. The content and the process of learning are grouped into relatively completed laconic parts, which can be

combined independently if necessary. Positive motivation. A motivated student, who sees the process of learning positively, initiative. Favourable conditions of study. Systems. Logical sequence of individual, group, front-level educational interactions, use of collaboration with the academic community of the educational institution, public educational organizations, intellectual activities at the levels: District, regional, national, international. Cooperation at the level of "Teacher – Teacher – Teacher – Teacher's parents – Community". Practical orientation of the educational process. Making efforts (difficulty and accessibility), desire and opportunity to check in practice, active participation in congruence of the content of individual and group tasks, personalization, absence of template. Principles of communicative management (optimal independence of participants, unity of interests of the person and educational establishment, value of discipline and stable conditions of educational activity, readiness for innovations, continuity, etc.).

Results and discussion

We conducted two stages of the empirical research. Method of survey of teachers of pre-school education institutions. The first stage of the study was conducted on the topic "Detection of the level of digital competence of teachers of pre-school education institutions for organization of digital education in quarantine conditions". The study was conducted in Kharkiv, the Osnov'yansky district, with the support of the Education Department of the Kharkiv City Council. 20 pre-school education institutions of 2 private kindergarten participated in the questionnaire. The number of respondents who took part in the study is 381. The survey was conducted in April 2020. Based on the materials and conclusions of the study, the webinar was conducted, (Trubavina, Vorozhbit-Gorbatyuk, Shtefan, Kalina, & Dzhus, 2020), at the All-Ukrainian practical online conference "Digital technologies in educational process", the theme "formation of language and emotional and ethical competence of the teacher" (Vorozhbit-Gorbatiuk & Shtefan, *Khudozhno-produktyvna diialnist molodshykh pidlitkiv: iz dosvidu intehrovanoho kursu "Khudozhnia tvorchist"*, 2021), published methodological recommendations (Shtefan, Vorozhbit-Gorbatiuk, & Dotsenko, 2021).

The second stage of the study was held in November 2021 under the topic "use of modern information services during the preparation of lessons on artistic and productive activity" the study was conducted in Kharkov selectively among pre-school education institutions mainly communal form of ownership. 105 respondents took part in the survey.

In addition, the study materials were developed by the authors' methodological developments, presentations and feedback on the content of the webinars on the educational platform «Atoms» (Atoms, 2021), analytical

processing of results of pedagogical observations and interviews with teachers, parents of children.

The results of the study show the importance of the problem of valuable attitudes of participants in the educational process. Active in the last two years forms and methods of mixed education, distance education reveal new powerful opportunities for the development of the child's personality, organization of training according to competent and synergistic approaches. These approaches defined the specifics of the partnership of the participants of the poll, improvement of pedagogical qualification. Among the specific characteristics of partnership cooperation we will pay attention to the following: Procedural: Interaction on the basis of parity and co-operation of the participants of the educational process; realistic goals: Coordination of competent and axiological approaches, reliance on the basic culture of personality (Torrance, 1984); the logic of natural-reserve development “feeling – emotions – will” (Vyigotskiy, 1982), (Molyako, 2015); self-identification of the child's personality is a key to the success of the teacher's and child's parents' pedagogical partnership; the voluntary participation in all research activities.

The Global Internet Network in this study we consider as a powerful source of information that is constantly being replenished and changed. Let us note that people from different parts of the world create information. Information is shared by all people, including preschool children, who have access to the global Internet. Logically, various platforms, platforms, channels for information exchange between participants are created. We assume that the use of the global Internet network by teachers of preschool education, teachers of general schools, and parents of children to prepare for classes in artistic and productive activity will help to ensure quality organization of artistic and productive activity, formation of valuable attitudes to the process and results of such activity and the actual process of education. Parents, teachers have a unique opportunity to immediately exchange information, creating their own media platforms, channels or become participants of already existing international, all-Ukrainian, mobile groups thematic, on the interests or within social objects.

The digital learning environment, as the interview and interview in the “on-the-fly” style demonstrated, is a strategy of digitization of the educational process, which involves digital skills of transition of teachers and students. In particular: From literacy to critical information and data processing, from network security to technology knowledge, from coding to problem solving. We believe that these results can be compared with the results of the survey conducted in the Republic of Poland by Svengokshinskiy military in three Stories: Kölse, Skarzhinsk and Stashov in the early half of 2018. The research was carried out mainly among children's kindergartens of municipal ownership and published in the book "Multi-media kindergarten" by the authors Katagina Rogozinska, Anna Vinyarchik (Rogozinska & Winiarczyk, 2019).

So, we can assume that the use of the global Internet by teachers in preschool education, parents to prepare for the classes in artistic and productive activity is common as well as the use of special editions, in the middle of 20 century. Parents, teachers have a unique opportunity to exchange information instantly, creating their own media platforms, channels or become participants of existing international, all-Ukrainian ones.

We conducted two empirical studies. Method of survey of teachers of the pre-school education institution. The first survey was conducted under the topic "Questionnaire on the determination of the level of digital competence of educators TO organize digital education in quarantine conditions". The study was conducted in Kharkiv, the Osnov'yansk district, with the support of the Education Department of the Kharkiv City Council. 20 pre-school education institutions of 2 private kindergarten participated in the questionnaire. The number of respondents who took part in the study is 381. Respondents were educators of preschool education institutions and parents of pupils. The overall digital literacy rate was more than 60%, meaning that respondents believe that they have some knowledge and skills to use information and digital technologies in the educational process (Shtefan M. , 2021)

The second study was held in November 2021 under the topic "use of modern information services during the preparation of lessons on artistic and productive activity" the study was conducted in Kharkov selectively among pre-school education institutions mainly communal form of ownership. 105 respondents took part in the survey.

We believe that these results can be compared with the results of the survey conducted in the Republic of Poland by Svengokshinskiy military in three Stories: Kölse, Skarzhinsk and Stashov in the early half of 2018. The research was carried out mainly among the gardens of the municipal form of ownership and published in the book "Multi-media kindergarten" by the authors Katagina Rogozinska, Anna Vynarchik (Rogozinska & Winiarczyk, 2019)

The results of the three studies are presented in Table 1 "comparative results of the study of teachers of pre-school education institutions of Ukraine and the Republic of Poland".

Table 1 Comparative results of the study of teachers of pre-school education institutions of Ukraine and the Republic of Poland (created by the authors)

Question	Results of the survey (%)	
	Ukraine	Republic of Poland
1. Age of respondents		
Up to 30 years	11	4,93
From 30 to 45 years	44	60,49
From 45 years	45	39,51
2. The working experience of the respondents		
Up to 3 years	12	22,23

From 3 to 10 years	27	34,57
From 10 to 20 years	22	43,20
More than 20 years	39	-
3. What kinds of artistic and productive activity do children like the most?		
Drawing	66	59,09
Application	55	19,83
Construction from boxes, weapon material, construction modelling	40	20,25
Treatment (creation of various forms of plasticise, straw dough, clay)	40	0,83
4. To prepare lessons on artistic and productive activities, what information resources do you use?		
Internet (specialized websites, thematic pages, groups in social networks)	89	55,96
Printed editions	44	21,10
Television	6	16,51
Professional, thematic publications for pre-school education institutions	61	1,83
5. What information do you receive for the lessons on artistic and productive activities from the global Internet?		
I do not use the Internet	1	-
Templates for production of the product	55	16,41
Schemes of drawing, applications	53	9,37
The ideas of an artistic product that you can change according to your child's age	78	50
Demo material	64	24,22
6. How do you and your children use completed works?		
Organize a thematic exhibition, vernissage	74	-
You form a bank of compliments for the guests of the educational institution, parents of children	11	-
Put your portfolio in the section "Creativity"	45	-
Offer children and their parents to use for their purposes in their household	41	-
Collect, and then dispose	3	-
You form a bank of compliments for school guests, parents of children	6	-

As we can see, almost all respondents use the Internet both Ukrainian and Polish teachers in preschool education. But we note that during the survey of Ukrainian teachers on preschool education they have little opportunity to choose several answers that they were offered, therefore we have answers which in sum cannot give 100%, but exceed them. It is interesting that Ukrainian teachers in preschool education use professional printed publications to prepare lessons on artistic and productive activity. This shows that the pre-school education institution has its own professional library, which is replenished and updated during the calendar year. Polish teachers also use professional publications, but in a lower degree. Let us turn your weight on average age of Ukrainian respondents from 30 to 45 made up - 44% and from 45 years made - 45%. This confirms and demonstrates that respondents use the Internet in their professional activities and have certain skills to search for information and thus have basic knowledge of information and communication technologies and are constantly updating them. Polish teachers also prefer the Internet, printed editions and television. Professional literature is less used during preparation of lessons on artistic and productive activity for children of preschool age.

Note another detail Ukrainian and Polish teachers in preschool education noted that children most like drawing. It should be noted that during the survey of Ukrainian teachers in preschool education they had an opportunity to choose several answers. Therefore, we have almost equal results in other activities. Thus children of preschool age during educational process develop various technical and artistic skills. Love works with a variety of artistic material and can make products, draw during free activity. From Table 1 we see that Ukrainian respondents are looking for different templates for production (55%) and application schemes (9,37) respectively, Polish respondents are much less – 16,41% and 9,37.

As far as Finland is concerned, in the context of the topic of the study it should be noted that the Finnish kindergartens have a major focus on the overall development of the child and cooperation of parents and teachers (Act, 2007). There for children organize entertainment and cognitive content events, children spend a lot of time outdoors. Teachers of Finnish kindergartens care about socialization and harmonization of the overall development of the child. That is why integrated lessons are popular there, which combine elements of music, needlework, cognitive classes. The child, through communication and various activities, acquires experience of valuable attitudes. As such, there is no need for digital support of interaction between teachers and parents of Finnish children, since all necessary information is presented in detail and in detail on the digital service of the institution, is available only for parents. If it necessary, individual meetings can be organized (The Finnish Refugee Council, 2022).

Therefore, based on the results of two studies conducted during 2020-2021, it is necessary to note that the use of information technologies during the

educational process, getting information from the Internet for preparation of classes with children of the senior preschool age is the usual trends of the XXI century for the modern world. In our opinion, it should not be any sense to deny or exaggerate the influence of modern information technologies, global Internet network on formation of educational process and organization of artistic and productive activity for children of the senior preschool age. It should be recognized that the sources of information have changed during the XX century: books, professional publications, TV and radio transmissions were an important source of information and were available. And since the beginning of the XXI century the global Internet network has become popular, first electronic books appear, powerful information source is already specialized YouTube channels, creation and appearance of new social networks, audio and video podcasts, professional and amateur courses for parents, children, and teachers.

The speed of distribution and receipt of information is growing incredibly. For example, there are certain platforms, or even social networks, where you can create thematic groups. In a thematic group can be built according to certain criteria. For example, they can be closed and open, shared roles between participants, and placed information according to certain criteria. For example, we created a closed group on Facebook's social network "art-studio "Fantasia" on March 19, 2020, which aimed to hold an artistic and productive marathon for young teenagers remotely in synchronous mode and with the possibility of using video recordings in asynchronous mode (Shtefan M. , 2020). Relevant thematic groups in social networks are numerous and often they unite participants from different parts of the world. We will note that in social networks there are also professional groups, which are created for teachers of the pre-school education institution.

During the development of recommendations and cases for parents of pupils and teachers (Vorozhbit-Gorbatiuk , *Efektyvne navchannia – pedahohichni innovatsii i tradytsii*, 2021) we have taken into account age peculiarities of formation of valuable attitudes. Thus, children of 5-9 years old are characterized by such features: insignificant social experience, increased emotional, vulnerability and plasticity, impulsiveness, desire to communicate. It is important in this period: coordination of behaviour with clear simple rules. Analysis of real situations from the point of view of ethics. Emotional living together with the child motive and consequences of the act. Instructions. Ecology of emotions. Collective creative works. Reliance on the sense of communication, responsibility, natural justice, own dignity, conscience. We recommended to parents of pupils and teachers to take advantage of constructive experience of Finnish teachers Kasanen Laila & Kohtala Tanja (Kasanen & Kohtala, 2014) on organization of cultural events, participation in which extends experience of thinking and creative behaviour.

The adolescence is a difficult responsible period of personal development, which forms social orientation and moral consciousness: moral views, judgments, assessments, ideas about norms of behaviour. It is important during this period to focus on the future, to support the development of the youth of the volt behaviour, to support the "I-ideal" as a resource of self-regulation of the emotional tension. Expedient techniques: more freedom of choice and the possibility of survival of consequences of choice, social activity, physical work, propaedeutic of risk situations, constructive orientation on the professional sphere. Joint reading in family, joint watching of films. Academic socialization with elements of adventurism, creation of a positive environment, charity, creation of the environment of joint activity and development.

The senior school age, the youth - from 15 to 18 years - in view of the problem of our research actualizes the resistance to the outlook, formation of character and social model of behaviour, orientation on civil activity, conscious patriotism, professional and vital self-identification of teenagers. Expedient methods and techniques: objects, volunteering, self-government, podcasts, motivating speakers, moral imperative and security of communication in social networks, partnership in study, role of expert.

Practice proves that the guarantee of effective educational environment is in the enhancement of psychological culture of partnership interaction between all participants of the educational process. Common trends for Ukraine, Poland, Finland can distinguish: prevention of conflict in communication; self-improvement of communication sphere; culture of communication and behaviour; elimination of egotism, aggressiveness, propensity to manipulation; increase of self-esteem; respect for themselves and others; increase of stress; "immunity" for situational conflict of communication; awareness and reflection of others (but significant for themselves) and their conflictogenic.

We are convinced that for Ukraine, Poland, Finland educational goals and personal progress are the basis of pedagogical partnership. Clear visualization of the expected result. First we define goals, then we form content (what knowledge and skills are needed to achieve the set goal). It is useful to study the level of academic and creative achievements of the audience where the child is.

Among the practical recommendations received by participants of the empirical research, the following were most positively accepted:

Study the child (level of free attention, other thinking processes, motivation).

Combine study and work, inform about new or unknown in science.

Technologies and techniques of training are based on the principle of difficulty and accessibility.

Support the child's desire to be your assistant, expert, critic, taxonomist, etc.

Build a stable tone of educational partnership with parents, support their desire for voluntary cooperation.

Be special, charismatic; give an example of intellectual-entertainment.

Error as a basis for positive motivation to study.

Reliance on the detection and understanding of the phenomena of real life.

Learning culture or education ecosystem (education is not ZOOM, it is important not only to know how to use applications, but also to understand, to take into account their scenarios).

Technology of education with support. Reverse the class. The Method of W.Disney. Conceptual, mental maps. Technology 3P (process-problem-program).

Clear, but different ways of evaluation, clear criteria of assessment, stimulation of mutual and self-evaluation.

Useful recommendations, tested by time: To combine forces of knowledge (propensity of external and internal contemplation), power of ability (makings to comprehensive development of the body), power of soul (makings to love, to be ashamed and to own) (Pestalotsti & Distevch , 2011), Level of developing education by A. Disterweg: And - feeling (sensual knowledge), when spiritual activity is connected with external excitation; II-degree of rational knowledge (thinking, its development, creative imagination); III-degree of self-reliance (creativity)

The system of prospects for A. Makarenko (Makarenko, 2009): Tomorrow's joy – average prospect – success in training – distant prospect to thank those who have taught you, practice of thinking lessons among nature V. Sukhomlinsky (Sukhomlynskyi, 1977): To think about their thoughts, analysis of specific situations, method of analogues.

It is worth paying attention to the strengths of the Finnish partnership of teachers and parents of children, in particular: Orientation on socialization and publicity of progress of development of the child's personality on educational resources of educational institution, open access to such information for parents of children, emphasis on independence and academic freedom of teachers, recognition of methodological basis of phenomenon-oriented education, emphasis on self-expression, organic combination of live and remote communication, indirectly networked resources, orientation on needs and interests of a specific child, possibility of self-actualization of all participants of the educational process, flexibility of forms and methods of supporting pedagogical partnership, including - exclusive training, priority of individual approach.

Methodical recommendations for parents and teachers on use of scenarios of modern services and digital applications in organization of artistic and productive activity of children (Shtefan, Vorozhbit-Gorbatiuk, & Dotsenko, 2021) is built on three dimensions, types of knowledge and competence of pupils: awareness (ability to perceive internal and external phenomena in a very subtle and profound way, including internal life, presence and needs of other people, and also interdependency as a feature of our own life and systems in which we are located), empathy (ability to recognize, what factors lead to long-term prosperity – both for

themselves and for others), involvement (at the personal level — management of their own behaviour, at the social level — socialization skills and ability to understand others, at the system level — involvement of a citizen of the world, conscious presence of large systems and able to act within them in a kind and sympathetic way). Expected results: formed critical thinking, creativity, positive attitude to education and general satisfaction with the educational process, built partnerships with teachers, classmates, awareness of themselves as a person. The innovation of the content of these methodological recommendations is determined by the focus on the development of the critical thinking, including the ability to analyse information, to formulate independent judgments, logical conditions, to carry out reflection, self-evaluation, strengthen its potential for developing key compliance in children. The format of the developed case reflects the methodology of partner cooperation of teacher, parents of the child, the child itself.

Conclusions

In our opinion, a practical, oriented vision of the process of forming the valuable attitudes of the participants of the educational process is valuable for the pedagogical community. The experience of Ukrainian teachers attracts attention to logic and high level of subject-methodical competence. Finnish experience educates attention to the openness of the educational space, reliance on everyday experience of cooperation between adults and children in artistic and productive activities (Darling-Hammond, Flook, Cook-Harvey, Barron, & Osher, 2020). The experience of Polish and Ukrainian teachers is useful to organize partnership of adults with the priority tasks of child development.

The competence of the pedagogical partnership is opened through a subjective-subjective constructive interaction on the basis of parity. Cooperation with parents is seen by authors as a team work with experts, experts

The perspective direction of development of the issue of formation of valuable attitudes for efficiency of educational process and pedagogical partnership is seen in development of methodical and educational supports for parents and children, which require additional pedagogical attention and psychological-pedagogical support, formation of virtual development and creative spaces of joint artistic and productive activity of parents, children, teachers taking into account cultural values.

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KAKLA – PLECU JOSLAS MUSKULATŪRAS STIPRINĀŠANA PANDĒMIJAS LAIKĀ 14 – 15 GADUS VECIEM BASKETBOLISTIEM

Strengthening the Neck and Shoulder Girdle Muscles in Basketball Players Aged 14 – 15 During the Covid-19 Pandemic

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Abstract. During the COVID – 19 pandemic, opportunities for sport activities are limited and studies take place in front of the computer. Computer and telephones are an essential component of life among the youth aged 14-15, when school studies take place online. The human body tries to adapt to these changes. Over the past few years, a growing number of authors have studied the “text (message) neck syndrome,” which can be considered the new syndrome of the twenty-first century. In studies, the normal angle of the neck is considered to be 52°. At the beginning of our studies, we obtained the following indicators: the average angle of the neck was 56,04°, and the average angle of the shoulder was 49,34°. The disciples have been performing a set of 20 exercises during the study, which lasted for one month. In the repeated tests, we have obtained the following indicators: the average angle of the neck was 53,46°, and the average angle of the shoulder was 45,19°. Albeit the angle indicators are within the normal range, the indicators went down during the distance studies. We also drew the disciples’ attention to the protracted shoulders (PSs).

Aim of the study: to develop a set of exercises to strengthen the neck and shoulder girdle for basketball players aged 14 – 15 for improving posture and preventing the “text neck syndrome.”

Methods: Analysis of literature sources and scientific studies. Measuring experiment. Photogrammetry. Mathematical statistical analysis.

Keywords: neck and shoulder angle, neck and shoulder muscle activity, text neck.

Ievads

Introduction

Neilgusī mājsēde kombinācijā ar attālinātajām mācībām, kurās pastiprināti tiek lietoti digitālie līdzekļi (datori, planšetdatori, viedtālruni) un stundām ilgā sēdēšana bez pauzēm var atstāt ilgstošas sekas uz bērna fizisko un garīgo veselību. Izmaiņas balsta kustību sistēmā, varbūt kā sekas, tam, cilvēkiem var izveidoties tas saucamais teksta („īszīņas”) kakla sindroms. Pētījumos tiek

norādīts, ka teksta („īszīņas”) kakla sindroms ir biežāk sastopams gados jauniem cilvēkiem un arī pusaudžiem, kuri vairākas stundas dienā, ikdienā, noliecas skatoties viedtālruņos un datoros biežāk nekā agrāk. COVID-19 laikā sportiskās aktivitātes ir ierobežotas un arī mācības notiek pie datora. Cilvēka ķermenis cenšas pielāgoties šiem paradumiem, kas ne reti saistītas ar izmaiņām no normāliem kustību vai pozu stereotipiem.

Pārmērīga viedtālruņu lietošana veicina šādas problēmas: stājas vājums, skoliotiska stāja, sāpes plecos un sprandā, sāpoša mugura, galvassāpes, uzmanības traucējumus, reiboņus, atmiņas traucējumus, mācīšanās grūtības, redzes pasliktināšanos (David, Giannini, Chiarelli, & Mohn, 2021; Kamalakannan, Rakshana, & Padma priya, 2020; Neupane, Ali, & Mathew, 2017).

Lai uzlabotu galvas – kakla – plecu joslas funkcionālo stāvokli un samazinātu „īszīņas kakla” veidošanos Bērnu un Jaunatnes basketbola skolas „Rīga” Centra nodaļas audzēkņiem tika piedāvāta iespēja piedalīties pētījumā, kur attālināto mācību laikā, viena mēneša garumā bija jāizpilda vingrojumi kakla – plecu joslai.

Pētījuma mērķis: Vingrojumu kompleksa izstrāde un pielietošana praksē 14 – 15 gadus veciem basketbolistiem kakla – plecu joslas koriģēšanai un „īszīņas kakla” novēršanai.

Metodes: literatūras avotu un zinātnisko pētījumu analīze. Konstatējošais eksperiments. Fotogrammetrija. Matemātiskās statistikas metode.

„īszīņas kakla” un uz plecu protrākcijas veidošanās *The development of the “text neck” and protracted shoulders*

Dažu pēdējo gadu laikā arvien vairāk autoru (David et al., 2021; Fares, Fares, & Fares, 2017; Ruivo, Carita & Pezarat – Correia, 2016) izpētījuši, ka „teksta (īszīņas) kakla sindroms” varētu tikt uzskatīts par jaunu 21.gadsimta sindromu. Šis sindroms rodas biežas galvas noliekšanas rezultātā, kamēr skatāmies lejup uz mobilo ierīču ekrāniem, „sūtām īszīņas” (Fares et al., 2017; Neupane et al., 2017).

COVID – 19 ir bijusi milzīga ietekme uz cilvēku fizisko uzvedību un garīgo veselību. Sociālās distancēšanās nodrošināšanai tiek plaši izmantotas ilgstošas un stingras izolācijas politikas, kas var izraisīt pārmērīgu viedtālruņa un datora lietošanu un palielināt viedtālruņa atkarības risku (Zhao, Ye, & Yu, 2021).

Pandēmijas laikā daudzas ierastās izklaides un sportiskās aktivitātes ir ierobežotas un mācības notiek pie datora. Līdz šim bērni bija pieraduši pie noteikta režīma, noteikta stundu skaita skolā, starp kurām bija starpbrīži ar iespēju izkustēties, taču pandēmijas ieviesto pārmaiņu dēļ uzmanība galvenokārt tiek fokusēta uz viedierīcēm. Sporta stundu norise katrā skolā ir atšķirīga – vieniem ir jāpilda vingrojumi pie ieslēgtām kamerām, lai skolotājs redz, vai un ko bērns dara,

cietiņiem ir tikai formāls ieteikums konkrētās dienas fiziskai aktivitātei bez kontroles par izpildījumu. Vēl kādam sporta stundu laikā jāveic dažādi rakstu darbi, bez ierosinājuma izkustēties.

Attālināto mācību laikā skolēni ir mazkustīgi. Bērni vecumā no 14-15 gadiem attālināto mācību laikā pie datora tiešsaistē pavada līdz 6 stundām. Līdzīgu laika limitu 5 – 7 stundas, kas ir 1825 – 2555 stundas gadā, ko jaunieši pavada pie datora savā pētījumā minējuši autori – D. David, C. Giannini, F. Chiarelli, A. Mohn (David et al., 2021). Kā tiek norādīts pasaulē izstrādātajās vadlīnijās bērniem no 14 līdz 15 gadu vecumam divas stundas ir maksimums ko pavadīt pie viedierīces (tālruna vai datora). Taču pētījumi, kas veikti vēl pirms Covid – 19 pandēmijas liecina, ka šīs laika normas bieži tika pārsniegtas (American Academy of Child & Adolescent Psychiatry, 2020, Twenga & Campbell, 2018). Tiek norādīts, ka pārsniedzot šīs ieteiktās laika normas pastāv saistība ar psiholoģiskām problēmām – emocionālo nestabilitāti, paškontroles traucējumiem, komunikācijas grūtībām u.c., kā arī ar fiziskās veselības traucējumiem. (Twenga & Campbell, 2018).

Datori, telefoni ir būtiska dzīves sastāvdaļa 14 – 15 gadus veciem jauniešiem, kad mācības skolā notiek attālināti. Cilvēka ķermenis cenšas pielāgoties šiem paradumiem. Kakls ir viens no ķermeņa segmentiem, kas to dara visvairāk, jo ir viskustīgākā mugurkaula daļa, tā paveic lielāko daļu visu veidu kustības. Tehnoloģiju lietošana saistīta ar kakla noliekšānu uz priekšu, šo noliekšānos un atliekšānos nodrošina zemākie kakla skriemeļi – 4.,5. un 6.skriemelis (Kamalakannan et al., 2020). D. David un citi pētnieki min, ka 75% no pasaules iedzīvotājiem stundu dienā ir noliekuši galvu pār viedtālruni (David et.al., 2021; Neupane et al., 2017). Jāatzīmē, visas šīs iepriekš aprakstītās izmaiņas mugurkaulā un plecu joslā ietekmē kakla skriemeļu noslogojumu galvas noturēšanai. Pieauguša cilvēka galva sver aptuveni četrus kilogramus. Pieliecot to 15 grādu leņķī, svārs, kas jānotur kakla skriemeļiem, jau sasniedz aptuveni 12 kilogramus. 30 grādu leņķī tie pārvēršas par 18 kilogramiem, un 60 grādu leņķī sasniedz 27 kilogramus (David, Giannini, Chiarelli, & Mohn, 2021; Kutty, 2019). Šāds galvas un kakla novietojums var radīt muskuļu disbalansu kakla – plecu joslas muskulatūrā. Veicot funkcionālo izvērtēšanu var konstatēt gan muskuļu hipertonusu, gan muskuļu funkcionālo vājumu. Tādā veidā organisms mēģina situāciju daļēji kompensēt un palīdzēt noturēt kaklu. Līdz ar to jāpievērš pastiprināta uzmanība profilakses pasākumiem, jo kā uzsver speciālisti, tam seko krūšu muskulatūras saīsināšanās un muguras krūšu daļas muskulatūras funkcionāls vājums. Cilvēkam izveidojas apaļa mugura (Neupane et al., 2017). Arī Rīgas Stradiņa universitātes (RSU) docente S. Umbraško savā 2016.gada pētījumā ir secinājusi, ka 71% skolēnu ir ar apaļi ieliektām mugurām, bet 42% bērnu novērojamas skoliotiskas stājas (LSM.lv, 2018).

Speciālisti norāda, ka īsziņas kaklu iespējams koriģēt un atgriezt normālā pozīcijā atbilstoši optimālam stājas stereotipam, vairumā gadījumu šāds kakls

liecina par nepareiziem ergonomijas ieradumiem, nepareizu stāju, retos gadījumos šāds kakls var būt kā iemesls dažādām saslimšanām, kā, piemēram, artrītam, nervu bojājumiem, mugurkaula deģeneratīvām izmaiņām (Kamalakaran et al., 2020).

Tādēļ ir nepieciešams speciālists – fizioterapeits, kurš veic testus un izveido vingrojumu kompleksu, lai palīdzētu tikt galā ar konkrētā bērna sūdzībām. Jāstiprina viss mugurkauls, jāaktivizē dziļā muskulatūra, nepieciešama muskulatūras stiepšana, pārslēgšanās no viena darbības veida uz citu (Kutty, 2019).

Metodoloģija *Methodology*

Ētika. Pirms eksperimenta uzsākšanas tika saņemts atzinums no Latvijas Spora pedagogijas akadēmijas Ētikas komisijas, Nr.391/42813, ka pētījums tika veikts saskaņā ar normatīvajiem aktiem par ētikas normu ievērošanu zinātniskajiem pētījumiem. Piedalīšanās pētījumā bija brīvprātīga, saņemtas atļaujas no pētījumā iesaistītās sporta skolas vadības un bērnu vecākiem.

Konstatējošais eksperiments notika no 2021.gada 4.septembra līdz 10.decembrim. Pētījumā piedalījās vienas sporta skolas 40 audzēkņi vecumā no 14 – 15 gadiem. Pētījums sastāvēja no sekojošiem etapiem:

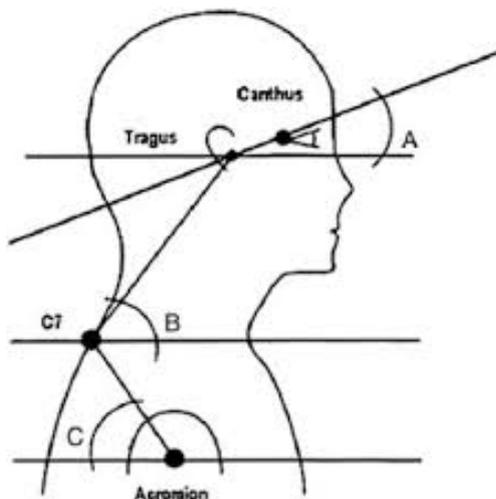
1. Divas testēšanas reizes – pirmā notika pētījuma sākumā (oktobra trešajā nedēļā), otrā testēšana pētījuma beigās (decembra pirmā nedēļā). Testēšanas procedūras laikā tika veikta fotogrammetrija (Alowa & Elsayed, 2020; Ruivo et al., 2016; Thigpen, Padua, Michenen, Guskiewicz, Giuliani, & Stergiou, 2010) galvas – plecu joslai sagitālā plaknē.
2. Balstoties uz literatūru un pirmajā testēšanas reizē iegūtajiem datiem, tika izveidots vingrojumu kopums kakla – plecu joslas muskulatūras nostiprināšanai.
3. Trīs treniņu nodarbībās audzēkņiem tika iemācīti šie vingrojumi.
4. Mēneša garumā (01. – 30.novembris), kad mācības skolā COVID-19 izplatības dēļ notika attālināti, audzēkņi šos vingrojumus pildīja patstāvīgi. Katru dienu, piecas reizes nedēļā audzēkņiem bija 15 minūtes jāvelta vingrojumu izpildei.

Uz atkārtotu testēšanos (decembra pirmajā nedēļā) ieradās 26 pētāmās grupas dalībnieki, 14 dalībnieki dažādu personīgu apsvērumu dēļ no pētījuma izstājās.

Par pamatu šim pētījumam tika ņemts (Ruivo et al., 2016) veiktais pētījums. Fotogrammetrijas metode tika izmantota, lai noteiktu galvas, kakla un pleca leņķus (1.att.), kas raksturo galvas –plecu joslas novietojumu sagitālajā plaknē attiecībā pret optimālo stājas stereotipu, tādējādi iespējams konstatēt plecu

protrākcijas un „īszīņas kakla” pazīmes. Pētījumos tiek norādīts, kā normāls sagitālais galvas leņķis vidēji ir 19°, jo leņķis ir lielāks, jo lielāka ir galvas ekstenzija, savukārt normāls kakla leņķis tiek uzskatīts $\geq 50^\circ$ lielumā, jo mazāks ir šis leņķis, jo vairāk var novērot uz priekšu vērstu galvas stāvokli, tātad kakla fleksiju un galvas ekstenziju. Kā normāls pleca leņķis tiek uzskatīts 52°, jo lielāka ir plecu protrākcija, jo mazāks ir šis leņķis (Mayank, Upender & Nishat, 2007; Brink, Crous, Louw, Grimmer – Somers, & Schreve, 2009; Thigpen et al., 2010).

Procedūra – pētāmajam tika piestiprināti marķieri uz sekojošiem anatomiskajiem punktiem: *tragus* pie auss ejas, mugurkaula 7 skriemeļa (C7) un *acromion* viduspunkta. Kakla leņķi veido līnija, kas savieno mugurkaula 7 skriemeli (C7) un auss ejas horizontālo līniju (B). Pleca leņķi veido līnija, kas savieno *acromion* un mugurkaula 7 skriemeļa (C7) horizontālo līniju (C) (1.att.). Fotoaparāts tika novietots 3m attālumā un 130cm augstumā, nostāšanās vieta tika marķēta, lai audzēknis atrastos tieši pretī kamerai. Par fonu tika izmantota gaiša siena. Audzēknis nostājās brīvā stājā, skatoties taisni uz priekšu. Labročus fotografēja ar labo plecu pret kameru, kreīlus ar kreiso sānu pret kameru (eksperimentā piedalījās 2 kreīli. Fotografēšanai tika izmantots Canon7 fotoaparāts ar 15 – 85 mm objektīvu un Cullmann statīvs. Iegūtie foto attēli tika apstrādāti ar datorprogrammu AutoCad, kurā tika izmērīti galvas, kakla un plecu leņķi. Iegūtie rezultāti apstrādāti ar SPSS programmatūru. Dati tika analizēti, izmantojot aprakstošo statistiku, lai noteiktu rezultātu izmaiņu ticamību tika pielietots Stjūdenta t – tests.



1.attēls. **Kakla un pleca leņķu mērīšana** (Ruivo et al.,2016)

Figure 1 **Measuring the neck and shoulder angle** (Ruivo et al.,2016)

Konstatējošais eksperiments notika attālināto mācību laikā, kad audzēkņiem patstāvīgi piecas reizes nedēļā jebkurā dienas laikā bija jāizpilda kakla – plecu joslas muskulatūru nostiprinošie vingrojumi. Eksperimenta laikā audzēkņi piedāvātos vingrojumus izpildīja 22 reizes. Kopā vingrojumu izpildei veltot 5 stundas un 30minūtes. Vingrojumi tika izvēlēti tādi, kurus audzēkņi mājās

apstākļos spēja veikt. Katram audzēknim uz viedtālruni arī tika nosūtīts vingrojuma apraksts (1.tab.). Vingrojumiem bija stiepjošs un spēka raksturs.

Kompleksa izstrādei par pamatu tika ņemti dažādu speciālistu ieteikumi par vingrojumu nozīmi, kas vērsti uz kakla – plecu joslas daļas korekciju (Cheng, Su, Yen, Liu, & Cheng, 2015; Grasis & Ļubinska, 2003; Jastrežemska & Guserova, b.g., Kutty, 2019; Lukjanskis, b.g., Ruivo et al., 2016; Ruivo, Pezarat – Correia, & Carita, 2017; Ros.lv, b.g.).

*1.tabula. Vingrojumu komplekss kakla – plecu muskulatūrai (autoru izstrādāts)
Table 1 A set of exercises for the neck and shoulder muscles (made by authors)*

Vingrojuma apraksts	Dozējums	Norādījumi
s.st. – sēdus, kreisā roka turas pie krēsla apakšējās malas vai apsēsties uz kreisās plauktas, lai nofiksētu kreiso plecu, ar labo roku aptver galvu. 1 – 2 – izelpā galvu noliekt pie labā pleca, noturēt; 3 – 4 – tas pats uz otru pusi.	10 – 20 sekundes uz katru pusi	Lēnām stiept m.trapecius uz augšējo daļu.
s.st. – stāvus, rokas brīvi gar sāniem; 1 – pagriezt galvu pa labi; 2 – s.st.; 3 – 4 – tas pats uz otru pusi.	10 reizes	Galvu pagriezt lēnām, iestiept kakla muskulatūru.
s.st. – pagriezt galvu pa labi, 45° leņķī, aptver galvu no priekšpuses ar labo roku, tā, lai deguns atrastos pretī labās rokas elkoņa locītavai. Kreisā roka turas pie krēsla apakšējās malas vai apsēsties uz kreisās plauktas, lai nofiksētu kreiso plecu. 1 – 2 – izelpā noliekt galvu pa labi pie krūtīm, saglabājot galvas stāvokli, pagrieztu 45° leņķī, noturēt; 3 – 4 tas pats uz otru pusi.	20 sekundes uz katru pusi	Lēnām stiept m.levator scapulae. Audzēknis pats izvēlas vingrojuma izpildes veidu.
s.st. – stāvus, rokas brīvi gar sāniem, galva pagriezta pa kreisi; 1 – lokveidā pagriezt galvu lejā, pa labi; 2 – s.st.; 3 – 4 – tas pats uz otru pusi. <i>vai</i> s.st. – sēdus, galva pagriezta uz labo pusi. 1 – 2 – zīmēt ar galvu pusapli, caur priekšpusi – no labā pleca līdz kreisajam plecam; 3 – 4 – tas pats uz otru pusi.	10 reizes	Galvu pagriezt lēnām, iestiept kakla muskulatūru. Galvu pagriežot, neatlikt to uz mugurpusi un nezīmēt apļus uz mugurpusi.
s.st. – pamatstāja; 1 – apļot labo plecu uz aizmuguri; 2 – apļot kreiso plecu uz aizmuguri.	10 reizes	Neraut plecus uz augšu, skats uz priekšu, plecus apļot pārmaiņus.
s.st. – pamatstāja; 1 – apļot plecus uz aizmuguri; 2 – s.st.	10 reizes	Neraut plecus uz augšu, skats uz priekšu.

1.tabulas 1.turpinājums. Vingrojumu komplekss kakla – plecu muskulatūrai
Table 1 continued (1) A set of exercises for the neck and shoulder muscles

Vingrojuma apraksts	Dozējums	Norādījumi
s.st. – labā roka priekšā, ar kreiso roku aptver labās rokas elkoni; 1 – izelpā vilkt labās rokas elkoni uz sevi; 2 – noturēt. Tas pats ar otru roku.	10 sekundes ar katru roku	Necelt plecu uz augšu.
s.st. – labā roka augšā saliekta elkoņa locītavā, ar kreiso roku satvert elkoni; 1 – spiest uz elkoņa, virzīt saliektu roku aiz muguras; 2 – noturēt; 3 – s.st. 4 – 6 – tas pats ar otru roku.	10 sekundes ar katru roku	Lēnām stiept muskulatūru.
s.st. – pamatstāja, rokas sānis, labā ar delnu uz augšu, kreisā ar delnu uz leju; 1 – 2 – pagriezt kreiso delnu uz augšu, labo rotēt uz leju, delna uz augšu, galva pa labi; 3 – 4 – tas pats uz otru pusi un ar otru roku.	10 reizes	Izpildīt lēnām, neraut plecus uz augšu.
s.st. – rokas aiz pakauša; 1 – 2 izelpā noliekt galvu, lai zods būtu pie krūtīm, elkoņi uz priekšu; 2 – noturēt.	10 – 20 sekundes	Noliecot galvu, nesaliekt ķermeni.
s.st. – pamatstāja, rokas augšā uz āru; 1 – ar spēku saliekt rokas līdz 90° leņķim, lāpstiņas tuvinās viena otrai; 2 – s.st.	10 reizes	Izpildīt lēnām, iestiept krūšu muskulatūru.
s.st. – labā roka priekšā, pavēršot apakšdelma iekšējo virsmu uz augšu. Ar kreiso roku satver tās pirkstus. 1 – vilkt pirkstus uz savu pusi; 2 – noturēt; 3 – s.st. 4 – 6 – tas pats ar otru roku.	10 sekundes ar katru roku	Vingrojumu izpildot pareizi, sajūtīsi, ka stiepj apakšdelma iekšējā virsma.
s.st. – labā roka priekšā, pavēršot apakšdelma iekšējo virsmu uz leju. Ar kreiso roku satver tās pirkstus. 1 – vilkt pirkstus uz savu pusi; 2 – noturēt; 3 – s.st. 4 – 6 – tas pats ar otru roku.	10 sekundes ar katru roku	Stiepj apakšdelma iekšējā virsma.
s.st. – pamatstāja, rokas priekšā elkoņos saliektas delnas viena pret otru; 1 – ar spēku izvērst rokas, lāpstiņas tuvinās viena otrai; 2 – savērst rokas.	10 reizes	Izpildīt lēnām, iestiept krūšu muskulatūru.

1.tabulas 2.turpinājums. **Vingrojumu komplekss kakla – plecu muskulatūrai**
Table 1, continued (2) **A set of exercises for the neck and shoulder muscles**

Vingrojuma apraksts	Dozējums	Norādījumi
s.st. – pamatstāja, rokas priekšā ar delnām viena pret otru; 1 – vērēt rokas aiz muguras, tuvināt vai sasist plaukstas aiz muguras; 2 – s.st.	10 reizes	Nesaliect rokas elkoņu locītavās.
s.st. – guļus uz vēdera, pēdas atbalstās pret grīdu, rokas augšā ar īkšķiem uz augšu, piere piespiesta; 1 – atcelt rokas ar īkšķiem uz augšu; 2 – s.st.	10 – 20 reizes	Celt taisnas vai viegli saliektas rokas.
s.st. – guļus uz vēdera, pēdas atbalstās pret grīdu, rokas augšā uz āru ar īkšķiem uz augšu, piere piespiesta; 1 – atcelt rokas ar īkšķiem uz augšu; 2 – s.st.	10 – 20 reizes	Celt taisnas vai viegli saliektas rokas.
s.st. – guļus uz vēdera, pēdas atbalstās pret grīdu, rokas sānis ar īkšķiem uz augšu, piere piespiesta; 1 – atcelt rokas ar īkšķiem uz augšu; 2 – s.st.	10 – 20 reizes	Celt taisnas vai viegli saliektas rokas.
s.st. – guļus uz vēdera, pēdas atbalstās pret grīdu, rokas sānis ar īkšķiem uz leju, piere piespiesta; 1 – atcelt rokas ar īkšķiem uz leju; 2 – s.st.	10 – 20 reizes	Celt taisnas vai viegli saliektas rokas.
s.st. – guļus uz vēdera, pēdas atbalstās pret grīdu, rokas augšā delnas viena pret otru, piere piespiesta; 1 – 2 – vērēt rokas sānis atpakaļ, savienot plaukstas; 3 – 4 – s.st.	10 – 20 reizes	Vērēt taisnas vai viegli saliektas rokas.
s.st. – guļus uz vēdera, pēdas atbalstās pret grīdu, rokas augšā uz āru, piere piespiesta; 1 – saliekt rokas līdz 90° leņķim, tuvināt lāpstiņas; 2 – s.st.	10 reizes	Neatraut un necelt galvu.

Speciālisti iesaka vingrojumus veikt noteiktu reižu skaitu, kas variē no 5 – 20 reizēm vai uz laiku, kad tiek minēts dozējums – 10 – 20 – 30 sekundes (David et al., 2021; Grasis & Ļubinska, 2003; Kutty, 2019; Ruivo et al., 2016; Ruivo et al., 2017). Pētījumā izvēlējamies dozējumu 10 – 20 reizes katra vingrojuma izpildei un 10 – 20 sekundes. 20 reizes, 20 sekundes vingrojuma izpildei izvēlējas tie audzēkņi, kuriem bija spēcīgāka muskulatūra. Pētījumā pielietojām statistiskās stiepšanas variantu, jo tam ir sekojošas priekšrocības: viegli iemācīties un izpildīt, neprasa lielu enerģijas patēriņu, dod pietiekami daudz laika, lai samazinātu stiepšanas refleksu. Pieļauj īslaicīgas muskuļu garuma izmaiņas. Pietiekami intensīva stiepšana izraisa muskuļu atslābināšanos. Kā arī tika iekļauta aktīvā stiepšana, izmantojot tikai muskuļu spēku bez arējās pretestības. Aktīvā stiepšana ir būtiska sportistiem, tāpēc, ka tā attīsta aktīvo un potenciāli dinamisko lokanību un tai piemīt ciešāka saistība ar sasniegumiem sportā, nekā pasīvajai lokanībai (Grasis & Ļubinska, 2003).

Pētījuma rezultāti **Research Results**

Eksperimenta sākumā tika veikta testēšana, lai noteiktu galvas, kakla un pleca leņķus, kas raksturo galvas – plecu joslas novietojumu sagitālajā plaknē attiecībā pret optimālu stājas stereotipu. Visu datu aprēķināšana un analizēšana tika veikta, izmantojot atbilstošu programmatūru (SPSS). Statistiskā nozīmīguma līmenis tika definēts kā $p < 0,05$. Kā jau iepriekš tika minēts, eksperimentu pabeidza 26 audzēkņi, tāpēc analizējam šos rezultātus. Apskatot rezultātus pirms vingrojumu kompleksa pielietošanas, pēc aprēķiniem, konstatējām, ka pētāmajā grupā galvas leņķis vidēji bija $24^{\circ} \pm 5,6^{\circ}$, kas lielāks par normu, kas norāda, ka pētāmajā grupā galva sagitālajā plaknē ir novietota ekstensijas stāvoklī nevis neitrālajā pozīcijā.

Sākumā vidēji rezultāti kakla leņķī bija $56,04^{\circ} \pm 5,8^{\circ}$, kas ir ievērojami lielāks par literatūrā norādītajām normām (50°), varam secināt, ka audzēkņiem nav novērojams „išziņas kakls”, lai gan subjektīvi, vērojot tos ikdienā treniņu laikā, redzējām, ka galvas ir noliektas un skatiens vērsts uz grīdu. Sākumā vidējie rezultāti pleca leņķī bija $49,35^{\circ} \pm 12^{\circ}$, kas ir zemāki par literatūras datus minētajiem (52°), kas liecina par palielinātu plecu protrakciju

Pēc mēneša vingrojumu izpildes piecas reizes nedēļā, atkārtotajā testēšanā noskaidrojām audzēkņu galvas – plecu joslas novietojumu sagitālajā plaknē attiecībā pret optimālu stājas stereotipu. Eksperimenta noslēgumā konstatējām, ka pētāmajā grupā galvas leņķis vidēji bija $24^{\circ} \pm 5,6^{\circ}$, salīdzinot rezultātus, redzam, ka šajā parametrā izmaiņas nav notikušas. Tātad pēc iegūtajiem rezultātiem varam konstatēt, ka vienu mēnesi izpildītais, 15 minūšu vingrojumu komplekss, nav ietekmējis galvas stāvokļa novietojumu sagitālajā plaknē. Kakla leņķī vidējie rezultāti bija $53,46^{\circ} \pm 5,1^{\circ}$, kas ir samazinājums par $2,58^{\circ}$, kas ir statistiski ticamas izmaiņas, $F = 13,22$ un $p = 0,00125$ ($p < 0,05$). Lai gan izmaiņas ir statistiski ticamas tās ir ar negatīvu tendenci. Pēc viena mēneša vingrošanas kakla leņķis ir nevis palielinājies, bet samazinājies. Tas varētu būt saistīts ar pleca leņķa negatīvajām izmaiņām, kas norāda, ka pētāmajā grupā plecu protrakcija ir palielinājusies, kas attiecīgi var ietekmēt kakla stāvokli. Diviem audzēkņiem kakla leņķis bija tāds pats kā eksperimenta sākumā un trim audzēkņiem palielinājās par $1 - 5^{\circ}$.

Savukārt vidējie rezultāti pleca leņķī bija $45,19^{\circ} \pm 9,6^{\circ}$, kas ir samazinājums par $4,15^{\circ}$, kas ir statistiski ticamas izmaiņas, $F = 4,84$ un $p = 0,0372$ ($p < 0,05$). Kas liecina par to, ka pleci no mācībām pie datora vēl vairāk ir izvirzījušies uz priekšu. Pielietotais vingrojumu komplekss nav veicinājis plecu protrakcijas samazināšanos. Tas skaidrojams ar to, ka atsākoties klātienē treniņiem audzēkņi norādīja, ka daudz laika bija jāpavada pie datora, ikdienas mācību stundās, kas notika pie datora, rakstot esejas un citus rakstiskos mājas darbus. Ka rakstot, rokas visu laiku ir uz klaviatūras un „pleci iet uz priekšu” un pietrūka ikdienas klātienē

treniņi, laiks, kad treneri īpaši aizrāda un pievērš uzmanību neskatīties uz leju un neiet ar „apaļu muguru”, un piedāvā daudzveidīgas fiziskās aktivitātes un vingrinājumus. Vairāki dalībnieki norādīja, arī uz to, ka vingrojumus pildīja neregulāri, kā iemeslus minot, lielo mācību slodzi, apātiju utt.

Apkopojot šo informāciju ir jāsecina, ka attālināto mācību laikā pusaudžiem bija jāpielāgojas apstākļiem, kuros vairāk bija jādarbojas monotonās statistiskās pozās un 15 minūšu vingrošana ir pārāk mazs laiks, lai organisms spētu nepieļaut tālākas stājas izmaiņas. Tikai diviem audzēkņiem leņķiskie izmēri pleca leņķī palika nemainīgi, septiņiem audzēkņiem tika novērotas pozitīvas leņķa izmaiņas, tas palielinājās par 1 – 7°. Varam secināt, ka vingrojumu kompleksā bija jāiekļauj pārsvarā vingrojumi plecu joslas muskulatūrai un krūšu muskulatūras stiepšanai.

Secinājumi *Conclusion*

Pēc pētījumā iegūtajiem rezultātiem, varam secināt, ka izstrādātajam vingrojumu kompleksam nav pozitīvas ietekmes uz galvas – plecu joslas novietojumu sagitālajā plaknē. Pētāmajā grupā aizvien galvas novietojums sagitālajā plaknē ir ekstenzijas pozīcijā, kā arī saglabājusies pastiprinātā plecu protrācija. Tas liek domāt, ka vingrojumu kompleksā vairāk jāiekļauj krūšu muskuļu, kakla dziļo fleksoru muskuļu stiepšanas vingrinājumi. Jāpārskata arī vingrojumu dozējums, kā arī jāpagarina izpildes laiks vienai nodarbībai un realizējamo nodarbību skaits.

Kopsavilkums *Summary*

During the Covid – 19 pandemic, many usual pastimes and sport activities are forbidden, and the studies take place in front of the computer. Previously, children were used to a certain regime, including a set number of classes at school with breaks in between, when they were able to move around; however, due to the changes introduced in the course of the pandemic, the attention is mainly focused on smart devices. Thus, sport classes are different at every school: in some school, the children must perform exercises in front of the cameras, so that the teacher could see if and how the pupil does the exercise, whereas others only have a formal requirement to do an exercise without controlling the actual performance. Sometimes, sport classes involve various written work that do not involve the incentive to move.

The excessive use of smart devices facilitates the following problems: weak posture, pain in the shoulders girdle and back, headaches, attention deficit, nausea, memory deficit, learning problems and decreased eyesight.

The “text neck” is not a permanent condition, and it can be return to the normal position. In 90% of cases this neck position testifies to bad habits, incorrect posture, which can be corrected by initiating certain physical activities. In turn, in 10% of the cases this neck points to very serious disorders. If a person, including a child, forms a habit of constantly looking into the telephone or computer screen, the first to react and start working are the muscles. In the course of online studies, the children aged 14 – 15 spend up to 6 hours in front of the computer. A similar time period of 5 – 7 hours, which is 1825 – 2555 annually, is mentioned as a period that young people spend in front of the computer by D. David, C. Giannini, F. Chiarelli, and A. Mohn.

R. Ruivo mentioned in their study that the normal angle of the neck is considered to be 50°, whereas the normal angle of the shoulder is considered to be 52°.

Prophylactic exercises can be performed at home to reduce stress in the neck and improve blood circulation in the neck muscles. As part of the study, the pupils had to perform a set of exercises at home five times a week for 15 minutes.

At the beginning of the study, the average neck angle was $56,04^{\circ} \pm 5,8^{\circ}$, which is considerably higher than the results mentioned in literature (50 – 55°), so that we can conclude that the disciples had a pronounced “text neck.” At the beginning of the study, the average shoulder angle was $49,35^{\circ} \pm 12^{\circ}$, which indicates protracted shoulders.

At the end of the experiment, the average neck angle was $53,46^{\circ} \pm 5,1^{\circ}$, showing a decrease of $2,58^{\circ}$, which is statistically a credible change, $F = 13,22$ and $p = 0,00125$ ($p < 0,05$). Two disciples had the same neck angle as at the beginning of the experiment, and three disciples had an increase in the neck angle by 1 – 5°. In turn, the average result in the shoulder angle was $45,19^{\circ} \pm 9,6^{\circ}$, showing a decrease of $4,15^{\circ}$, which is statistically a credible change, $F = 4,84$ and $p = 0,0372$ ($p < 0,05$). We can conclude that the set of exercises had to include mainly exercises for the shoulder girdle muscles and for the extension of the chest muscles.

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GENERAL SECONDARY TEACHERS' VIEWS ON EDUCATIONAL PROCESS AMID THE COVID-19 PANDEMIC: TWO-YEAR EXPERIENCE OF BLENDED LEARNING

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Abstract. *The main purpose of the paper is to identify and generalize the tendencies of changes in the system of education influenced by the unexpected shift from face-to-face learning (traditional) to blended learning (as being regarded as a pattern of a certain mix of face-to-face and distance learning). The research is also targeted at investigating general secondary teachers' readiness to respond to the educational challenges during the Covid-19 pandemic. The paper presents the information obtained at the very beginning of the sudden and unpredictable shift to total distance learning and then after the gradual transition to blended learning. The pros and cons of blended learning under conditions of the Covid-19 pandemic are revealed. The ideas that are closely connected with the accepting or not accepting absolutely new ways of teaching and learning from the points of view of general secondary school teachers, schoolchildren and their parents are given in the paper. The main problems of general secondary school teachers, schoolchildren and their parents face and practical ways to address these problems are enumerated and analyzed. The authors offer a variety of possible ways and means for overcoming the problems identified. Some certain innovative approaches and technologies, methods, techniques and means of blended learning aimed at delivering quality education to general secondary schoolchildren are mentioned. The research sample includes 3600 general secondary school teachers from different regions of Ukraine.*

Keywords: *blended learning, educational process amid the Covid-19 pandemic, general secondary school, general secondary school teacher.*

Introduction

Steps to prevent the spread of coronavirus undertaken by governments in almost every country of the world resulted in changes in all spheres of human life (WHO, 2020). The impact of these steps is particularly felt in the sphere of education. In March 2020 after the outbreak of Covid-19 all over the world general secondary school teachers, schoolchildren and parents witnessed temporary suspension of face-to-face instruction and the shift to distance

teaching and learning. Unfortunately, the fight against Covid-19 is still in progress and researchers and practitioners have to find all the possible ways and means for overcoming the negative consequences of the school and university closures and the most effective approaches and technologies, methods, techniques and means of blended learning aimed at delivering quality education to learners of different ages.

Literature review shows that researchers from different countries who are concerned about the situation with education have already investigated various aspects of the problem connected with the sudden shift to remote teaching and learning at education institutions of all levels which took place in March 2020. Thus, for instance, investigating the attitudes of general education teachers towards remote learning in Latvia, Usca, Dzerviniks, Lubkina, Vindece, & Poplavskis (2021) revealed its strengths and weaknesses. And this enabled researchers to develop recommendations for general education teachers which are to be implemented at different levels (namely, at the individual level, at the level of an educational institution, at the municipal level and at the national level). The research by König, Jäger-Biela, & Glutsch (2020) was targeted at investigating the adaptation of early career teachers in Germany to online teaching during school closures caused by the Covid-19 pandemic. In their study the researchers emphasized “the need to foster the development of teacher competence in ICT-related teaching and learning both in initial teacher education and teacher professional development” (König, Jäger-Biela, & Glutsch, 2020, p. 619). Trying to find out the possible ways to mitigate negative impacts of Covid-19 on school education, Burgess and Sievertsen (2020) came to the conclusion that although face-to-face instruction was the most effective way to raise lifelong skills among schoolchildren, teaching was gradually moving online. Some studies were aimed at finding out how general education teachers defined remote instruction and distance education (Lindner, Clemons, Thoron, & Lindner, 2020).

Conducting the study within the framework of the project “Organization of Educational Process in the Content of Unpredicted Changes (the Covid-19): Comparative Analysis (Ukraine – EU countries)” (Registration No 0121U108690) the authors of this paper have already attempted to identify and substantiate the system of psychological and didactic tasks all the players in the educational process of general secondary schools (teachers, schoolchildren, parents) face in the paradigm “teachers – schoolchildren – parents” amid the Covid-19 pandemic (Topuzov, Malykhin, & Aristova, 2021). But considering the fact that we were also interested in tendencies of changes the system of Ukrainian general secondary education faced after the first shift to distance learning caused by the Covid-19 pandemic and then after the introduction of so-called blended-learning (regarded as a pattern of a certain mix of face-to-face

and distance learning), the current research aimed at their identifying and generalizing was carried out among general secondary school teachers.

Methodology

Instruments

To collect data the researchers developed a web-based questionnaire which included two parts. The first part which was aimed at finding out social and demographic information about respondents contained questions about gender, work experience and qualification.

Taking into account that we were interested in identifying and generalizing the tendencies of changes in the system of education influenced by the unexpected shift from face-to-face learning (traditional) to blended learning (as being regarded as a pattern of a certain mix of face-to-face and distance learning), the second part of the web-based questionnaire contained the following questions:

- (1) *Did you have any experience to deliver teaching remotely before the first lockdown was imposed in Ukraine?*
- (2) *Did you use any digital technologies for face-to-face learning before the first lockdown was imposed in Ukraine?*
- (3) *Were you ready to deliver teaching remotely during the first lockdown?*
- (4) *What challenges did you face immediately after the introduction of social distancing measures including school closures in March 2020 and do you still experience the same problems?*
- (5) *What online platforms, video-communication and/or messaging services do you use amid blended learning caused by the Covid-19 pandemic?*
- (6) *Has there been a change in your style of teaching since the outbreak of the Covid-19 pandemic? In case of a positive answer, please, provide some examples.*

Procedure

The researchers started to collect data in November 2021 shortly after Ukraine was hit by a new coronavirus wave and the data collection lasted for two months (November-December 2021). To recruit respondents for our web-based survey the researchers used a combination of convenience and purposive sampling methods. After the web-based questionnaire was developed using Google Forms, its link was sent to the principals and teachers of general secondary schools the researchers cooperated with (67 general secondary schools). We kindly asked the principals and teachers we cooperated with to share the link with their colleagues from different general secondary schools. Also the link to the questionnaire was disseminated via various online networking groups for general secondary teachers. Everyone was informed that

participation in a web-based survey was completely voluntary and anonymous. Although we obtained 3849 web-based questionnaires back, it should be noted that 196 of the returned questionnaires were found to be incomplete in some parts and 53 were almost totally blank (there were replies to one or two questions only). Altogether, 3600 general secondary school teachers provided answers to all questions of the web-based questionnaire.

Participants

As it was mentioned above the research sample included 3600 general secondary school teachers from different regions of Ukraine (Kyiv Oblast, Kharkiv Oblast, Khmelnytskyi Oblast, Ternopil Oblast, Zhytomyr Oblast, Zaporizhzhia Oblast and Dnipropetrovsk Oblast). The overall proportion of female general secondary school teachers that responded to the web-based survey was 93% and the overall proportion of male general secondary schoolteachers was 7%. It should be also noted that the respondents with different work experiences took part in the web-based survey: up to three years (9%), from three to ten years (22%), from ten to twenty years (22%), more than twenty years (47%). Web-based survey participants were primary school teachers (45%), middle school teachers (31%) and high school teachers (24%).

Data Analysis

To process data the researchers used methods of qualitative analysis.

Research Results

First, we wanted to know if web-based survey participants had had any previous experience to deliver teaching remotely before the first lockdown was imposed in Ukraine. The obtained results showed that 69% of respondents had had some previous experience to deliver teaching remotely. Thus, replying to this question one of the respondents wrote:

T 138: I am a primary school teacher and I have been teaching for more than 27 years. To tell the truth, the sudden shift to remote teaching was rather painful for me. The main reason for such a reaction was that when I was a student, I wasn't trained to deliver teaching remotely. Since my profession requires keeping pace with the time, I mean the development of teaching skills and expertise, I often take part in different webinars and attend various training-sessions. But before the introduction of social distancing measures (including the lockdown), I had never thought about teaching online. What I take from this experience is new knowledge, skills and qualifications ...

It should also be noted that 31% of respondents had had some practice at delivering teaching remotely (mostly there were foreign languages teachers):

T 473: *I am an English teacher and a member of a special professional learning network for English teachers. Quite often we organize online meetings to share some ideas, new methods and techniques we can use during our lesson. However, although the experience of teaching remotely was not new for me, I did not use it in my everyday practice with my pupils.*

The second question was aimed at finding out if respondents had had any previous experience of using digital technologies for face-to-face learning before the introduction of the first lockdown in Ukraine. We found out that only 38% of respondents had the opportunity to use digital technologies for face-to-face learning before the introduction of the first lockdown in Ukraine (27% of respondents mentioned that their classrooms were equipped with whiteboards and 11% of respondents used different free game-based learning platforms to review their pupils knowledge and to create a motivational learning environment). 62% of respondents replied that they had used only textbooks and educational aids recommended and approved by the Ministry of Education and Science of Ukraine (2020).

The main aim of the third question was to find out if general secondary school teachers were ready to deliver teaching remotely during the first lockdown. The obtained results indicated that 62% of respondents were not ready to teach remotely and they found it difficult to accept absolutely new ways of teaching using digital technologies. Other general secondary teachers (38%) were not so resolute. They noted that although they had some problems connected with the sudden shift to distance teaching but in many cases these problems were connected with pupils' reluctance to learn remotely (lack of necessary digital and self-study skills, lack of equipment etc.) and did not relate directly to their inability to use methods of distance teaching and learning. It took them some time to contact schoolchildren and their parents, to discuss and agree upon some possible ways of delivering remote education effectively (considering availability of computer equipment and access to the Internet etc.), to find out what teaching methods and techniques were effective for delivering education.

The fourth question concerned both challenges that general secondary school teachers faced immediately after the introduction of social distancing measures including school closures in March 2020 and with the passing of time (namely, shortly after Ukraine was hit by a new coronavirus wave which happened in November 2021). A summary of the obtained results is presented in Table 1.

Table 1 Challenges Faced by General Secondary School Teachers Immediately After the Introduction of Social Distancing Measures in March 2020 and in November 2021

Period	Challenges								
	Lack of Digital Skills to Deliver Instruction remotely	Speed and Quality of Internet Connection	Lack of Proper Equipment	Heavy Workload	Lack of Clear Guidance from National Authorities	Health-related Stress	Lack of Parental Involvement	Lack of Direct Contact with Schoolchildren	Lack of Skills to Keep Schoolchildren Motivated
March 2020	2484	3276	2988	3397	3194	3420	2592	3418	2808
November 2021	972	2664	1260	1044	573	648	1332	1116	1656

Source: designed by authors
n=3600

As Table 1 shows the most serious problems general secondary school teachers faced were connected with heavy workload (94%), lack of clear guidance from national authorities (89%) and lack of direct contact with schoolchildren (95%). These problems became less obvious after the school closures in November 2021: heavy workload (29%), lack of clear guidance from national authorities (16%) and lack of direct contact with schoolchildren (31%). Thus, heavy workload was mentioned by 29% of respondents and lack of direct contact with schoolchildren by 31% of respondents. 69% of respondents stated that immediately after the introduction of social distancing measures including school closures in March 2020, one of the main problems they faced was the lack of digital skills to deliver instruction remotely. After the school closures in November 2021 this problem was mentioned by only 27% of respondents.

The problem connected with the speed and the quality of Internet connection was pointed out by 91% of respondents in March 2020 and 74% of respondents in November 2021. Unfortunately, realities of the situation we witness today show that it is practically impossible to move from simply recognizing this problem to adopting serious steps to resolve it at the level of education institutions. Just the teachers' desire to have high quality Internet in order to deliver synchronous instruction remotely without any technical problems during school closures is not enough. We do believe that such steps should be taken at the national level. It should be also noted that according to respondents almost all schoolchildren faced identical problems connected with the speed and quality of Internet. These problems are not peculiar to Ukraine only. A simple proof can be found in scientific papers by researchers in many

countries all over the world. Thus, for instance, the research concerning distance learning at higher education institutions in Ukraine and Latvia conducted in 2020 together with our colleague from Rezekne Academy of Technologies (Malykhin, Usca, & Aristova, 2021; Topuzov et al., 2021) demonstrated that university lecturers and students in both countries faced the problems with speed and quality of Internet not by hearsay, they had personal first-hand knowledge.

Replying to this question, 83% of respondents wrote that during the first lockdown they lacked proper equipment (laptops, printers, scanners etc.), after the school closures in November 2021 this problem was mentioned by 35% of respondents. 95% of respondents stated that they had various problems with their health because they experienced extreme stress. They explained that stress was caused by their inability to influence the situation, fear for their lives and lives of schoolchildren etc. After the shift to remote learning in November 2021 this problem was mentioned by 18% of respondents. Also in their replies the majority of general secondary school teachers (72%) stated that before the outbreak of the Covid-19 pandemic many parents had not shown any particular interest in education of their children. As we can see, parental involvement increased greatly. Unlike March 2020, approximately two years later this problem was mentioned only by 37% of general secondary school teachers. One more problem which concerned respondents (78%) greatly was their inability to keep schoolchildren motivation while they were delivering instruction remotely. And although the situation improved slightly, 46% of respondents still considered this problem rather serious.

The main aim of the fifth question was to find out what online platforms, video-communication and/or messaging services secondary general school teachers used amid blended learning caused by the Covid-19 pandemic. This question was of particular interest to us, since after the introduction of a mandatory lockdown in March 2020, the government of Ukraine took a decision to divide the country into four areas of epidemiological safety (namely, red, orange, yellow and green). And since then, all general secondary schools in Ukraine have been implementing so-called blended learning (regarded in our research as a pattern of a certain mix of face-to-face and distance learning) depending on the epidemiological situation (Ministry of Health of Ukraine, 2020). Thus, in case of emerging threats of coronavirus outbreak in the area either the whole school or some classes have to suspend face-to-face instruction.

Approximately all respondents mentioned that immediately after the suspension of face-to-face instruction they had to communicate with schoolchildren and their parents, to present theoretical material and to give regular assignments via email and messaging apps (for instance, Viber, WhatsApp, Telegram). They also noted that under these circumstances instruction was mostly asynchronous. And only after some time they managed to cope with this situation and started to deliver instruction in synchronous mode

using various video-conferencing platforms (for instance, Google Meet, Webex, Zoom, Google Classroom, Jitsi Meet).

The last question was targeted at finding out what way teaching style of general secondary school teachers changed. Thus, 81% of respondents stated that with the course of time they started to understand what forms, methods and techniques were the most effective to deliver instruction online and what way to integrate the most effective forms, methods and techniques of face-to-face instruction with the most effective forms, methods and techniques of online instruction. Moreover, they started to apply more digital technologies during face-to-face instruction when it was resumed. 56% of respondents mentioned that they started integrating educational material which is given in digital format and provided by Ukrainian educational projects and platforms (“Na Urok” (2021), EdEra (n.d.) etc.) into face-to-face instruction, let alone its usage during blended learning.

Thus, the results obtained enabled us to identify and generalize the tendencies of changes in the system of education influenced by the unexpected shift from face-to-face learning (traditional) to blended learning (as being regarded as a pattern of a certain mix of face-to-face and distance learning): 1) the focus on individualization and differentiation of instruction considering age, needs, strengths and abilities of schoolchildren; 2) the activation of interaction between the key players of educational process in the paradigm “teachers – schoolchildren – parents”; 3) the increased use of digital technologies and mobile devices in educational process; 4) the urgent need to develop (improve or master) digital competence of all participants of educational process.

The focus on individualization and differentiation of instruction considering age, needs, strengths and abilities of schoolchildren – Not to lower the quality of education amid distance and blended learning general secondary school teachers have to consider age and individual psychological characteristics of schoolchildren. General secondary school teachers should have a variety of methods and techniques (for instance, individual assignments or assignments for independent work (presentations, reports writing etc.), tasks for pair, small-group and large-group work) at hand and know how to apply them. Application of individualized and/or differentiated instruction based on schoolchildren’s learning styles enables general secondary school teachers to expand schoolchildren’s cognitive interest, to enhance their motivation to study and, moreover, to develop cooperative and collaboration skills, time management and decision-making skills etc. It definitely takes much time and effort either to develop or to compile tasks and activities suitable for individualized and/or differentiated instruction from various resources. But once a teacher makes some time to do it, schoolchildren will be offered a variety of tasks and activities based on their individual abilities, needs and strengths.

The activation of interaction between the key players of educational process in the paradigm “teachers – schoolchildren – parents” – Two-year experience of so-called blended learning caused by the Covid-19 pandemic clearly points to the need to activate the interaction between the key players of educational process in the paradigm “teachers – schoolchildren – parents”. When it comes to quality education amid school closures and considering existing experience, more and more often general secondary school teachers emphasize the importance of parental involvement in providing children with support and in creating favorable conditions for their learning at home. The need to involve parents is especially acute for primary and middle schoolchildren who due to their age and individual peculiarities are often incapable of independent learning.

The increased use of digital technologies and mobile devices in educational process – The sudden shift to distance learning and then the shift to blended learning enabled many teachers to understand that the system of education in general and the system of general secondary education was not ready to respond quickly to such unpredicted challenges. The urgent need to enhance the use of digital technologies is explained by the fact that during the introduction of social distancing measures (we have already witnessed a series of Covid-19 waves) traditional instruction in the classroom is impossible because participants of educational process are separated by distance. To maintain a sound educational process and to continue to deliver quality education both school teachers and schoolchildren have to be ready and to be able to work with various digital technologies.

The urgent need to develop (improve or master) digital competence of all participants of educational process – The obtained results clearly show that general secondary school teachers who had extensive teaching experience before the outbreak of the Covid-19 pandemic were not completely ready to sudden shifts to both distance and blended learning. Some of them even thought that they were not treated equally because they had to compete with younger colleagues who had necessary digital knowledge and skills and were able to use various devices and technologies freely. We believe that in most cases such an attitude is connected with the fact that before the sudden and unpredictable shift to total distance learning in March 2020, they had a wide choice of best didactic practices which they had been collecting for many years and which did not necessarily imply the use of digital technologies in the traditional classroom (flashcards, tables, tasks of different levels of complexity for personalized learning, printouts etc.). And due to this shift and then due to the introduction of blended learning these general secondary school teachers have been subjected to the completely unusual conditions and to meet the new demands of the times they were forced to develop their digital knowledge and skills.

Conclusions

The research attempts to identify and generalize the tendencies of changes in the system of education influenced by the unexpected shift from face-to-face learning (traditional) to blended learning (as being regarded as a pattern of a certain mix of face-to-face and distance learning). The obtained results clearly demonstrate that these tendencies include the activation of interaction between the key players of educational process in the paradigm “teachers – schoolchildren – parents”, the increased use of digital technologies and mobile devices in educational process, the urgent need to develop (improve or master) digital competence of general secondary school teachers and schoolchildren, the focus on individualization and differentiation of instruction considering age, needs, strengths and abilities of schoolchildren. The study process also helps researchers reveal the ideas that are closely connected with the accepting or not accepting absolutely new ways of teaching and learning from the points of view of general secondary school teachers, schoolchildren and their parents, the pros and cons of blended learning under conditions of the Covid-19 pandemic. What is more, authors enumerate and analyze main problems general secondary school teachers, schoolchildren and their parents have been facing since the sudden and unpredictable shift to total distance learning which took place in March 2020. In addition to this, authors offer some practical ways to address these problems by mentioning certain innovative approaches and technologies, methods, techniques and means of blended learning aimed at delivering quality education to general secondary schoolchildren.

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INDIVIDUALIZED LEARNING IN THE CONTEXT OF BLENDED MODE OF THE EDUCATIONAL PROCESS IN SECONDARY SCHOOL: CHALLENGES AND EXPECTATIONS

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Abstract. *Modern learning is the ultimate collaboration between teacher and student. Much like a doctor, the teacher must assess each individual's needs, then prescribe the right solution for that person by crafting an appropriate curriculum and delivering it in a way that is meaningful. The principal aim of the research is to get an insight into contemporary issues of the individualized learning against the backdrop of blended learning in secondary school, to say nothing of the future directions for its progress and exercising. The group of researchers prepared a web-based experimental questionnaire (intended for schoolteachers and parents) targeted at illustrating the didactic potential and educational opportunities of the individualized learning as an effective remedy of preventing malign influence and retaining the quality while rendering the learning services faced with unanticipated shift to distance learning due to the COVID-19 pandemic. The inquiry-based pattern which was chosen with the aid of a voluntary response sampling technique comprised some 500 schoolteachers and parents from a various metropolitan secondary schools. Qualitative data analysis of the data obtained offer the opportunities for forming didactic rationale of the individualized learning, which could facilitate the learning process in secondary school as close as accomplishable to practical application of the learner-centered principle within a competency-based approach and digitalization of education. Alternatively, the obtained findings and logical conclusions showed the trends of teaching modes, methods and tools transformation of the individualized learning within the conditions of blended learning in secondary school.*

Keywords: *blended learning, Covid-19 pandemic, individualized learning, learning process, secondary education.*

Introduction

Currently, the problem of individualization of the educational process has acquired special significance, since its solution is associated with the creation of conditions for the disclosure and development of creative and individual children's abilities, improving the performance of each child, active self-development, deepening knowledge, expanding learning opportunities.

It is undeniable that in the real process of learning, the knowledge is absorbed individually by each schoolchild. However, the process of knowledge absorption can be the same, coincide among children of a given group or class. It is possible to identify the common in the individual development of children in the educational process. In its turn, the common can characterize the level of children's development, the similarity in the motives of activity and behavior. Typically, children of the same age have this common level of development. Therefore, understanding of the common psychological characteristics of children of a given group or a given age, provides the possibility of insight into the educational material by each schoolchild.

Individualization is a set of actions which imply devising and ensuring the fulfillment of learning experiences which are nimble to individual child's needs, strengths and interests. Schoolteachers ruminate upon their monitoring of each child and then devise the most adequate steps to give assistance to each child's learning and development. It is indisputable that when learning experiences are dedicated to children's interests, they are more captivating and determined to children. Due to the fact that children may differ in their evolutionary advancement, it is also essential that the curriculum backups teachers in devising learning experiences that are nimble to individual children's needs and strengths.

The abovementioned works well with the distance teaching during the COVID-19 pandemic, when class exercises had to be shifted from classroom studies and blended online and offline backdrop to fully digital modes. While the COVID-19 pandemic triggered a global learning destabilization of unrivaled scale and severeness, it also uncovered the tremendous room for innovation in education and renewal of education systems.

In this regard, betaking to the variety in learners' cognitive and motivational characteristics is claimed to be a demanding task to secondary school teachers. In the matter of secondary education, the COVID-19 pandemic has disorganized schoolchildren' lives in every imaginable ways, which is a demanding task for them, to say nothing of the schoolteachers and parents. They will not fulfill their school educational program and assessments in the regular way, and they have also been set apart from their social stratum. It could be argued but schools have to fine-tune learning management, shift from conventional classroom studies to remote learning both online and offline.

One of the variants for an appropriate reflex to the unrivaled and unforeseen tasks that the education system in general, and a general secondary education in particular, encounters today with a background of the switching over to distance learning due to the COVID-19 pandemic, can be the essential application of the principle of individualized learning within the educational process in secondary school.

In this context, the main purpose of the study is to get an insight into contemporary issues of the individualized learning against the backdrop of blended learning in secondary school, to say nothing of the future directions for its progress and exercising.

Literature Review

The importance and necessity of the individualization of learning has been repeatedly proven by the scientific works of several generations of psychologists, educators, methodologists and practicing teachers (Gibbons, 1971; Hiemstra, & Sisco, 1990). For some time past, a range of pedagogical studies have been dedicated to the topic of individualization and differentiation of the educational process in the light of new circumstances of life triggered by the COVID-19 pandemic (Algozzine, & Anderson, 2007; Lapada et al., 2020; Malykhin et al., 2021; Yeh, 2010; Connor, 2017).

Data as of August 20, UNESCO (2020) put on the list nearly 1.6 billion learners engaged in more than 190 countries all over the world. Shutdowns of schools and other learning spaces have influenced 94 per cent of the world's student population. Most governments around the world have temporarily closed educational institutions in an effort to restrict the spread of the COVID-19 pandemic. Schools are hubs of social activity and human intercommunion. When schools close, many children and youth miss out on social contact that is essential to learning and development (UNESCO, 2020). The abovementioned has a prompt and a durable impact, particularly for the more vulnerable and deprived communities.

To guarantee interaction between schoolteachers and children, as well as among schoolteachers and parents or among schoolchildren in many countries various online communication applications are being used (among them WhatsApp, television, cell phones, computer and network hardware, satellite systems, as well as different services available with them such as video conferencing and distance learning). Interactive online courses are also affording the opportunities for social communication and promoting the succession of education for all via distance learning. As much as these undertakings are deemed to be reasonable to refer to the need of the time, it has also caused a challenging groove to parents who are working from home and simultaneously

taking the charge of their children's learning process, so that it keeps up smoothly during the times of COVID-19.

It should be also mentioned that quite apart from the fact that distance education has its unquestioned benefits compared to other ways of innovative teaching and learning, much needs to be reanalyzed and reconsidered to bring the training in secondary school into accordance with new circumstances of life triggered by the COVID-19 pandemic. In this regard, international co-authored works serve as a valueless support in this process (Mykhailenko et al., 2020; Žogla, Ušča, & Mykhailenko, 2020).

Methodology and Participants

The survey was conducted in January-March 2021 and took place in Kyiv. Subjects of the research were schoolteachers and schoolchildren's parents. The inquiry-based pattern which was chosen with the aid of a voluntary response sampling technique comprised some 500 schoolteachers and parents from a various metropolitan secondary schools. The mentioned principals and teachers of metropolitan general secondary schools were asked to share the links among their colleagues and parents. This resulted in 500 responses from 130 general secondary schoolteachers who teach different subjects and 370 parents.

The present research is targeted at discovering experiences of teachers and parents illustrating the didactic potential and educational opportunities of the individualized learning as an effective remedy of preventing malign influence and retaining the quality while rendering the learning services faced with unanticipated shift to distance learning due to the COVID-19 pandemic. Qualitative data analysis allows the authors to examine the phenomenon from an individual's personal experiences in different situations and circumstances. The descriptive qualitative frame was used to make good of this research so that significant responses could be found to get an idea of teachers' and parents' true-to-fact experiences amidst COVID-19 pandemic.

Instrument and Procedure

Data gathering instrument comprised a web-based questionnaire prepared by the group of scientists using Google Forms. The views outlined in the scientific papers by Topuzov (2021) and Topuzov, Malykhin, & Opaliuk (2018) were embraced as a theoretical groundwork for preparing web-based questionnaire.

Five obligatory questions were intent on investigating schoolteachers' and parents' concerns towards educational changes that have been occurring in the system of secondary education and the attempt to comprehend the concept of individualized learning amid remote and blended learning triggered by the

COVID-19 pandemic, when the schoolchild turns to the subject and no more the object of educational process. For the core task of our research we took into consideration the following questions:

1. *How did the moving of the general secondary school to a blended mode of the educational process affect the academic performance of schoolchildren? In this regard, is there a need to take advantage of additional tools of individualized learning?*
2. *To what extent were the technologies of individualized learning involved in the educational process in the pre-COVID-19 period? If any, please name them.*
3. *Were any diagnostics of the schoolchildren's individual characteristics carried out in the pre-COVID-19 period in order to organize a learning process that is adequate to the level of development of schoolchildren's general educational skills and abilities? Were the individual characteristics of schoolchildren/groups of schoolchildren taken into account during the organization of the work of the class in terms of the use of additional technologies of individualized learning for the successful retention of educational material?*
4. *At the time of the compulsory move of the general secondary school to a blended mode of the educational process, was a need for an individual approach to some schoolchildren within the classroom taken into account? In connection with the different pace of the covering of educational material by different schoolchildren, who (schoolteachers or parents) had extra commitments to strengthen the additional efforts for the qualitative retention of auditory material?*
5. *At the time of the compulsory move of the general secondary school to a blended mode of the educational process, was there any information available regarding the individual psychological and pedagogical peculiarities/distinctions of schoolchildren/groups of schoolchildren, which would create optimal conditions for the bringing out full potential of each schoolchild, as well as taking an active part in lessons?*

Table 1 Sociodemographic Characteristics of General Secondary Schoolteachers Participating in the Web-based Survey (made by Authors)

<i>Variable</i>	<i>Number (n=130)</i>	<i>Percentage (100%)</i>
<i>Gender</i>		
<i>Female</i>	121	93
<i>Male</i>	9	7
<i>Position</i>		
<i>School Principal</i>	3	2

<i>A Teacher</i>	21	16
<i>A Category-1 Teacher</i>	20	15
<i>A Category-2 Teacher</i>	20	15
<i>A Higher Category Teacher</i>	36	28
<i>A School Counselor</i>	31	24
Working Experience		
<i>More Than 20 Years</i>	60	46
<i>From 10 To 20 Years</i>	31	24
<i>From 3 To 10 Years</i>	27	22
<i>Up to 3 Years</i>	10	8
School Level		
<i>Primary School</i>	69	53
<i>Middle School</i>	39	30
<i>High School</i>	22	17

Source: own study

$n=13$

0

What is more, since we hold an interest in achieving impersonal and credible consequences we appended four questions having to do with sociodemographic data of the research participants. The sociodemographic parameters of secondary schoolteachers are given in Table 1.

The sociodemographic characteristics of parents participating in the web-based survey are presented in Table 2.

Table 2 Sociodemographic Characteristics of Parents Participating in the Web-based Survey (made by Authors)

<i>Variable</i>	<i>Number (n=370)</i>	<i>Percentage (100%)</i>
Age		
<i>≤30</i>	7	2
<i>31-35</i>	85	23
<i>36-40</i>	118	32
<i>41-45</i>	104	28
<i>46-50</i>	30	8
<i>51-55</i>	11	3
<i>≥56</i>	15	4
Family Composition		
<i>Full family (a father and a mother)</i>	303	82
<i>A single-parent family (a mother)</i>	56	15
<i>A single-parent family (a father)</i>	11	3
Number of children		
<i>One</i>	141	38
<i>Two</i>	192	52
<i>Three</i>	33	9
<i>Four</i>	4	1

<i>Number of school-age children</i>		
<i>One</i>	256	69
<i>Two</i>	107	29
<i>Three</i>	7	2

Source: own study

n=370

Results and Discussion

Following on from the results of the questionnaire the attained results of the study are primarily about the notion of distance learning and individualized learning from the teacher’s point of view. Just about all of them articulate that distance learning is the complex of learning modalities using an online area, Internet connection, media, but adaptable with unrestricted time and distance. In its turn, with the individualized instruction, learning strategies have to be based on schoolchild readiness, interests and best practices.

Schoolteachers are in possession of miscellaneous ideas and backgrounds concerning individualized instruction, a widely-publicized educational strategy that is suited for schoolchildren’s merits and flaws. Research summary information demonstrates that there is a scarcely equal dividing between teachers who have a positive attitude of the individualized learning trend at large and those who are either neutral or more adverse. Along the same line, schoolteachers are divided on technology’s destination in individualized instruction. As much as about half of schoolteachers (48%) are constructive and upbeat about individualized instruction. They perceive it as either a new and novel approach to upgrade public education or at best an encouraging intention. Whereas in contrast, as much as about a third of research participants suppose the headway toward individualization is a passing craze, something that is not within their eyeshot, or a spoiler to public education. Additional one-quarter believe that individualized instruction is just one of many school modernization policies.

For another thing, the survey results are relevant to the discrepancy and resemblance of distance learning stemming from the teacher’s point of view. Each and every one takes up the position that the analogies between distance and face-to-face learning can be identified in the process itself. No matter distance or face-to-face learning the teachers have to get ready the syllabus, material, and remember the primary target that has to be accomplished. The dissimilarity between these two is only manifested in the manner how to teach the schoolchildren. The schoolteachers converge on a position that distance learning and face-to-face learning have dissimilarities in how the way the teacher conducts the teaching process. In face-to-face learning, the schoolteacher and the children get together in one place and one time, but in distance learning they cannot, even they can employ Zoom as a media, but they

are disunited in distance. In this context, even when appropriate technology is in hand to teachers, some are lacking faith about the scope to which digital tools give a hand to schools in implementing the aims connected with individualized instruction.

Getting back to the media, WhatsApp is the media that is at most utilized by the teacher for carrying out distance learning modalities, then accompanied with Google Classroom, Zoom, and Telegram in this pandemic context. The schoolteachers converge on a position that they utilize those media because they are convenient for employment, techno-friendly, and that media are acceptable to be engaged in this context. The majority of schoolteachers inform that their schools support Wi-Fi that is fast/strong enough to facilitate all their instructional needs coupled with relevant assistance to remove technological defects. No fewer than 70% of participants make no doubt that there are reasonable Internet and IT resources in location where they work. Substantially all schoolteachers (96%) make understand that their schools are incorporating digital technologies to extend assistance to individualize the learning experience stemming from each schoolchild's merits and flaws, and requests. The better part of schoolteachers (55%) explain that their schools are incorporating digital tools as an essential auxiliary reserve.

Further to this, although distance learning looks simple to be comprehended in idea, it also has hindrances for carrying out. The schoolteachers also converge on a position that the hindrances of carrying out distance learning split into three elements. They are in the sustaining instrumentality such as Internet connection, students' appliances technical data, and Internet limit and the learning process like less approachable when the activities because the schoolteacher and children have restricted time to interinfluence each other, cannot offer a comprehensive explanation about the material, and cannot get a feeling and keep control of schoolchildren's emotive factors when learning process. Consequently, they also articulate that teachers' difficulties in the practical application of distance learning are: teacher's skills to cope with technology, teacher's agenda to manage high-performance distance learning activities, sustaining instrumentality, and the creative potential of teachers as the main factor in distance learning activities.

In testimony whereof, in our research more than 55% of teachers have at best some conviction that digital technologies can give a hand to schools to be conscious of six different challenges connected with individualized instruction (enhance schoolchild involvement, adapt instruction for each schoolchild, enhance schoolchild learning, offer all schoolchildren with equal opportunities to put the axe on the helve, help teachers better penetrate their schoolchildren, let teachers concentrate on what is most urgent, enhance schoolchildren's socioemotional skills). But no greater than 13% have a good many of self-reliance concerning any of those key goals. To give one example, 93% of

research participants are at best in some measure steadfast that digital tools can give a hand to adapt instruction for each schoolchild but only 8% have a good many of self-reliance.

The following one is teacher's perceptibility of schoolchildren's accomplishment when conducting distance and face-to-face learning. The better part of schoolteachers consider that face-to-face learning is more resultative to the schoolchildren; so, when the schoolchildren learn in offline operation, the teacher can handle them, and then they can discover that their accomplishments are stemming from their abilities. In distance learning, they are aware of that it is the same as learning has a process to achieve a schoolchild's accomplishment by rapid-fire questions or exercise, but the teacher cannot keep the schoolchildren under the radar. So, they do not keep in line schoolchildren's factual accomplishment, whether it is stemming from their abilities or not. It must be explained, when the schoolchildren do the homework, teacher cannot observe if it is done by themselves or maybe they are assisted by their relatives. This is one of the hindrances come across by the teacher.

Further, pass to the following clarification about the interconnection between the learning process and schoolchild accomplishment. Children who study offline will bother with the materials, because the schoolteacher always keeps a check on them and when in the learning process, the schoolchildren, who do not get an understanding of the material, can address the question to their teacher. This thing has an effect on schoolchildren's comprehension and is concerned with their accomplishments. The schoolteachers also provide insight about obstacles to reach the learning goal, in the distance learning process not all of the children put in their task on time, children do not easily get an understanding without a clarification from the schoolteacher, so the schoolteacher cannot reach the learning goal most accurately, sometimes the children could not keep track of the online session because of data limit or Internet which is not backed up. On the top of that, the goals of the teaching and learning process could not be accomplished. Hence, the teacher's challenge is in issuing grades. When the schoolteacher cannot provide an ultimate clarification to their children, unvoluntary the learning goal or basic expertise cannot be gained. Apart from that, some of the materials require to be regarded by using face-to-face learning, so when distance learning is performed, the learning process is not ultimate.

Irrespective of the difficulties mentioned, the received answers bring forward future expectations on the degree to which schoolteachers use adaptive software, demonstrate content in distinguishing arrangements, and allow children to take up the options. A good few individualized learning practices corroborate to be more widespread than others. Almost three-quarters of schoolteachers always or often bring together children's own personal motivations into classroom tasks and practical trainings. Rather more than half

(51%) of schoolteachers always or often lead individual children through material stemming from what they have learned thoroughly as contrasted to leading everyone through the academic programme at a similar tempo. Over 60% of schoolteachers always or often use versatile frameworks, such as audio or video, to demonstrate the same material to children stemming from their individual wishes. As few as 33% of schoolteachers always or often ask students to lay down their own learning aims and 20% of schoolteachers never make use of this methodology. It is also important to note that 20% of schoolteachers always or often want children to choose the key deliverables that identify whether they are making headway in the direction of their learning goals. Somewhere one-third not even once employ this strategy. Somewhat greater than one-quarter (27%) of schoolteachers always or often use computer software to build up learner personal details. Roughly 40% of teachers never do so.

On the other hand, schoolchildren's parents have had to get over the difficulties of being under a stay-at-home order as well. Dealing with the problems of learning encounter by parents, the survey results are prevailed by three elements, particularly growing family expenditures; parental drain due to the progressive burden of managing limitations and work, much as the mutual relation and interaction of parents with children, and likewise between parents and teachers.

The above survey's results demonstrate that nearly all parents are concerned about the unfavourable effect of the COVID-19 pandemic on their children's learning. The results bring to light the fact that the major annoyance of the parents are connected to children coming across the issues due to abrupt school shut-down and a total restriction on social meetings.

Heedless of the fact that most parents have been aidless in how to keep their children interested, many have made an effort to make friends with technology and come to grips with online learning. Those who are already well-acquainted with technology and online tools are far more efficient in making a consuetude of learning at home with their children, comprising activities and home tasks assigned by the schools, and employing more online resources for reading and home-based tasks.

Insufficient engagement of parents and families to extend assistance to children's distance learning activities at home is foremost due to parents' restricted time and capability to come with children in learning. An unexpected discovery in the research is that over half of parents acknowledge that their children's learning impetus has diminished. The grounds for this are versatile (specifically, a lot of assignments that have to be accomplished in a little time, less enjoyable learning methods, restricted communication with friends, absence of the possibility to study productively in an online mode, disorganized home entourage or lack of access to proper study areas etc.).

Conclusions

Based on the survey results and deliberation, it can be determined that in the face of unanticipated shift to distance learning due to the COVID-19 pandemic the individualized instruction can be an effective remedy of preventing malign influence and retaining the quality while rendering the learning services. This current survey specifies the task complex in general stemming from the teachers' and parents' points of view. In one respect, the performed research has uncovered many problems and tasks with regard to distance teaching and learning triggered by the COVID-19 pandemic, but at the same time it demonstrated the tendencies of teaching modes, methods and tools transformation of the individualized learning within the conditions of blended learning in secondary school. The classrooms are completed with different children, and many schoolteachers look toward to contemplate learning experiences that are receptive to the children's wishes and motivations. Nevertheless, many of schoolteachers make efforts to carve out time to use individualized instruction in the classroom. Catering to the diverse needs of children is exacting, but undertaking a commitment to harmonize instruction comes from the idea that children learn better through the use of various formats and methods of learning.

We can suggest that the best practice to turn to good advantage of the didactic potency and educational potentialities of the individualized learning is to come to know children, set individual, gaugeable and attainable goals for children, decide on an instructional approach for each learning style and use supportive technology to help meet the demands of all children. Moreover, the conducted survey has proved correct that the teachers who incorporated the individualized learning formats into their day-to-day classroom practices in the pre-COVID-19 period, successfully continued and took advantage of employing those practices in the context of distance or blended mode of the educational process in secondary school caused by the COVID-19 pandemic.

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LARGE-SCALE ONLINE LEARNING SUPPORTED BY INTELLIGENT DEVICES IN THE POST-PANDEMIC ERA

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Abstract. *With the support of emerging technologies such as artificial intelligence and cloud computing, China began learning and teaching online in 2020 to control the spread of the pandemic and implement the "Classes are suspended, but learning continues" policy. Online learning and teaching require modified methods, management, and evaluation compared with traditional instruction. Moreover, teachers' and students' thinking styles and ways of communication have also changed in terms of practice, places of study and tasks. The large-scale online teaching-learning model has ushered in new teaching and learning reform trends in the post-pandemic era. Therefore, this study investigates students' and teachers' readiness for, acceptance of, and satisfaction about comprehensive online teaching and learning and explores the effect online learning has on students. To achieve the research aim, 67 students from one city and one village in China were surveyed.*

The results revealed that online teaching was met with medium levels of readiness and acceptance and gave little satisfaction. For students, attitudes toward learning, support (or lack thereof) from instructors, effective interactions, motivation to learn, and self-regulation influenced online learning satisfaction. In addition, the students' grade levels and locations.

Keywords: *acceptance of online teaching and learning, intelligent devices, large-scale online learning, post-epidemic era, readiness for online teaching and learning, satisfaction about online teaching and learning.*

Introduction

The global outbreak of COVID-19 in 2020 has considerably impacted Chinese society. According to the Ministry of Education requirements, all schools across China have conducted online teaching and learning. Such large-scale online education tests and reviews China's informatization and modernization of education.

Currently, research on online education mainly focuses on constructivism, behavior, and cognition online and the knowledge management of online teaching and learning and technical support research (San & Min, 2014). However, there is

controversy over whether online education can improve learning. Clark (1983) points out that the media does not affect learning. In addition, according to Man and Wei, in the fall semester of 2019, online teaching was nearly equivalent to traditional classroom teaching (Man & Wei, 2019). Therefore, there is no difference in the learning effect between online and in-person education, and there is no relationship between the learning effect and media application.

The aim is to investigate students' and teachers' readiness for, acceptance of, and satisfaction about comprehensive online teaching and learning and explore the effect online learning has on students.

To explore methods that do indeed promote students' deeper learning online, improve learners' online participation and augment online learning's effects, this paper studies the following three questions:

Q1: How do learners prepare for online education?

Q2: How can we deal with mass online education?

Q3: How should intelligent online education develop in the post-pandemic era?

In this paper, a literature review and questionnaire were used to understand and study students' readiness, acceptance, and satisfaction for massive online teaching and learning and the effect of online education on students.

Literature Review

There are two main views on the effectiveness of online learning. One idea is that online education during the outbreak has generally failed. Ru (2020) believes that schools across the country had to carry out emergency online education because of the uncertain duration of the epidemic. Online learning and teaching, which hastily started with insufficient experience and technology, went wrong, causing complaints from teachers and students. In addition, educational researchers have raised doubts about online teaching and learning. After reviewing the international literature on the effects of educational technology applications, Gang (2018) believed that educational technology did not have stimulating effects overall. Mang (2017) believes that information technology has not met its high expectations. He also hopes that non-educational technology professionals can understand educational technology from a philosophical perspective and guide technology and stakeholders to establish correct values instead of going to the extreme of technism, which fails to respond to the fundamental contradiction between education and technology and ignores the understanding of the nature of humanity and education (Mang & Dong, 2020).

On the contrary, the optimistic view is that online teaching and learning is the inevitable trend for education in the future, so attention and affirmation should be

devoted to promoting education informationization and the modernization of power. Yong (2020) assumes that, for education informationization and network teaching, the global outbreak is an opportunity to encourage reform. Jun et al. (2020) believe that the epidemic significantly improves the awareness of online learning. Hong (2020) confirmed that professors' recognition of online teaching has improved compared to before the pandemic.

The dispute between the two viewpoints is that they hold different value orientations about education. One believes that traditional in-person teaching and learning rationality opposes radical educational reform. Another view is that the existing educational model can no longer meet the needs of today's technological and academic development, so digitalization and informatization reform must be carried out. Therefore, it is not very meaningful to discuss the effectiveness of online education separately, instead of recognizing that massive online education is valuable and has advantages and value. Furthermore, mass-online education under this epidemic is an orderly, mainstream activity subject to multiple conditions compared with in-person teaching and learning. Researcher Yu (2021) points out that the emergence of cloud computing technology in China has ignited new thinking for education and teaching. *If computer multimedia and the Internet, as the previous round of technologies, have brought about changes in teaching presentation, teaching resource acquisition, and education transmission, the new technologies based on cloud computing will not only continue to deepen the previous educational changes, but also bring more profound fission to education.* (Yu, 2021). Therefore, it has specific learning value and presents a brand-new teaching and learning ecology, which will likely lead to significant reform in modern pedagogy. Based on relevant theories, this paper analyses the characteristics and value of this large-scale online education from the educational place, evaluation method, and modes of teaching and learning.

In face-to-face education, learning takes place almost entirely in the classroom. However, in the case of large-scale online teaching, the learning site is mainly at home and on the network. This means that the propagation of knowledge is no longer limited to teachers. It has the characteristics of social, situational, and distributed network transmission (Sheng, Gang, & Jing, 2009). Relying on a network to spread knowledge strengthens the possibility of educational equity. In some provinces, students from different schools and regions can be taught by the same teacher, which unifies educational resources and makes them fair.

In-person teaching is limited by the mismatch between students' and teachers' resources, making personalized instruction impossible. However, relying on the intelligent equipment of online teaching, learning forms can be personalized and diversified. Various materials provide students with multiple learning resources,

while intelligent data statistics and computing tools can accurately analyze students' online learning behavior patterns and habits. These provide data support for satisfying students' personalized learning.

With the development of technology, evaluations are no longer limited to results. A new adjoint evaluation has been realized. Online adjoint evaluation can be embedded in the learning process, including data-based and technology-supported evaluations (Feng & Jiqing, 2018). This evaluation method includes the time of the study, frequency of learning, participation in discussions and completion of tasks. These results enable teachers to grasp the learning dynamics of learners in time and make personalized and objective assessments of students' learning with the help of big data, artificial intelligence and other technologies.

In in-person teaching and learning, learners and teachers can sort out knowledge and deepen their understanding of learning content through communication and discussion. However, in online education, due to limitations in the network transmission of space, the time for communication and debate is reduced, as the opportunity for learners to think independently is increased. This is conducive to improving learners' independent thinking ability from psychological cognition. To meet the requirements of online education in the context of the epidemic, large-scale online teaching and learning across the country has networked and personalized characteristics and solves the problem of face-to-face teaching to a certain extent. Nonetheless, the challenges should be realized. Are learners ready for online learning? How receptive are teachers to online education? The authors refer to the research of Juan et al. (2014) and Kun et al. (2020), who designed a questionnaire and responded to these questions through a small-scale survey. The entire questionnaire consists of two parts. The first part is the survey of the basic information of the respondents, such as age and gender. The second part is a survey of online learning readiness, including the acceptance of online learning, satisfaction, and teachers' support. 5-point Likert scale survey questions were used in the questionnaire, ranging from "very consistent" to "very inconsistent."

Methodology

The research plan and procedures data provide a solid foundation for the methodology. The study follows the interpretivism research philosophy, in which the researcher builds information and interprets it based on how the participants see the phenomenon. Inductive methods are used in the study to produce theories on how intelligent online education should develop in the post-pandemic period. The researchers utilize the explorative survey design to effectively address the research questions' issues since it provides adequate chances to answer the proposed

questions. The explorative design allows the researcher to investigate how students prepare for online learning and how we can deal with large-scale online learning (Rahi, 2017). Because the qualitative research method is in harmony with the exploratory research design, it was used for data collection, synthesis, and utilization in the current study. The interpretive research philosophy is consistent with the qualitative approach and the exploratory research design.

The article's authors conducted a survey and distributed a questionnaire to get different perspectives on how intelligent devices assist large-scale online learning in the post-pandemic age from the targeted respondents. In addition, secondary data, such as journal articles and books, was used to supplement the research. As a result, much of the data used in the study was gathered through online searches, such as SpringerLink and Google Scholar. Finally, because not all students use intelligent devices, the study will use a systematic sampling technique. In essence, the current study will analyze the outcomes using a qualitative analysis method and investigate the data using a content analysis strategy.

Results and Analysis

This section reveals the data analysis and results, finding that online education satisfaction is medium, and there is a difference between urban and rural students' readiness for online teaching and learning.

Research subjects are the primary and secondary school students in City B and Town H who completed 90 questionnaires; 67 valid questionnaires were collected. The effective rate of the questionnaire was 74.4%, of which 37 were male students, accounting for 55.2%. The remainder were girls, at 44.8%.

Survey results show that 16.3% of students study more than six hours a day, 29.7% of students study 4–5 hours a day online, and 44% of students study 3–4 hours a day. According to the survey's results, 47% of middle school students study more than five hours a day online. Before the outbreak, only 33.1% of the students said they had ever studied online. Currently, about 92% of students are aware of online education. In addition, 56.6% of subjects said they had no self-control in online learning, and 55.9% said their families did not present a good atmosphere for study. "Poor internet reception" accounted for 17%, and "Lack of familiarity with learning equipment" accounted for 9% (Figure 1).

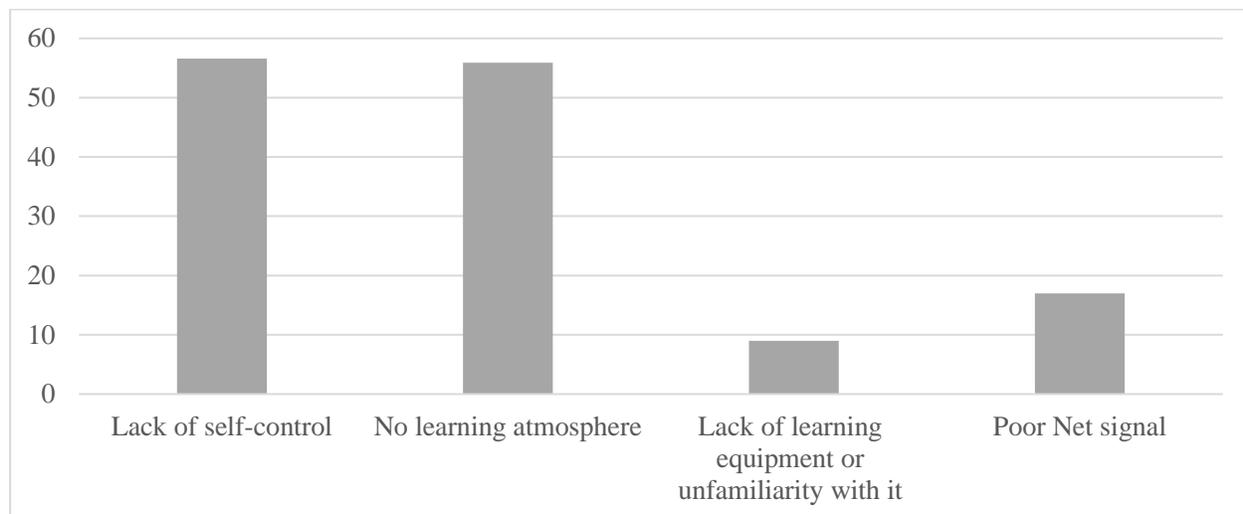


Figure 1 Limits of students' online learning (created by the authors)

The survey results of "attitude satisfaction and teacher support for online teaching" show that the average score of online learning satisfaction is the lowest at 3.4. On the other hand, the average score of the perceived degree of support for teachers was the highest, at 3.9. Meanwhile, the results also showed significant distinctions in specific items in each dimension. For example, among online learning attitudes, the item that learners "know the characteristics of online learning and can define their learning autonomy" received the highest score of 3.9. This was followed by "I can accept online education," with a score of 3.7.

Regarding learning satisfaction, "I would like to continue online education in the future" received the lowest score of 2.9. Regarding perceived teacher support, "teachers can help with the operation of the online learning platform" scored highest, while emotional factors came second. (Figure 2).

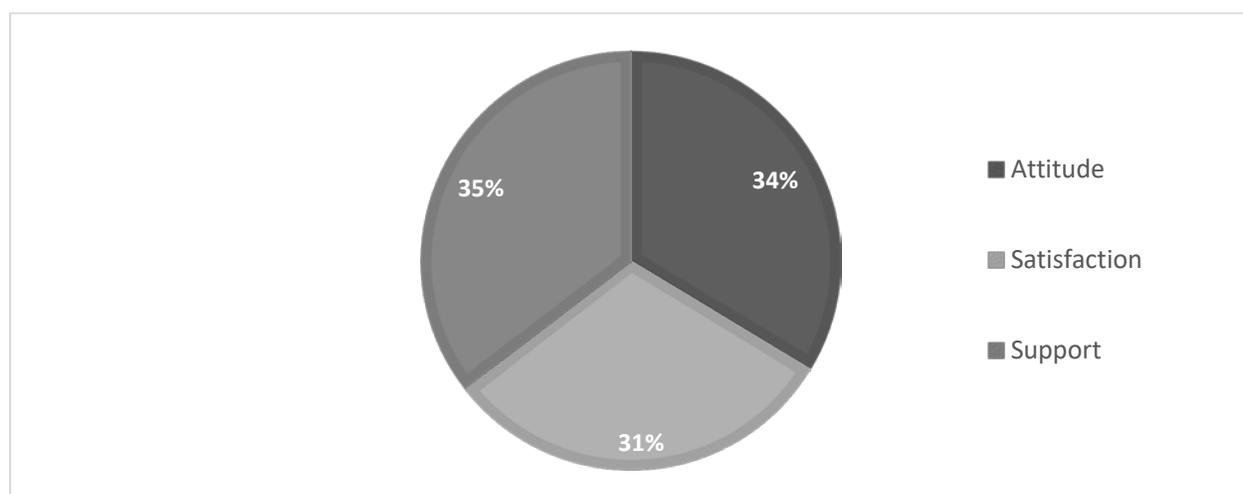


Figure 2 Online learning attitude, satisfaction, and teacher support (created by the authors)

The survey results of learners' readiness for online learning are depicted in Figure 3.

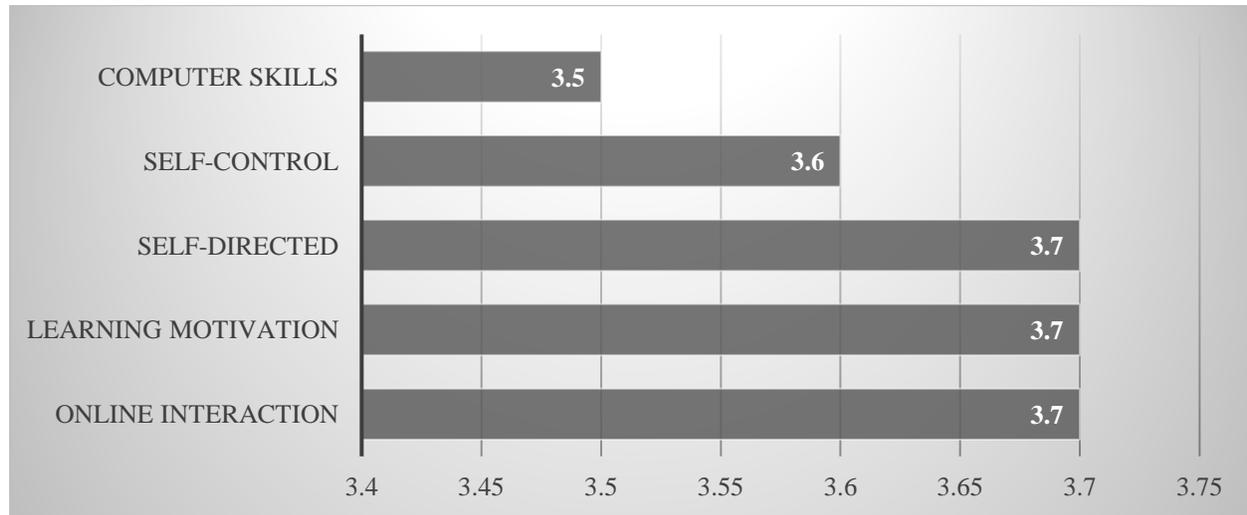


Figure 3 The average score of all five dimensions of online learning readiness (created by the authors)

Among all the sub-items, the average score for the operation ability of computers and other intelligent devices is the lowest, which is consistent with the fact that Chinese primary and secondary school students in villages and towns lack information technology. In the dimension of learning self-control, the results demonstrate that the average score of being attracted to social or entertainment software is 3.8, higher than the average level of 3.7. This shows that self-control plays a vital role in online teaching, and learners should be fully guided to focus their attention. The average score for online interaction ability is 3.7. Among the different dimensions, learners' confidence in "using online communication software" is 4.2, and "being able to review online learning content by themselves" is 3.5. The average score of "able to find suitable materials according to the teaching content" is 3.1, which indicates that students have good application ability of social software. Such findings fit the character of students in the digital era. However, due to many learning materials on the network, primary and middle school students cannot screen those enormous materials and sources.

Results of urban and village students' readiness for online education. To explore whether urban and township students' readiness for online learning is consistent, the author selected students of the same grade from a school in City B and a school in Town H. As shown in Table 1, from the perspective of gender, there was no significant difference in readiness. However, from the standpoint of region and age, there were substantial differences in readiness.

Table 1 *Readiness for online learning* (created by the authors)

		Mean ± Standard Deviation	P-Value
Gender	Male	3,51±0,71	0,21
	Female	3,52±0,67	
Grade	Primary school	3,73±0,31	0,00
	Junior middle school	3,52±0,60	
Area	City	3,75±0,79	0,03
	County/Town	3,64±0,73	
	Village	3,60±0,52	
Study time	1-2 hours	3,09±0,78	0,00
	2-3 hours	3,43±0,66	
	3-4 hours	3,67±0,61	
	4-5 hours	3,69±0,56	
	5-6 hours	3,56±0,67	
	More than 6 hours	3,51±0,70	

n=67

According to the results, the online learning readiness of middle school students was higher than that of primary school students. The online learning readiness of students living in cities is higher than that of rural and township students. The authors found this correlated with hardware devices, such as smartphones and computers. Students who studied online for four to five hours a day scored highest on their learning readiness. Students who studied 1–2 hours a day were least prepared to study online.

Discussion

The survey results reveal that learners' readiness for online learning is moderate. Accordingly, for the development of online education in the future, the following should be noted:

Educators should strengthen students' independent learning abilities. Autonomous learning is a modern way of learning that can encourage learners to explore knowledge independently and form good thinking habits and autonomous learning habits. In addition, it is conducive to the improvement of teaching quality and lays a good foundation for further study (Jian, 2020). Carrying out large-scale online learning is an opportunity to strengthen students' autonomous learning abilities.

Teachers guide students to set learning goals, arrange learning time reasonably and provide online learning strategies to promote deeper learning. In this context

deeper learning is understood as the process of learning for transfer, meaning it allows a student to take what's learned in one situation and apply it to another. (Briggs, 2015). In addition, through the guidance of teachers and other students, students can carry out self-study monitoring and evaluation and gradually learn to plan and study independently.

Improve information literacy and ability. To meet China's requirements for building an intelligent society in 2018 (The China Daily, 2018), schools should ensure that students' information and technology abilities are improved qualitatively. Such skills include computer literacy, programming, and human-machine collaboration (Kai, Yao, & Guo, 2018). Furthermore, to enhance learners' digital reception and processing ability and adapt to future changes in education, educators should pay attention to learners' scientific and technological ability and promote learners' use of various technologies to ameliorate knowledge construction. Moreover, learners should be trained to correctly search for and choose learning materials to use network resources.

Balance, equality and equity can promote the development of the education industry. The premise is that the realization of educational equity needs to solve the phenomenon of inequality and inequity in education (Li, 2016). Mass online learning enables all learners to access online platforms to enjoy the same quality educational resources. However, there is a digital divide between rural, remote areas and urban learners. Therefore, education departments and schools should take a holistic approach to ensure the equipment enables all students to learn online. Simultaneously, schools should organize diverse forms of online teaching programs. Meanwhile, networks and other infrastructure should be strengthened to ensure a smooth network and low costs. Cloud computing not only provides abundant information and powerful computing power but also enables teachers and students to share information resources more comprehensively and quickly. (Yu, 2021). Continue to empower teachers to support online education. In the survey, the authors found that learners gave high scores to the perceived support of teachers. Teachers' support for students includes knowledge support, emotional support, and tool support. Teachers design learning activities and build learning communities to acquire knowledge. In addition, compared with the face-to-face mode, learners lack physical space to communicate during online learning. Therefore, teachers take on emotional communication, which is more important than ever before. Teachers should pay attention to learners' emotions and encourage them to enhance their self-confidence and expressiveness. Finally, teachers should provide understanding and support to students who need extra learning and give them additional platforms to solve problems after class.

Conclusion

During the pandemic, students in many countries face a suspension of classes. As a result, online education has been forced to develop rapidly and become a mainstream educational model. However, it still has many problems. For example, students' acceptance of online teaching is not high, teachers' online teaching ability and experience are insufficient, and school systems are unprepared for hardware and equipment. However, online education is moving towards gradual improvement. Therefore, the importance of online education to future teaching systems cannot be denied.

Q1: How do learners prepare for online education?

Participants in the study emphasize their perspectives in answer to this research topic. Finally, the findings are compared to the evidence offered in the literature review to determine their validity and credibility. The survey's warm-up questions show a lot about the strategies and other elements that helped students succeed following the Covid-19 pandemic. Online learning gives access to broad types of resources around the country that might have been inaccessible or extremely difficult to attend in person. However, online learning can pose different obstacles if students aren't prepared. Online teaching and learning can be an excellent substitute for traditional classroom instruction, provided students understand how to use them effectively. Online education can target the achievement of students' learning goals and help students develop comprehensive qualities, such as correct lifelong goals and behavior patterns. Furthermore, through human-machine cooperation, students can build self-learning and lifelong learning abilities with the help of intelligent devices.

Q2: How can we deal with mass online education?

Online education is gaining attraction as a potential solution for increasing access to quality education. According to the term "digital gap," access to online education is limited in many countries. Digital education has become much more feasible in recent years due to the fast adoption of smartphones. Even in the most isolated rural areas, people can now access the Internet thanks to mobile broadband technology. To fill capacity gaps, governments are turning to online education. Digital learning, rather than establishing additional brick-and-mortar institutions, promises a more cost-effective and faster solution. It remains to be seen if online education can deliver on this promise.

Q3: How should intelligent online education develop in the post-pandemic era?

As a result of the pandemic's unique circumstances, all education stakeholders must ensure that education resources are used solely to advance learners' interests and talents, i.e., the benefit of all students, to protect the right to education. After online teaching, educators will have new thinking and expectations of the teaching

mode, and the teaching form will change. Now, mass online education works when teachers and students do not see in-person each other. However, the integration of online and offline education modes will become a trend in the future. Therefore, educators should explore the integration of different subjects, the interaction of resources, the relationship between teachers and students in the mixed teaching mode, and the search for intelligent technology in the mixed teaching mode.

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SOCIĀLĀ PEDAGOĢIJA.
SPECIĀLĀ PEDAGOĢIJA
Social Pedagogy. Special Pedagogy

CAREER EDUCATION OPPORTUNITIES FOR CHILDREN WITH BEHAVIORAL PROBLEMS AT SCHOOL

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Abstract. *Researchers, analysing career education, note that although the topic has recently received a great deal of global interest and schools are actively working to modernize their career education system, however, it is still inconsistent (Surgėlienė, 2014; Falco, 2016; Ho, Sum, & Wong, 2018; Seward & Gaesser, 2018; Chuang, Lee, & Kwock, 2020; Keele, Swann, & Davie-Smythe, 2020; Yang & Wong, 2020; Gati & Kulcsár, 2021). Actually, most graduates are unsure about their future career decisions, tend to change their choices. In this context, there are doubts about the quality of career education in schools as the evaluation of career education at school reveals various vulnerable groups to whom this service is restricted due to various internal and external conflicts (Hu, Hood, Creed, & Shen, 2020; Xu, 2020). The analysis, based on the PRISMA 2020 (Page et al., 2021), aims to answer the questions 1) What are the main institutional (school) empowerment conditions that enable students to gain quality career education? 2) How to encourage students with behavioural problems to take advantage of these opportunities? The review of the research allowed to construct a conceptual framework of career education for children with behavioural problems at secondary school.*

Keywords: *career education; conditions for empowerment; secondary school; students with behavioural problems.*

Introduction

Career education is an essential mechanism for a pupil in the transition period from school to further education, work and personal life that cover the exploration of unique self-perception, information about the world and deal with various contexts such as family, surrounding environment, cultural values, unplanned personal events, which can potentially influence further career decisions. Therefore, students need help in choosing a career so that in the future they could become self-confident citizens, able to integrate in the ever-changing labour market conditions (Surgėlienė, 2014). However, according to Surgėlienė (2014), Keele, Swann, & Davie-Smythe (2020), Chen & Hong (2020), Yang & Wong (2020), even though the system of career education at school has received

great interest and is constantly updated it is still not consistent. There are multiple barriers for pupils to explore their future career possibilities and to take the right actions on that, especially for various vulnerable groups to whom this service is restricted due to certain internal and external conflicts. Most graduates are unsure about their future career decisions and often tend to change their choices or adapt to current living conditions for the fear of change. Analysing career opportunities through a student's personal self-knowledge and management and the contexts of the immediate social environment that influence career decisions, researchers have identified children who are recognized at school for a variety of behavioural problems that limit their career opportunities. Studies (Lamb, 2001; Lamb & McKenzie, 2001; Iannelli & Smyth, 2008; Rumberger, 2010; Fletcher, 2012, and Ho, Sum, & Wong, 2018) note that students with low social and economic status, with behavioural problems at school in the United States, Europe, and Australia were less likely to find employment or continue their education than their classmates. Saleem et al. (2021) note that behavioural problems at school are often strongly associated with poorer academic achievement, reluctance to learn and sluggish future planning. Shen, Hu, & Hannum (2017) state that inappropriate behaviour in children at school is often correlated with their immediate social environment (family) and that parental example and support have a positive or negative impact on a child's life satisfaction, which contributes strongly to future career decisions. A child with negative experiences often does not feel happy, which leads to problematic behaviour, limits the psychosocial ability to self-regulate, cope with tasks, and prevents them from concentrating on creating and planning a successful life.

According to Xu (2020), students in poorer social or financial situations lack examples of success in their immediate environment and their future decisions are shaped accordingly. O'Connor, Dearing, & Collins (2011) note that having in mind that children spend most of their time at school, which also plays an important role in their socialization processes, school may reveal itself as a context in which children have access to the support which helps to prevent the development of behavioural problems, to facilitate the consideration of the student's future possibilities and to change the established negative attitude into a positive one. It is important to note that although scientific literature encourage such students to take advantage of the career education opportunities available to them at school, but there is not much empirical research on this topic. For example, some authors give priority to general opportunities for quality career education, only mentioning the most vulnerable groups of learners, but not discussing them in detail. In this paper, using a systematic review approach, a model for career education for children with behavioural problems at school has been developed, which provides practical guidance on how to encourage such students to take advantage of the career opportunities available to them at school.

Previous Literature Reviews and Syntheses

Empowering students to consider career choices at school should be continuous, cyclical, so that the choices made at the final stop would be secured and the graduate would have confidence in his/her decisions (Keele et al., 2020). Researchers single out the key elements of career education that determine the successful consideration helping students to recognize their interests and skills. Yang & Wong (2020) note such key elements: clear and accessible information for students, competent academic counselling (general and personal), and comprehensive (teacher, parent, career counsellor) assistance in planning potential career paths. In addition to that, the authors emphasize that each of these elements should include the concept of multidimensional self-concept as a key task in career development, as a result of which the student acquires a unique understanding of personal interests, abilities, strengths and weaknesses in academic, social, emotional, physical and other spheres. Keele et al. (2020) analyse career choice issues through student personal management, recognizing their uniqueness and core values, informing and educating about career opportunities and the active market, and safe career planning with the help of competent mentors and family participation. Chen & Hong (2020) point out such elements as career intentionality through comprehensive information, career forethought with rational goals, career self-reflectiveness, i.e. the ability to know and reflect on oneself and one's actions in a social, cultural, immediate environment. Draaisma, Meijers, & Kuijpers (2018) note the importance of practice-based information and personal, individual counselling for each student on career and self-knowledge.

Researchers (O'Connor, Dearing, & Collins 2011; Shen et al., 2017; Buzaitytė-Kašalynienė et al., 2018; Xu, 2020; Gischlar & Riffel, 2020; Hu et al, 2020; Saleem et al., 2021) state that when developing people for careers with different social, emotional and economic experiences, the most important thing is to evaluate the information collected by the student about the world around their opportunities, interests and identify the possible barriers to self-limitation, various external problems, which are the obstacles for his/her successful education. As a matter of fact, when working with children with behavioural problems, the most important empowering conditions are: providing quality counselling and complex support. Researchers state that supporting children with behavioural problems through supportive relationships helps them acquire more positive patterns of social roles, global and projected future career opportunities and better self-regulatory skills that encourage them to take responsibility for their own future, set personal goals, and disrupt relationships between behavioural problems, negative experiences and poor self-esteem in early and middle childhood.

Purpose Statement and Research Questions

The aim of this work is to systematically analyse the empirical research evaluating school career education, highlighting the key conditions for institutional empowerment (providing access to quality education for students) and the research highlighting the characteristics of students with behavioural problems at school to develop a theoretical model to support a potential career education program necessary for students identified at school for behavioural problems. The **main questions** of the systematic analysis are: 1) What are the main institutional (school) empowerment conditions that enable students to gain quality career education? 2) How to encourage students with behavioural problems to take advantage of these opportunities?

Methodology

This study was carried out using the PRISMA 2020 standards (Page et al., 2021), which were used to plan the necessary literature search, the systematic analysis of the research and the presentation of the results. Computer bibliographic databases Google Scholar, Sage Journals, Science Direct, EBSCO were used to search for scientific publications. For the selection of the systematic survey were included reviewed articles in English and Lithuanian, examining the conditions for enabling career education at school and the peculiarities of the education of children with behavioural problems, published by 2021.

The criteria for the inclusion of sources into the systematic analysis. In order to answer the questions of systematic analysis, the article used various types of research that met three criteria: 1) the research analysed the conditions at the institutional (school) level that provide` students with the access to quality career education, 2) the research assessed children with behavioural problems and revealed their main characteristics, 3) the research provided recommendations for quality education of children with behavioural problems. Other criteria for the inclusion into the analysis were – only generally accessible, full-text, reviewed articles in Lithuanian and in English were used.

Data collection. Articles were searched in computer bibliographic databases Google Scholar, Sage Journals, Science Direct, EBSCO. These databases were selected for freely available social science research that matched the search terms defined by the purpose of the article. Keywords were selected such as *career education, career education at school, career education and school, career development opportunities or conditions, school leavers and career education, quality career education, behavioural problems at school, children with behavioural problems and learning difficulties, school and behavioural problems, career education and behavioural problems, youth with behavioural problems*. 150 articles were found in Lithuanian and English, of which 24 were used for the systematic analysis (see Fig 1).

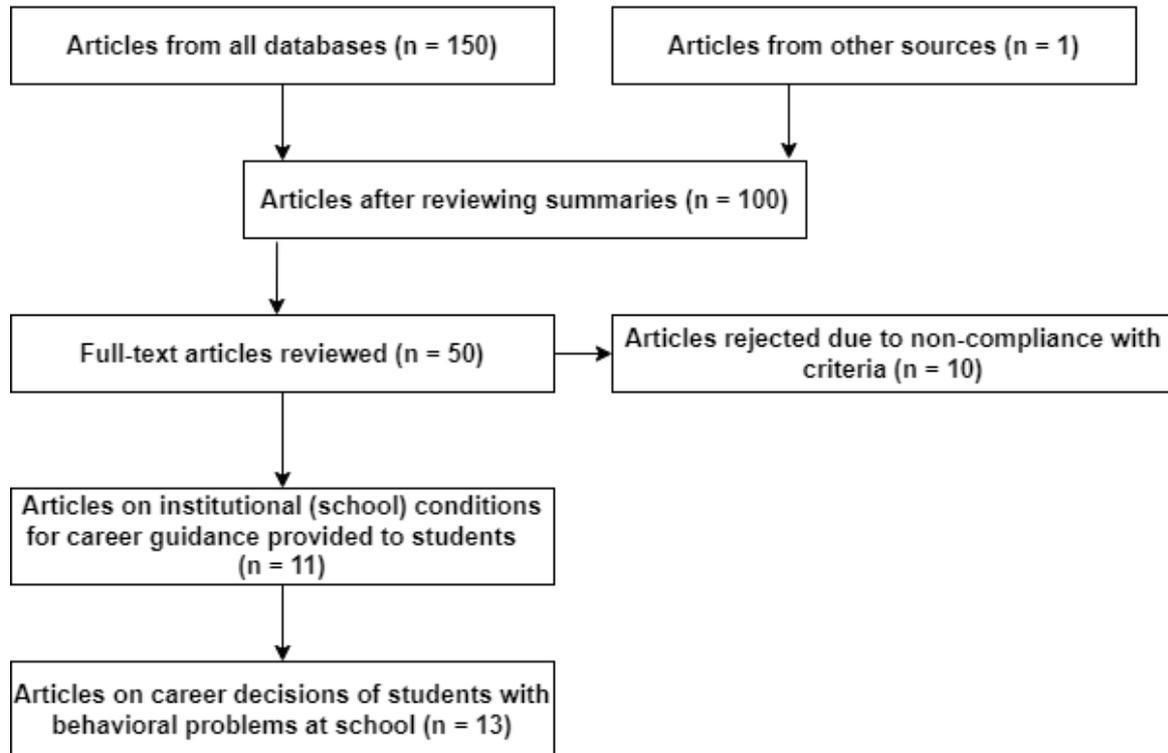


Figure 1 The PRISMA Flowchart (made by Authors)

The evaluation of research quality and data acquisition. All studies that met the quality assessment criteria were included in the systematic analysis. 1) the research analysed the conditions at the institutional (school) level that provide students with access to quality career education, 2) the research assessed children with behavioural problems and revealed their main characteristics, 3) the research provided recommendations for quality education of children with behavioural problems.

Research results

The characteristics of the research on the topic of career education. Table 1 presents the characteristics of the 11 career education researches included in the systematic review in order to summarize the scientific sources that met the selection criteria (highlighting the institutional-school level conditions that allow students to access quality career education). In 7 studies the conditions for improving the quality of career education at school were directly examined. One research was about career education during studies and in three researches the possibilities of career education were revealed in a general sense, without making any research group exceptional, but they were adapted to the school level.

Summarizing the information on the conditions of enabling career education analysed in the research (opportunities for students to receive quality education) it can be noticed that all 11 sources of systematic review emphasize that one of the essential conditions for career education is encouraging students to know

themselves and explore their environment, internal resources / constraints and to achieve personal self-efficacy, which ensures individual interest and the expectation of results by setting personalized goals. The development of a unique concept of self, analysed in the research, is inseparable from the self-concept related to career (when a person is able to consider the most suitable alternatives).

The articles also discuss emotional self-esteem and personal well-being. It should be noted that before choosing a career, the student must solve emotional problems, remove psychological, social or other barriers, change negative attitudes, through the perception of himself as a valuable and in some areas competitive "I". In other words, by gaining a clear self-understanding, knowing different areas of work and being encouraged to think, the student can discover the connections between these relationships and make career-related decisions and, if necessary, improve his/her skills.

Table 1 Characteristics of research on the topic of career education (made by Authors)

Nr.	First author, year	Studied conditions for enabling institutional level of career education	Relevant recommendations	Research characteristics / design
1.	Keele, Swann, & Davie-Smythe (2020)	<p>Self-efficacy promotion (positive self-perception, ability to change and improve, clear hobbies, positive attitude towards self-future);</p> <p>Career exploration promotion (practical and theoretical career exploration);</p> <p>Enabled decision making (career development: raising goals, achieving them).</p>	<p>a) A pupil-centred, rather than information-centred, approach;</p> <p>b) Individual consultations;</p> <p>c) special career education consultants; d) practical experience, e) activities to inspire students and provide them with forward thinking, reflection, flexibility and decision-making skills.</p>	Systemic review of 13 empirical research, with the research question: 'What are the components of best practice career education and development in Australian secondary schools.
2.	Yang & Wong (2020)	<p>Pupils self-concept (interests, hobbies, values, personal preparation);</p> <p>Vocational self-concept (information about personal career opportunities, alternatives and setting, anticipating and achieving goals).</p>	<p>Pupil's self-concept should also include <i>academic self-concept</i> (abilities, academic achievements, opportunities for improvement) and <i>emotional self-concept</i> (the emotional state that determines decision-making in everyday situations, values, desires) and <i>social self-concept</i></p>	Systemic review of career guidance practices in Hong Kong over the past 40 years with attention to the career-related self-concept of diverse learners; multidimension

			(family, friends, significant other).	al model of self-concept.
3.	Chen & Hong (2020)	Encourage of self-regulate and management (Self-assessment of subjective experiences); Ensure career intentionality (studying career opportunities suits for self); Career-forethought (the ability to set achievable goals and achieve them with use of help); Career self-reflectiveness (ability to manage your states by changing alternatives, to look for the most attractive compromises).	Self-assessment of subjective experiences: development of personal meanings, self-assessment of personal abilities, self-assessment of one's environment, ability to regulate oneself and one's reactions, formulation of goals	Systematic review and CHAT career model (counselling) case study.
4.	Ho et al, (2018)	Role of Career and Educational Exploratory Activities (theoretical and practical); Environmental and self-exploration; Seeking advice from career counsellors.	Exploration activities have consistently had significant positive effects. Such a model of activities, which includes (practice, self- and environmental research, advice from consultants)	Regression analysis (PISA survey in Shanghai and Hong Kong, Australia, USA and European countries).
5.	Falco (2016)	Self-efficacy promotion by consultant (collectively and individually).	Self-efficacy: Emotional preparation, positive self-esteem, revelation of desires and Self-assessment of previous achievements, review of opportunities for improvement and decision-making.	Using social-cognitive career theory as a framework, this article synthesizes empirical research on career choices.
6.	Seward & Gaesser (2018)	A pupil-centred approach; Individual consultations; Special career education consultants; Practical experience.	The most important: removing social and emotional worries/problems, before pursuing a career.	Career Counselling Laboratory (focus group method).
7.	Surgélien è (2014)	Assistance to pupils in their career planning; Inclusion of the immediate social environment (family, significant others); Involvement of	The moment of pupil's consideration = triggering deliberation, deliberation and decision-making.	Case study.

		the whole school community.		
8.	Kleine & Wisse (2021)	Self-efficacy for career exploration and decision making; Career expectation for career exploration; Career exploration = environment exploration + self-exploration+ social support.	Students may not feel comfortable choosing a career because they lack the necessary information about professions and employers, studies, education, or themselves; sources: the environment and yourself.	Meta-analysis examined the antecedents and outcomes of career exploration among college students.
9.	Gati & Kulcsár (2021)	Clear self-understanding; Knowledge of career areas; Reasoning about the relationship between these areas and considering alternatives.	Students' needs to get information about: the self + the world of work+ how to make career decisions; Consultants needs help to consider all alternatives	Systematic review.
10.	Draaisma et al. (2018)	A practice-based curriculum in which real-world experience can be gained; Active career dialogue at school (with counsellor) and during internship.	It is necessary to provide information based on the practice and personal, individual counselling of each student on career and self-knowledge issues.	Case studies.
11.	Chuang et al. (2020)	Self-concept education (knowledge about yourself, your hobbies, opportunities); Planning with help (knowledge of the process, sources of information + refining expectations and goals for achievement).	The importance of professional help.	Descriptive analysis.

As can be seen in Table 1, most researchers describe self-knowledge through the features that Yang & Wong (2020) combines into three main groups: emotional self-concept, academic self-concept, social self-concept. Another important condition for empowerment, which is repeated in all 11 studies, is informing students about the career planning process itself and specific steps, oneself as a person (interests, values, abilities, social, economic environment, optimal opportunities, etc.), potential professions, further studies, employers, the active market, the world around them and the information on where to find additional sources of information.

Moreover, in addition to the information, practical experiences, various interactive activities, trips, events, simulations are mentioned, with the help of which students gain information about practical experiences.

Table 2 Characteristics of research on the topic of students with behavioural problems (1–6 sources) (made by Authors)

No .	First author, year	Problematic behaviour	Negative consequences	Recommendations	Research characteristics / design
1.	Shen, Hu, & Hannum (2017)	Difficulty of concentrating; impulsive actions, non-compliance with the rules; aggressive behaviour; learning difficulties; socially unacceptable behaviour; peer problems; other behavioural problems identified by teachers.	Stress' shaping brain and body development, diminishing self-regulatory capacity, and eventually reducing academic performance and occupational success; low academic performance and career success; drop-out from secondary education; behavioural factors are linked to long-term educational outcomes; low self-esteem.	Support from other significant social resources (if the family does not form a supportive relationship); assistance in exploring personal possibilities (positive self-vision).	Multilevel regression models, descriptive statistics.
2.	Saleem & Zahra (2021)	Aggressive behaviour; non-compliance with rules; attention problems; thinking and learning difficulties; social disagreements; frequent somatic complaints.	Development of emotional and behavioural problems and sluggish planning for the future; poor interpersonal skills; low self-confidence.	Social support; family support; significant others support; emotional connections; a positive example; assistance in exploring personal possibilities (positive self-vision).	Statistical data analysis.

3.	State & Kern (2017)	Inattention/hyperactivity; emotional symptoms; poor grades; frequent absences of school; suspensions.	Children with behavioural problems were significantly less satisfied with their quality of life in all areas = lower academic performance, poorer interpersonal relationships, and self-esteem.	Life satisfaction; positive behaviour examples; social support; adults, supports.	Descriptive analyses
4.	Barkauskienė, Zacharevičienė (2019)	Learning and emotional difficulties; inappropriate behaviour interfering with others.	Risk of dropping-out of school; Risk for future decisions;	Social support at school; Involving the family in problem solving; education and training.	Theoretical article
5.	Barkauskienė et al. (2014)	Attention difficulties, breaking the rules, and manifestations of aggressive behaviour	Low achievement motivation, concentration.		Statistical data analysis.
6.	Hu (2020)	Low social skills because of family socioeconomic status	Social status limits a person's perception of job choices; the living environment forms a compromise model for young people (adaptation, reluctance to change living conditions); poor self-esteem.	Help to change attitudes towards self-opportunities; informing about career opportunities; ongoing assistance and counselling.	Statistical data analysis.

Consultation in the sources examined is disclosed as a complex empowerment condition, i.e. covering both information flow management and self-awareness and problem solving. It is important to note that most of the research emphasizes that counselling should be provided by competent counsellors with a career in education and they should also involve the whole school community into career education.

Table 3 Characteristics of research on the topic of students with behavioural problems (7–13 sources) (made by Authors)

No .	First author, year	Problematic behaviour	Negative consequences	Recommendations	Research characteristics / design
7.	Xu (2020)	Aggressive behaviour, socially unacceptable behaviour based on poor childhood environment; learning difficulties.	Career decision-making difficulty; poor self-esteem.	Social support.	Statistical data analysis.
8.	O'Connor, Dearing, & Collins (2011)	External behaviour problems (overactive, impulsive, or aggressive behaviours); learning difficulties.	Tend to attend school less, have poorer academic performance, lack of problem-solving skills, has a risk to fail in adult education and career.	A positive teacher-child relationship can lead to an intervention that helps avoid behavioural problems in middle childhood.	Statistical data analysis.
9.	Gischlar & Riffel (2020)	Behaviours that interfere with the learning process of classmates; learning difficulties.	Decreased student learning outcomes, increased stress, and low levels of self-satisfaction	Identifying the causes of behaviour problems; support; family involvement (if possible); reinforcement of appropriate behaviours; Triple T – Triple R model (Trigger, Target,	Description of Triple T – Triple R Competing Pathways Model, that is grounded in ARBA (Applied Behaviour Analysis).

				impacT+ Revise, Replace, Reframe).	
10.	Agyekum (2019)	Disobey of school rules; learning difficulties.	Deteriorate students' academic outcomes and willingness to learn something new.	Teachers' supportive relationship affects students behavioural and academic adjustment; teachers' behaviour can cause students to act in a positive or negative way; teachers should emphasize positive aspect of students rather than negative.	Theoretical article
11.	Buzaitytė- Kašalynienė et al. (2018)	Breaking the rules; avoidance of work and collaboration during lessons; conflicting social behaviour; emotions are expressed in negative ways.	Pupils' cognitive development may slow down, learning motivation may not develop or may decrease, which may lead to learning difficulties: low student achievement (progress), missed learning, difficulties in transitioning to higher education and acquiring a profession or specialty.	Access to social support at school; monitor student behaviour, provide assistance; individual assistance; work with family; positive examples; continuous consultations.	Theoretical article
12.	Egan et al. (2019)	Consistent use of breaking the rules; struggle of skills to meet	Poor grades; unhealthy emotional	Social and emotional learning (SEL) programs;	Statistical data analysis.

		social and behavioural expectations; learning difficulties.	expression; low self-confidence.	supportive relationships at school; consistent use of rules, expectations, positive example.	
13.	Dubayova, Chovanova (2020)	Learning difficulties; communication difficulties.		Social support at school and home; communication with the teacher (showing a positive example); promoting self-confidence; show individual future opportunities.	Statistical data analysis.

Researchers often emphasize the importance of individual counselling, as each student brings unique skills, values, hobbies and experiences to the institution, influenced by contextual factors such as family, community, cultural values and unplanned events. The benefits of general counselling are mentioned as well.

Characteristics of research on the topic of students with behavioural problems. Table 2 and Table 3 presents the characteristics of 10 empirical studies and 3 theoretical articles on children with behavioural problems included in the systematic review to summarize the scientific sources that met the selection criteria (which analysed children with behavioural problems and reveal their main characteristics). All sources provided recommendations for the education of children with behavioural problems. It was found out that most of the articles included in the systematic review analysed the external problems of children's behaviour such as non-compliance with rules, breaking the rules, failure to work and cooperate during lessons, initiating conflict situations in the classroom (often to draw attention to oneself), poor emotion management, conflicting social relationships and other.

In addition, behavioural factors were linked to long-term learning outcomes in 11 studies, highlighting that children with behavioural problems more often than their classmates at school also had poor learning outcomes, low learning motivation and a higher risk of dropping out at 16 years of age (not finished secondary education), were less inclined to obtain higher education or more often

encountered individual cognitive and attention difficulties during their studies, which often turned into passive learning, and the planning of future perspectives.

It should be pointed out that most studies have considered negative family experiences of students and poor economic conditions that contribute to behavioural problems and that lead to poor learning outcomes. 8 sources stated that such children have accumulated less capital of self-knowledge in the social context, i.e. they valued themselves and their abilities less favourably than their peers from higher socio-economic backgrounds, suffered from low self-esteem, were accompanied by the fears of uncertainty and vagueness of their future and often opted to adapt passively to available resources instead of planning their future careers. Furthermore, these studies emphasize that children with behavioural problems from lower socio-economic backgrounds do not have the appropriate skills to accept, solve, cope with difficult tasks, self-regulatory skills which are needed to set goals for the future career.

9 studies found that children with behavioural problems have more difficulty coping with emotion regulation. As a consequence, their behaviour escalates into not following the rules, interfering with the education of himself/herself and other students (Agyekum, 2019). However, 9 studies highlight that the further development of such children and their career prospects may vary depending on newly acquired social skills projected through positive behaviours, broadening individual vision, identifying unexplored positive roles through supportive social relationships, ongoing support and counselling. State & Kern (2017) revealed such a possible transformation of a student with behavioural and learning problems through the condition of life satisfaction that affects socially active functioning in the school environment, prioritizing success, new perspectives over problems of the past. Considering that children spend a lot of time at school, it is this environment that can unfold as the context in which they have the opportunity to develop new social roles, receive support that helps prevent further development of behavioural problems and successfully engage in educational processes, including successful career development.

Although 11 systematic review studies have revealed that the most important social subjects for a child are family members or other close people, they have also emphasized that not having the right support in the immediate environment, quality social relationships at school play a particularly important role. 9 studies highlighted the importance of a teacher's relationship with a child with problematic behaviour, noting that in such relationship children acquire more positive social world work patterns and better self-regulatory skills that promote their social emotional and behavioural development, desire to improve themselves and create their future.

In Table 2 and 3 it can be seen that in all the studies included in the systematic review, children with behavioural problems first highlighted the condition of social support, through the development of relationships based on trust, showing

a positive social example, individual approach to each child, targeted assistance and the involvement of other social subjects who can aid. In addition, most researchers emphasized that children with behavioural problems at school should be monitored regularly to determine their emotional well-being, to find out the causes of behavioural problems, and to help them know themselves in the context of new opportunities. One more condition that has been frequently mentioned in systematic review research is enabling the learner to relate his/ her newly discovered opportunities to future career prospects, thereby stimulating a desire to improve, set personal goals, and actively participate in the process to change his/ her behaviour.

A model for the career development of children with behavioural problems

Generalizing the theoretical insights formulated through a systematic review, a career education model has been developed for children with behavioural problems at school, based on which practical recommendations are revealed on how to encourage such students to take advantage of career education opportunities at school (see Fig 2).

The developed model highlights the main, general institutional (school) career guidance conditions (self-awareness, information, counselling and assistance), also, the special conditions necessary to facilitate the career planning of children with behavioural problems (social support, the formation of a positive attitude towards oneself / one's own opportunities, the refinement of individual career opportunities) and the main social subjects that should provide career education at school: immediate environments , parents, friends, neighbourhood, significant others), institutional level (class teacher, career counsellor, teachers, psychologist, social educator, school administration, etc.), other people concerned (professionals, university / college representatives, etc.). As can be seen, the conditions defined in the model are closely interrelated and are disclosed through recommendations, which were identified through the systematic review, summarizing the data of the analysed research that met the main criteria of this article: a) explanatory ((indicating what needs to be considered when working with children with behavioural problems), b) complementary (including practical recommendations for career education, attaching them to certain subjects, who contribute to the student's career decisions). For example, the encouragement of self-awareness, which includes social self-concept, emotional self-concept and academic self-concept, is implemented through counselling and information, when certain institutional level subjects know every learner individually, taking into account his/her social environment, values, interests, abilities, potential barriers to the involvement of key subjects in the child's immediate environment and the selection of specific person-centred career guidance information.

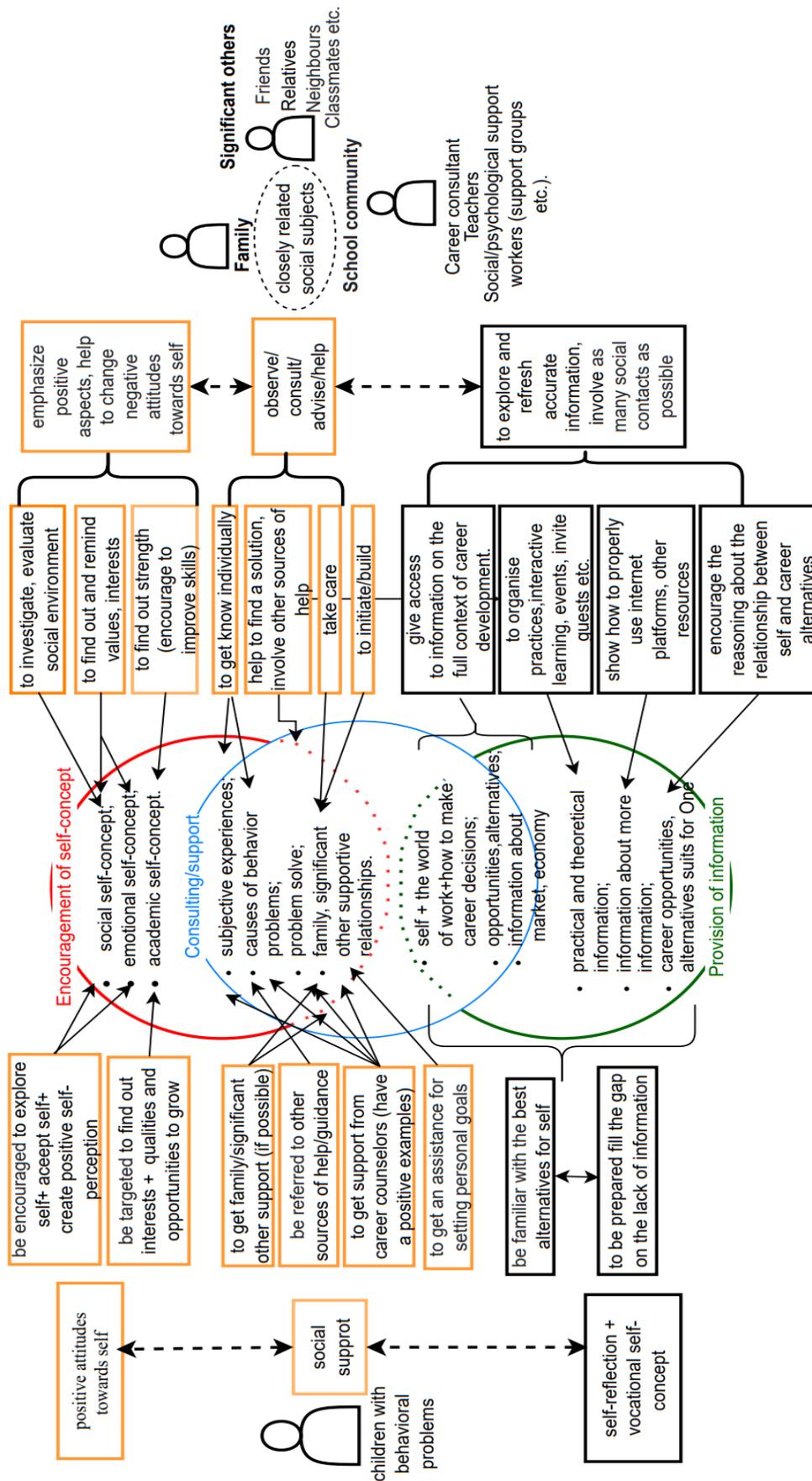


Figure 2 A model for the career development of children with behavioral problems (own researches) (made by Authors)

Considering the specifics of educating children with behavioural problems, institutional level entities are recommended to identify behavioural problems, their origins, initiate a solution through close, trust-based relationships, setting a good example, seeking additional help, changing the established negative self and self-esteem, formulating the best alternatives and targets and compensating for the lack of information. A systematic review of children with behavioural problems has shown that such children tend to grow up in lower socio-economic backgrounds and have the awareness formed by the example of their parents, negative self-esteem, poor knowledge and the uncertainty about their future career decisions (see Table 2 and 3). In this context, the model places particular emphasis on the institutional conditions for promoting self-awareness and providing counselling / assistance to cope with these issues. The information condition in the model is revealed through an introduction to the career decision-making process, the main and additional sources of information, practical experience and most importantly, the connection of the information about oneself and the information about future career. In addition, the following recommendations were highlighted in relation to the needs of children with behavioural problems: to provide information on alternative career solutions. Obviously, the possibility, that the “dream career” might not coincide with the child's real abilities and possibilities, cannot be rejected. The compensation for the lack of information is also highlighted, as it can be assumed that such children often have less success stories and career-related information in their environment.

Discussion and Conclusions

After analysing 11 researches on career education and 13 researches on the education of children with behavioural problems, the main conditions for enabling career education at institutional level (school) were revealed: the promotion of self-knowledge, counselling and assistance and information, stressing that only by gaining a clear self-understanding, knowledge of different career fields, and defining individual abilities and possibilities, one can begin to think constructively about the links between these relationships and set personal goals for the future career. Moreover, the main recommendations for working with children with behavioural problems were found in order to enable them to consider their future career, to get involved in their successful planning and to help them achieve their goals. As a matter of fact, all the studies included in the systematic review, highlighted the condition of social support, expressed through ongoing support and counselling.

In addition, it is a condition for changing point of view, changing negative attitudes and solving existing problems, which is revealed through the involvement of various support professionals and family members, setting a positive example, and revealing personal alternatives for the future career.

The condition of self-reflection in the context of vocational self-concept was defined through individualized information, counselling and promotion of self-efficacy.

After summarizing the theoretical insights formulated through a systematic review, a model for career education for children with behavioural problems at school has been developed, which could be applied to career education practice or empirical research on the topic of career education for students with behavioural problems.

Limitations of the study. The article presents the results of the systematic review, but, in fact, an empirical research on the topic could be initiated in the future.

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COLLABORATORY COMMITMENT DERIVED FROM PROFESSIONALS' EXPERIENCES WITH COOPERATION ACROSS SERVICE-LEVELS

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Abstract. *The services of the sectors of health and education have become more specialized. To prevent services from appearing fractured, professionals must work together and coordinate their help. This study deals with what professionals have experienced as positive for the collaboration. Seven informants, four from the municipal level and three from the specialist level, have been interviewed about what create collaborative commitment in their help to people affected with mental disability and mental disorders. The findings show that four factors inclusive their sub-attributes contribute positively: (1) The professionals are committed to prosocial attitudes, like respect, humility, openness, trust/confidence. (2) They prioritize user-focus which means that what benefits the user is number one to-do. (3) They commit themselves to certain dialogically prosocial communicative and relation-building actions, e.g., listening/audibleness, giving feedback and praise, advising, negotiate joint decisions. (4) They are stimulated by internal motivation like learning pleasure and increased understanding and reflection of knowledge combined with a job-arena characterized by facilitating human relationships, communication availability and mutual accommodation, and an encouraging, commendable, and facilitating management. These findings are consistent with what other collaborative research has pointed out as quality-enhancing. Based on the findings a theoretical model of collaborative commitment is constructed.*

Keywords: *Collaboration, communication, facilitators, mental disability, mental disorders, prosocial attitudes, service-levels.*

Introduction

During the last decades the services of the health sector have increasingly become more specialized. Along with this development new diagnoses have been described, not least a diversity of syndromes. People affected with mental disability often experiences comorbidity with other diagnoses, like syndromes and mental disorders. Thus, they need help from several professionals, both locally, regionally, and nationally. To a certain extent the same affects special needs education which has established competence-centers and educated specialists. Children and youth affected with “the double diagnosis” mental disability and mental disorders need help from specialized health and educational services at the same time. To prevent the user from feeling the services too fractured, good collaboration is required. The knowledge of what contributes to collaborative quality and what makes professionals passionate about coordinating services to

users and students with comorbid conditions is still limited. The purpose of this study is to gain insight into professionals' positive experiences with collaboration across service levels, which in turn can be used as motivation for future efforts and quality of collaboration, in the health-, social- and education sectors.

At the University of Agder, several researchers have in recent years been concerned with the general meaning of the collaboration concept (Grelland, Botnen Eide, Kristiansen, Sævareid, & Aasland, 2014; Melby & Bachke, 2021). The former research group lingered on the philosophy of collaboration. Melby & Bachke discussed the core content of the collaboration and concluded that it consisted of two factors. The first is that cooperation must have a binding and mutually valid "we". The second relates to service providers' ability to achieve ownership to common goals.

Other researchers have more specifically examined the collaboration of professionals on services for people diagnosed with both mental disability and mental disorders. Andersen, Rosenvinge, & Bachke (2019) studied cooperation between employees at the same housing supply for residents with this double diagnosis. The informants were challenged to relate positive collaborative experiences. They reported that these efforts promoted cooperation: The staff showed attitudes like trust/safety, openness, respect, reflexivity, and mutual helpfulness. Moreover, the organizational structure was characterized by clear goals, enough time, good management and interdisciplinarity, and a culture that creates a sense of belonging, inclusion, and open communication with good feedback. Bachke, Melby, & Nilsen (2019) investigated collaboration between the mental health sections and the housing service in a sample of municipalities. They found that collaboration was promoted by certain attitudes like communicative openness, honesty, audibility, heartiness, and action-oriented willingness to help. The professionals should also show a clear user-first prioritization. In addition, the management should combine stable, predictable, and measurable organizational structure and flexible use of resources. Elliott & Bachke (2018) looked at cooperation between next-of-kin and professionals. They found that well-functional collaboration had these attributes: Open dialogues, attentive listening, and showing sincere mutual respect.

Holen-Rabbersvik (2019) sheds light on experiences of a more negative character, as hinted at in the partial title of her PhD: "coping with wickedness". The PhD includes three sub-studies. In paper 1 she made a Delphi-study that included 19 experts employed by municipalities. She found that collaboration was inhibited by "a fight culture" (i.e., collaboration is tagged by competition), complex management, and change resistance. In paper 2 she had 20 employees linked to intercommunal health services and their collaborative partners as her sources of knowledge. She found that the quality of the collaboration was throttled by complex communication- and info-sharing systems (IT-system not user-friendly), too many actors with weak IT-skills, privacy, excessive confidentiality,

and consciousness. In paper 3, multiple case study is used, and 17 informants from intercommunal services yielded within the health- and care-sector are involved with their co-operative partners. The study reveals that collaboration is hindered by managerial lack of support, municipal inequalities, geographical distances, and work solitude.

Holen-Rabbersvik (2019) also performs a secondary analysis of the findings in the three sub-studies. It shows challenging barriers in the planning of intercommunal cooperation. The barriers consisted in competitive culture, complex management, and change resistance. In the implementation of the collaboration, the dominant challenges are those inhibitive factors revealed in paper 2 and 3.

The research described above has a methodical bias. All the studies used qualitative methods with relatively few informants. Thus, to argue for generalizability of the results is hard. However, the findings of the various sub-studies point to similar factors as supportive of collaboration: qualities of employees' attitudes, the culture of the workplace and management's agile use of the organizational structure. If this is lacking, Holen-Rabbersvik shows that cooperation is hampered.

Other Norwegian and international research points to similar collaborative promotive factors:

- Positive attitudes (San-Martin Rodriguez, D'Amour, Ferrada-Videla, & Beaulieu, 2005; Torgauten, 2015; Karam, Brault, Van Durme, & Macq, 2018).
- User focus prioritized (Brattrud & Granerud, 2011; Karam et al., 2018; Stokken & Hunnes, 2019; Bachke et al., 2019).
- Smooth contact/communication forms, good information flow, and dialogue (D'Amour, Goulet, Labadie, Martin-Rodriguez, & Pineault, 2008; Brattrud & Granerud, 2011; Elstad, Steen & Larsen, 2013; Elstad, Antonsen, Tillerli, & Storli, 2017; Karam et al., 2018).
- Familiarity with and knowledge of each other's competence, functions, and roles (D'Amour et al., 2008; Brattud & Granerud, 2011; Elstad, Steen & Larsen, 2013; Torgauten, 2015; Elstad et al., 2017; Karam et al., 2018).
- Adaptable management and clear organizational structure (D'Amour et al., 2008; Elstad et al., 2013; Elstad et al., 2017).

Research question and conceptual clarifications

However, few of these studies are based on first-hand experiences of employees involved in collaboration across service levels. To fill this lack of research this research question was selected: Collaboration between the municipal and specialist health service-levels to assist people with both intellectual

disabilities and mental disorders, what do employees find creating collaborative commitment?

The diagnostic concept intellectual disabilities are defined according to the code of ICD 10, F 70-79 (WHO, 1993a). Likewise, mental disorders fetch their content from the ICD's clinical description and diagnostic guidelines (WHO, 1993b).

The municipal health service is a collective term for all health services the municipalities are responsible for operating. In Norway the municipality has an obligation of providing the necessary health and care services to everyone who is staying in its borders (Store Norske Leksikon, 2011).

The specialist health service includes both public and private hospitals, mental health care, specialized drug treatment, ambulant services (Statistisk Sentralbyrå, 2022). In this study informants are mostly employed at the departments of habilitation services, one for adult users and one for children and youth.

In this context the essential meaning of commitment is the attitude of someone who works very hard to do or support something (Mariam Webster, 2022). In other words the person shows willingness to give time and energy to collaborative activities.

Method

Inspired by Malterud (2017) who recommends use of qualitative methods when it comes to study subject-fields where former research is scarce, it was decided to do interviews. This method also fits the research question.

Selection of informants

To be a valid informant the professionals should fulfil these criteria: (a) They must have direct work-related experience with people affected by the double-diagnosis. (b) The co-operation with another service level should have been going on over time. (c) They had to have good collaborative experiences.

To recruit adequate informants was challenging. By means of "the snowball method" and extended time seven interviewees agreed to participate: One male and two females from the specialist-level, and four women from the municipality-level. Their age varied from 27 to 67 years. Educationally, everyone had a bachelor's degree. Five were trained social educators, one clinical social worker, and one a mixed degree. All but one, had further education within subjects like mental health work, psychiatry, counselling, drug addiction, etc. The three informants from the specialist level had previous work-experiences from the municipality-level.

The interview guide and carrying out the interviews

A narrative interview-approach with a semi-structured interview guide was used (Kvale & Brinkmann, 2015). To tune in the informants topically, the interview started by introducing a case-story about professionals who burned for cooperation. The case was followed by topically relevant open-ended questions.

To prepare the informants they received the interview-guide some days before the conversation. The interviews were carried out at the informants' workplace in a sheltered context, and a recorder was used. Before ending the interview to strengthen the content validity, a summary of what the interviewee had related as his/her answer to the research question was mirrored. The duration of the interviews varied between 35 and 65 minutes. Shortly afterwards the ending of an interview it was transcribed, and the recorded talk was deleted.

Data analyses

Inspired by Giorgi (1985) and Malterud (2017) Systematic Text Condensation was used to analyze the transcription. It consists of four steps. Step one is to read through the text to get a first impression of important findings. The second step is to identify meaningful devices. In step three and four these devices were abstracted (the researcher's interpretations) and underpinned with concrete quotes (the informants' statements). These analytically qualitative processes lead to construction of four main findings.

In addition, a quantitative content analysis was applied to look for a possible substantial finding. This analysis showed that the quotes were distributed approximately equally between informants from the two service levels. Furthermore, it turned out that the same applies to the distribution of quotes between the four main findings. The consequence is thus that the study does not reveal a single factor that has an overshadowing significance for good cooperation.

Reliability, validity and generalizability

The reliability of a qualitative research is an issue of discussion. Some maintains that it is not a relevant issue at all. Others, like Dalen (2004), accepts reliability as important. She claims that it can be strengthened by the measures described in table 1.

Table 1 Dalen's reliability measures and how they were attended to (Dalen, 2004)

Dalen's recommended measures	How the measures were attended to
Use more researchers	Two master-students assisted in the complete research process
Get confirmation from others	The research-report has been informally read and commented on by research-colleagues
Use technical aids when rendering	Used voice recorder
Distinguish between specific descriptions and interpretations	This is highlighted in the way the findings are presented
Explicit description of the study's context, participants, and methodology	Maintained through transparent descriptions in the methodology section

Another measure applied is use of project diary (Polit & Beck, 2004). It helped the researchers to remember when, where and why they assessed various options and what governed the decisions during data collection as well as the data analyses. All in all, these measures indicate that the reliability of this study is satisfactory.

Coming to internal validity it also relates to the transparency of the study's methodology. It is maintained by the measures described above. However, the validity can be strengthened by other measures, too. Firstly, concept-validity must be maintained. In this project the concepts collaboration and commitment are particularly important. To give the concepts the same meaning for both researchers and informants, they were explained at the start of the interviews. Secondly, to validate the researchers' interpretations of the informants' statements, particularly those applied in the research-report, member-checking was applied (Polit & Beck, 2014). Specifically, the researchers' interpretation of what the informants meant when they used the impersonal pronoun one, was checked. Did they refer to singular I or plural we?

External validity deals with generalizability of the findings. A sample of seven interviewees is too small to allow generalizing. However, if the findings in one qualitative study corresponds with findings in other qualitative studies with a similar topicality, it can be argued that the findings to a certain extent are generalizable (Malterud, 2017).

Research ethics

Common research-ethical considerations are attended to: Written informed consent including the option of withdrawal from participation during the research process, confidentiality and anonymization of both individuals and municipalities. The research project is approved by the Norwegian Centre for Research Data, cf. reference number 202696, and by the Ethical Committee of The Faculty of Health and Sport, University of Agder, reference number 19/08657.

The voice recordings of interviews were deleted immediately after the transcript was completed. The transcript was stored on a separate memory stick.

Findings

The findings are divided into four main categories. Totally 474 utterances are classified.

The first category relates to attitudes. The informants talk of attitudes in 79 statements, and they are quite evenly distributed among employees at the municipal-level (N = 36) and those informants belonging to the specialized level (N = 43). They speak of such attitudes in three ways. Firstly, as a responsibility they have themselves to show certain attitudes which they have experienced promote collaboration (N = 38). It means that I personally expose them. Respect is one attitude pointed to, cf. this citation: “I ... show respect by listening and understanding.” Humility is another one: “... to be humble I believe will be helpful to attain much”. In addition, trust/confidence (“I really trust his/her professional arguments ...”) and openness (“I was honest and open ...”) are described. Secondly, they point to some of the same attitudes exposed by their partners (N = 17): “The way they meet me (with respect)”; and “No top-down approach in the way they assist us ...” (humility). Thirdly, collaboration is characterized by all the involved personnel show these attitudes (N = 24). It means that an implied we-ownership to the same constructive attitudes is established among the professionals involved in the cooperation: “It is a way of playing with the ball that creates a feeling of respect for all the involved ...”

Showing respect, humility, openness, trust/confidence can be named *prosocial attitudes*. All the informants refer to them, and relate them to the three perspectives of I, you and we. It seems like the collaborators identify these attitudes as an essential foundation of the commitment.

The second is prioritization of user-focus. The informants mentioned it in 48 statements. It means that the professionals seek the benefit of the patient/client/pupil as highly important and recognizes it as number one to-do. Thus, when it has become a habit pattern, we can say it is an underlying attitude that prompts collaborative activity. Informants express this point of view by various statements. Here are some examples: “The main reason is of course the consideration of the user”; “The user is the most important thing in my job”; “Someone has to stand on for the user”; “One must find the best solution for this particular user.”

The third category spoken of is the necessity of actions, often carried out with zeal when it comes to commitment. Totally 165 statements belong to this category, and they are distributed with 83 utterances from municipality-informants and 82 from specialist-level informants. Here are some examples:

- "I can't be so bombastic, but rather be responsive to other people's advice."
- "I will listen, but also suggest solutions ..."
- "They have often asked questions or mirrored us so that we get a new perspective ..., think a little new."
- "They discuss issues, they listen, they are open to accepting something new, and they guide."

The quotes refer to communicative skills like listening/audibleness, giving feedback and praise, giving and receiving advice, negotiate joint decisions, inquire into how things are going, and generally look for how to leverage each other's competitiveness. Such communication makes a trustworthy working-relationship. In next turn it generates joint decisions about professional actions that exploit the available competence and that clarify who does what, cf. these citations:

- "... to take advantage of each other, the competence that exists."
- "No decision was made over anyone's head."
- "... we become clear about what needs to be done and who should do it."

To a large extent, the citations refer to dialogically prosocial communicative and relation-building actions. The quotes show what the informants themselves do (the I responsibility mentioned 38 times) and what the others make of constructive communicative actions (the you responsibility uttered in 94 statements), and how it creates a common "we" behind the vocational actions the collaboration aims to implement (the we-position identified in 33 statements). In other words, well-functional collaboration seems to require participants who not only share positive attitudes, but also master and use constructive communication skills to decide jointly what is wise to do.

The fourth category is about the benefits and the facilitators of a well-functional cross-level co-operation (N = 182, out of which 51 citations are stated by specialist-level informants, and 131 come from municipality interviewees). One beneficial outcome is learning and acquisition of new knowledge: "... fun to learn, understand more and reflect"; "For me to gain more knowledge"; and "It provides opportunities to learn". Particularly the municipality informants related to this and the next one (N = 33 out of 37). Commitment was strengthened by motivational pushes to continue a challenging work: "My commitment increased because I saw a change, and that it's useful. The progress derived extra motivation, generated by strengthening the positive emotional bonds within the collaborating team (mentioned in 63 statements): "It made us proud of each other"; We lift all the players up by talking each other up ". Furthermore, it allows you to get to know each other safely, which in turn simplifies contacting each other and increases communication availability (N = 46 utterances), cf.: "... make unpretentious phones... simply seamless, ... and to be very accommodating."

Such statements suggest that the relationships between the collaborators are optimized from being title and professional-oriented to becoming more personal and human-oriented. Informants described this as such: "It's about human encounters, and it's better to respond when a human being meets me and not a title or education." Lastly, the importance of facilitating, solution-oriented and commendable management was expressed (N = 36 statements): "We have openness to coming earlier or are granted time for collaborative meetings"; The others talk well of their partners of the other level and boast of them. Thereby our picture of them is changed to a positive image".

To sum up, both the individual and the collaborative team get into positive processes consisting of learning pleasure and other motivating and relational emotions that simplify communication and make the working community less rigid and more human. In other words, positive circles arise within the collaboration. These act as internal motivators that benefit and facilitate the common responsibility for providing the user with customized services.

Discussion

The finding related to attitudes shows that they are perceived as valid for all the actors involved. Moreover, it seems that they necessarily must be present in a mutual way and thus be an expression of the fact that the collaborators have a common ownership and understanding of their presence in the cooperation. This interpretation gains support from the research of Melby & Bachke (2021) who claims that good cooperation must have a binding and mutually valid "we" as one of the core elements. Another interpretation is that these four attitudes, not least because of the reciprocity aspect, creates a sense of equality among the collaborators. Relational equality is elevated as an ideal in professional service to people who need help, e.g., relief work (Stokken & Hunnes, 2019), mental health work (Karlsson & Borg, 2015) and educational guidance (Lauvås & Handal, 2014).

Positive attitudes between the partners have also been pointed out as important for the quality of collaboration in a lot of research (San-Martin Rodriguez et al., 2005; Torgauten, 2015; Karam et al., 2018; Andersen et al., 2019; Bachke et al., 2019). This study reveals some attitudes of importance and underscores that all the involved collaborators must commit themselves to them. Therefore, it might be reasonable to claim that prosocial attitudes are not only basic, but also an underlying and necessary component of the collaborative commitment.

The citations emphasize that the user's well-being becomes the common goal of the collaborators. Thus, the mutually valid "we" is strengthened by the ownership of user-focus priority as a common goal for all the involved in collaboration. To achieve ownership of common goals is the second quality mark

that Melby & Bachke (2021) has pointed out as the core of well-functioning collaboration. The informants' statements support this opinion. Furthermore, Bachke et al. (2019) claim that prioritizing the user can be the key factor to collaborative success. The claim is supported by the quotes and is further reinforced by the informants talking with commitment about the common user focus. In addition, other researchers also support the importance of prioritization of user in the co-working activities (Brattrud & Granerud, 2011; Karam et al., 2018; Stokken & Hunnes 2019). The importance of common goals is also underlined by several (San Martin-Rodriguez et al., 2005; D'Amour et al., 2008; Andersen et al., 2019).

Experience shows that it is not always easy to establish common goals. However, Aasland (2014) argues that understanding user's needs, and thereby putting the user in focus, makes it easier for the partners to agree on the goal. The informants of this study support Aasland's claim through statements like these: "It helped when there was more focus on everyone getting a better understanding of the user"; and "... how they experience the patient... that everyone in a way is helped to see it".

To summarize this study points out that user-focus facilitates collaboration and is helpful to gain common understanding of the user which in next turn makes it easier to agree on common goals. It seems like the three key concepts, user-focus – common understanding – common goals, mutually interact and create processes that lead to "starlike" collaborative quality and commitment, see figure 1.

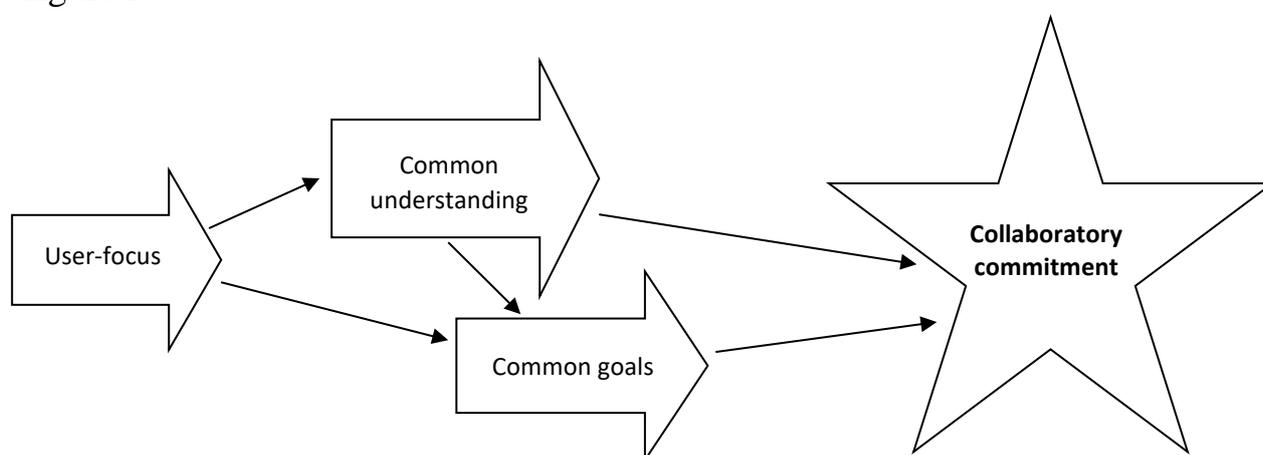


Figure 1 How user-focus helps the collaborators to attain common understanding and goals, which in next turn creates collaboratory commitment (made by author)

The third finding describes the necessity of certain actions, namely dialogical prosocial ways of communication, and relation-building ways of being. The informants also emphasized that this acting component of collaboratory commitment must be expressed by myself, the other and by the team (= I-, you-

and we-responsibility). This finding adds support to the collaborative core-theory of Melby & Bachke (2021) by emphasizing that an overall "we" is important in good examples of collaborative quality. One must not only feel for it (as an emotional component of an attitude), but one must let the attitude translate into action, and thereby express the commitment.

The importance of dialogical communication between the partners and constructive utilization of their respective competencies is also supported by other's collaborative research (D'Amour et al., 2008; Brattrud & Granerud, 2011; Elstad, Steen & Larsen, 2013; Elstad, Antonsen, Tillerli & Storli, 2017; Karam et al., 2018).

When it comes to facilitators and benefits of collaborative commitment the finding receives support from similar collaborative research. For instance, Stokken & Hunnes (2019) underscores how interprofessional cooperation provides opportunities to learn from each other, discuss subjects and stimulate professional growth. The role "good feelings" play in establishing and maintaining emotional ties between the partners has been pointed out in similar collaborative settings. Bordin (1983) claims that positive emotions make it easy to like, care about and trust each other. In connection with the concept of "labor alliance" in a therapeutic and/or guidance context Reichelt & Rønnestad (1999) highlights the importance of positive likes between participants. According to Grelland (2014), describing exactly how emotions contribute is difficult. But they create "a presence" that brings the collaboration to life. Thereby, participants experience a human gain and joy in the collaboration itself which in turn lubricates relations and communication. The informants use expressions such as becoming available to each other in unpretentious and seamless ways. Relationships that have a culture of making it easy to communicate with each other are probably a main characteristic of good cooperation. Other studies point out the same (San-Martin- Rodriguez et al., 2005; Elliot & Bachke, 2016; Karam et al., 2018; Andersen et al., 2019).

In addition, the informants expressed that they were dependent on a positive management. Good routines could easily be combined with flexibility: Fixed office time is plotted in the internship. However, there is openness to get to work a few hours early, or to drop the office to other urgent chores." They also emphasized emphasize the importance of encouraging and commendable comments from the leaders: "I'm glad you're doing it. You're so good at it. I've heard that from others, too." Such statements indicate that successful collaboration depends on a management which shows encouraging, commendable and flexible attitudes towards those employees in charge of cases requiring joint efforts across service levels. It seems to be a must that the managements act as motivational facilitators and persistent stimulator.

The importance of managements' facilitating manners is also pointed to by other researchers (D'Amour et al., 2008; Elstad et al., 2013; Elstad et al., 2017;

Andersen et al., 2019; Bachke et al., 2019). Such facilitating manners are a necessary foundation for co-operation generally because they create an adaptable and flexible culture which allow more unorthodox actions and improvisations that provide agility in the interactions. This study shows that this applies to cross-level collaboration too. The opposite, co-operative failure is an outcome of lack of managerial support (Holen-Rabbersvik, 2019).

Closing remarks

The research question's core statement is: What do employees find creating collaborative commitment? Through the analyses of the interview-transcription four elements are identified. Moreover, all the informants mentioned them. This means that the elements are vital for positive collaboration generally, and not dependent of which service-level the informants belong to. This sample-internal generalizability might also apply to other collaborative settings and actors because other qualitative collaborative research has pointed to the same conditions. External validity, and generalizability is subsequently to a certain extent restrained.

The quantitative analysis of the citations reveals that no single factor has an overshadowing significance for good cooperation. This means you cannot just emphasize one or two factors. Most likely, collaborative commitment is the result of a complex mutual interaction between the four factors. Essentially, they are intertwined as feelings, thoughts, motoric movements/skills, and environmental stimulators are parts of most of the professional helping work. To simplify, one can claim that communicative commitment consists of an emotional source, the prosocial attitudes; a perspective of thinking, the idea of putting the user first; a set of professional skills, prosocial communication; and a contextual management facilitating collaborative processes. Together the four elements create a good circle that will provide internal rewards for the collaborators and benefit them and the user at the same time.

Figure 2 outlines a theoretical model that suggests possible connections between the four factors. Hopefully, it might help professionals to remember what promotes cross-level collaboration, and thereby optimizing their future collaborative efforts. In this way the model might have practical implications. Furthermore, it might serve educational purposes. Firstly, it can be applied in the teaching of communication-courses included in the curriculum of bachelor-/master-programs like social work, social education, nursing, teaching and special needs education. Secondly, it can be used as a tool to raise the students' awareness of the importance of collaborative commitment during their practicums. Thirdly, the model can be applied in colleague guidance.

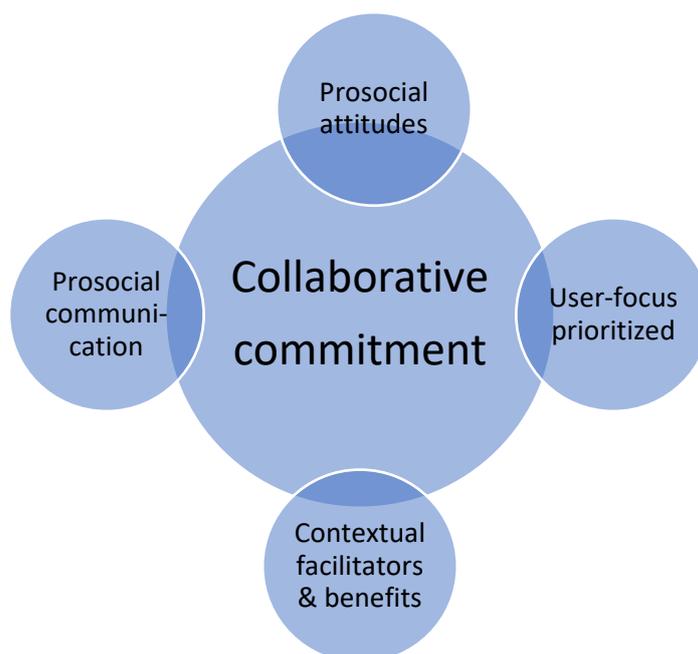


Figure 2 A theoretical model of collaborative commitment, based on the findings of the study (made by author)

How the four factors interact the informants do not explain. Nor do they say anything about whether one factor is developed first, or whether the factors emerge in a parallel way? One can imagine that there are double pointing arrows between all the four small circles, signaling that they are mutually working together to create collaborative commitment (the big central circle).

The model must be considered as a preliminary picture of mutually stimulating conditions constituting and enabling such commitment. Even though the model is not yet sufficiently underpinned by research, it can be useful, stimulating further collaborative research. For instance, it can act as a tool for implementing action research projects. Moreover, it can serve as a theoretical starting point for further collaborative research where its validity is verified using other research methods, or replication-like approaches. Such research might lead to more secure knowledge about how to create cooperativeness within cross-level teams.

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AN AUTOETHNOGRAPHIC APPROACH TO IDENTITY EDUCATION AMONGST CROSS- CULTURE KIDS IN LITHUANIAN SCHOOLS

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Abstract. *While Lithuanian schools face an influx of repatriated pupils post-Brexit and due to the COVID 19 pandemic, there is still no clear framework to support schools in integrating the increasing Cross Culture Kids (CCKs) and its school community and beyond. This paper examines the application of autoethnography as a pedagogical strategy for school agents to foster identity narrative spaces in classrooms and as a research method for investigating identity formation in educational contexts nurturing cross-cultural competencies in Lithuanian classrooms. This piece is part of the preparation work conducted for the upcoming serial cultural dialogue workshops with CCKs between 15-18, which borrows from the TARMAC ‘multicultural story’ framework (Ward and Keck, 2021). While autoethnography engages individuals in cultural-analysis-style interpretations of self-reflection, this process importantly aids the location of selves in one’s own narratives by exploring the self-other, personal-political, and self-society didactic- for all the stakeholders in the dialogue- such as the workshop facilitators/researchers and the CCKs and its non-CCK counterparts. This leads to the implications of philosophical and practical education approaches exploring identity and intercultural communication in alternative and non-traditional forms (Wall, 2006). Overall, this paper contributes to the formation of cross-culture transitional care awareness and strategies implemented in Lithuanian schools.*

Keywords: *autoethnography, cross-culture kids, identity education.*

Introduction

As student mobility becomes ever more common, schools are faced with reconsidering their role in identity curation as part of adolescent well-being, directly affecting student performance and learning outcomes (Mahoney & Barron, 2020). While Lithuanian schools started facing influxes of immigrant or returning emigrant children post-Brexit and due to the COVID 19 pandemic, the need for a cross-culture transitional care awareness, strategies, and curriculum is

current and urgent (Chu & Ziaunienė, 2021). In the Lithuanian context, the internationally mobile children as trans-narrative subjects surpassingly ones who create a multi-contextual narrative of identity (Garšvė & Mažeikienė, 2019) often find their voices unheard and denied differentiated cultural representation in their local schools due to the historical contexts of the National Revival movement since the 1990s. Changes have been called for with sensitivity, reflexivity and interdisciplinary collaboration (Bagdonaitė, 2020).

This paper is part of the preparation work conducted for the upcoming serial cultural dialogue workshops with CCK students between 15 and 18. These workshops will be implemented both as a *pedagogical strategy* (that equips participants with tools and framework to make sense of difficulties that comes along with mobility) and a *pedagogical intervention* combined with *participatory action research* (which aims for transformative co-creation of meaning, knowledge, and solution with the CCK students). This paper frames the autoethnographical reflection process that the author undertakes *prior* to working with the students. In order to truly return the spotlight to the experience of the CCK subjects, this reflective piece is conducted to acknowledge how the author's nomadic upbringing influences her interest and approach to the upcoming multicultural storytelling workshops and on the research area of identity education in general. By doing so, it is to prevent 'abusing' the subject due to a lack of awareness while perpetuating the so-called 'objectivity'. This documented transformative process has implications on how autoethnography is a powerful tool to impact teaching, learning, and pedagogical research that can contribute to the formation of cross-culture transitional care awareness and strategies implemented in Lithuanian schools.

Literature Review

Internationally Mobile Children in Crisis

The term *Cross-Culture Kids* (CCK) was introduced by Ruth E. Van Reken (2002) to reflect on the effects of globalisation and better include more faces of multiculturalism. "A CCK is a person who is living/has lived in – or meaningfully interacted with – two or more cultural environments for a significant period of time during the first eighteen years of life" (Van Reken, www.crossculturalkids.org). This definition can grasp the "new normal" alongside the global decrease of truly monocultural communities. Traditional indicators used to define 'otherness' continue to break down, increasing personal identity questions. The expanded definition categories are indicated in Figure 1, which

frequently overlaps in both belonging and representation.

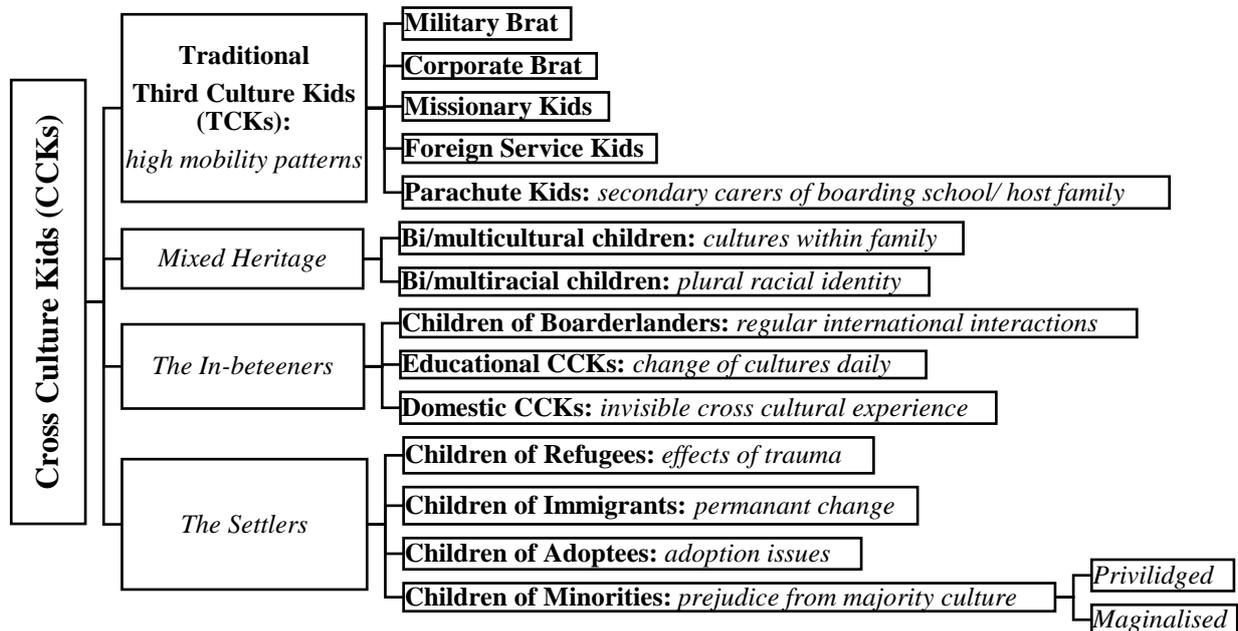


Figure 1 Cross-Culture Kids: Potential Commonalities and Differences

(adopted from Van Reken, 2002)

Alongside repeated relocation and transience comes significant personal and social difficulties that are often overlooked by its benefits to the *internationally mobile* (IM) families. Transience' is the constant status of 'transition', which is the change from one place, state, or condition to another (Pollock & Van Reken, 2009) - or being constantly on the move. Hence, some see CCKs as victims of globalisation who is left to deal with the consequences of where culture and identity collide (Carter & McNulty, 2015). Scholarship has largely acknowledged that the needs of CCKs differ from their non-expatriate counterparts. Literature of TCK that investigates emotional and relational issues as implications of living an IM lifestyle covers four main areas: 1. identity, 2. sense of belonging, 3. grief & transition, and, 4. coping strategies. This population has been pointed out as a group needing significant attention as students may appear to be functioning smoothly and coping with relocation on the surface when, in reality, unresolved grieving is a prevalent issue for IM children (Pollock, Van Reken, & Pollock, 2017). Their so-called 'border narrative discourse' (Grimshaw & Sears, 2008) may subsequently challenge their academic and social well-being with long-lasting effects into adulthood, such as behaviour problems, relational problems, mental health disorders, and many other issues later in their lives (Wells, 2018). Killguss (2008) found that many TCKs suffer from “authenticity anxiety”, and not being

able to have solid definitions of one's identity can cause IM children problems later on in life. It is especially true as these children are considered alien and abnormal in monocultural societies. On the other hand, the common bond with fellow CCKs allows the space to explore their identity formation with other peers with similar experiences. Rather than being cultural marginal - not being a part of any particular culture- they could be viewed as separate individuals, being members of the third culture while blending in with other cultures (Hatch, 2011).

Lithuania and IM Schooling

Foucault (1972) identified schools as an institution of social control that socialises its agents and influences self-concepts, emotions, attitudes, and behaviour with "the purpose... to transmit culture, the process by which the culture of a society is passed on to its children... Individuals learn their culture; acquire knowledge, beliefs, values, and norms" (Saldana, 2013). When TCKs are tossed into such an institution, their new combination of realities manifests in "the sense of rootlessness and a lack of full ownership in any one culture they inhabit, despite retaining relationship to all" (Pollock & Van Reken, 2009). With global mobility becoming a predictable part of youths' life and career planning and evolution (Cappellen & Janssens, 2010), schools must support children in preparing for such future possibilities by rethinking in-school support systems and teachers' professional development. However, the Lithuanian context is unique when speaking about IM schooling. Historically, Lithuanian emigration was amongst the highest in Europe (Eurostat, 2015) until 2018, when the number of foreigners who immigrated to Lithuania was higher than those who had migrated out for the first time since the 1991 restoration of independence. This number has increased by 1.4 times in 2019 (Statistics Lithuania, 2020). Immigration into Lithuania comprises 83% of re-migrants of returning Lithuanians, and 17% of immigrants into Lithuania is without Lithuanian background. Between 2005 and 2015, the ratio of children (under 18 years old) who emigrated from and to Lithuania averaged 3.5 to 1. The children who immigrated to Lithuania mainly fall under the CCK subgroups (Fig. 1) of *Traditional third culture kids*, *bi/multicultural children*, *immigrants*, and *domestic CCKs*, including *ethnic minorities* (such as Pole, Russians, Belarusian and Jews) (Eurydice, 2021). Lithuanian officials recognise that children who experience direct migration face many challenges that affect their consistent learning and development (Eurydice, 2019). However, a lack of a national pedagogical framework for language and social adaptations and the general lack of social and emotional support in schools for non-Lithuanian speakers has also been identified (Ministry of Education, Science and Sports, 2019).

Methodology

This paper is part of the preparation work conducted for the upcoming serial multicultural dialogue workshops with ten CCKs aged 15 to 18 from a major Lithuanian city, and borrows from the TARMAC ‘multicultural story’ framework (Ward & Keck, 2021). TARMAC is a guided framework that aid discussion and exploration with individuals who have experienced multiple cultures growing up. The collaborative process of making sense of the multicultural participants’ identity formation prompts deep reflection and understanding that hinders growth in self-recognition, relationships, belonging, and loss. The ten-sessions framework covers topics such as: Defining home and creating the experience of home, CCK strengths and resources, building relationships across cultures, experiences of cultural identity, cross-culture transition paradoxes, responding to transition, narrating cross-culture stories, and celebrating change. The framework has been applied on two bases: a pedagogical strategy and a pedagogical intervention.

Firstly, TARMAC has been applied as a pedagogical strategy involving the autoethnography strand of narrative inquiry. Autoethnography is “ethnographic in its methodological orientation, cultural in its interpretive orientation, and autobiographical in its content orientation” (Chang, 2008). It “uses personal experience (“auto”) to describe and interpret (“graphy”) cultural texts, experiences, beliefs, and practices (“ethno”)” (Adams et al., 2017, p.1). This ten-week TARMAC programme allows for the CCK participants to: ‘*Hold their story*’ (narrating the past through story writing, sharing, telling, and understanding to comprehend how their multicultural past has shaped them), ‘*Find their Vocabulary*’ (identifying present dynamics by normalising their distinct experiences- not as ‘flawed’ but as ‘different’- and creating framework to make sense of current situations), and ‘*Imagine their Future*’ (strengthening the sense of self-identity and confidence by taking ownership of ones’ stories and awareness of ones’ making aids the envisioning of the future with insight and intentionality). As autoethnography is an intersecting autobiography and ethnography approach, where we call on memory in writing about ourselves (Goodall, 2001), this application is based on the belief that personal experience is infused with political/cultural norms and expectations. They engage in rigorous self-reflection, or “reflexivity”, to identify and interrogate the intersections between the self vs others, self vs societal, and personal vs political. The provision of such a safe reflective space for CCKs is, therefore, the researcher’s attempt to combine pedagogical action with research.

Secondly, the TARMAC project is a *pedagogical intervention* combined with *participatory action research* (PAR). TARMAC is a pedagogical intervention as it gives voice to the much-hidden CCK stories in Lithuania. Through the CCK participants assembling text that creates evocative representation, it gives the audience, or the cultural outsiders, this front-row seat feeling of a CCK insider's experience (Ellis, 2004, 2016). Coming from the CCKs themselves, it is “written by people who, in essence, are imagining only themselves: in relation to the subject in hand” (Gornick, 2002). It is the CCK stories told by them, about them. Each is unique, important, and without right or wrong. By giving space to the CCKs’ narrative voices, the storytelling process is empowering through the normalisation of the perceived othering and alienation.

Furthermore, TARMAC is an application of PAR as it challenges the traditional view of the researcher as the dominant producer of knowledge in the research process, “operating in an autocratic relationship, and that one single reality exists which can be observed measured” (Jacobs, 2016) - and within the field of education, research is conducted *with* the students, not *on* the students. By combining theory with practice, action with reflection, participants and researchers align their understanding and lingua to co-construct solutions toward mutually concerning issues. Responding to Dewey’s (1997) reminder that an educator has more to learn than to teach, TARMAC as a PAR project relies on respecting all research participants' voices and knowledge, leading to group collaborative participation and construction of knowledge. As a facilitator to the CCK’s narrative inquiry journey, the researcher needs to be cautious of one’s projection of own stories dominating discussions and taking over control of the direction of the supposedly co-generation of knowledge and solutions.

Therefore, for PAR to be a tool that calls for a transformative rather than informative intervention (Baldwin, 2012), the role of the researcher requires careful positioning prior to the co-creating process to ensure that TARMAC remains a space free from hierarchical imbalances between the research/facilitator and the CCK participants/students. As part of the preparation, the author takes this opportunity to rethink and make sense of her own negotiation of the self-defined roles of a former TCK, a transitional care programme facilitator, and an educational researcher. This hinders the necessity of this autoethnographic piece- not aiming to show “people in the process of figuring out what to do, how to live, and the meaning of their struggles” (Bochner & Ellis, 2006), but as the researcher’s attempt to set grounds for transparency and a continuation of informed reflexivity throughout the project of working with CCKs. By doing so, it is to prevent ‘abusing’ the subject due to a lack of awareness while perpetuating

the so-called 'objectivity'. Responding to Blanchett's (2006) reminder on the negative influence of educational research caused by the response biases of educators potentially negatively influence student performance and aptitude, how the author's own CCK upbringing influences one's research interest and approach has to be acknowledged in order to aid the re-spotlighting of the CCK subjects. Also, taking on Luttrell's (2000) concept of 'good enough methods', the researcher's autoethnography has been applied with the intention of "seeking to understand and appreciate difference and accept errors often made because of their blind spots and intense involvement". This also has implications for the aftermath on training for future cross-culture transition care programme facilitators to prepare for supporting CCKs and initiate intercultural conversations with their non-CCK subjects/ students. Overall, implementing TARMAC as an intervention project with Lithuanian CCKs contributes to forming cross-culture transitional care awareness and strategies that can be implemented in Lithuanian schools.

In contrast, this paper helps to locate the researcher in the CCK dialogue as the author transitions from a former CCK to a cross-culture transition care curriculum facilitator and pedagogical researcher. The writing of autoethnographical texts is "a continuation of fieldwork rather than a transparent record of past experiences, leading to the production of a historically, politically, and personally situated representation of human life. As 'no subject can be a fully self-identified, fully aware, or fully intentional author because unconscious desire makes fully intentional subjectivity impossible' (Luttrell, 2000), and it is this openness towards rejecting the need for an absolute objective truth that makes this piece distinctive. For this purpose, the following section on data and its analysis will be narrated in the first-person perspective.

Research Results

Autoethnographic text No. 1: "A sensation of home"

"Having grown up between three countries (Taiwan, Thailand, the UK), four educational systems (Taiwanese, Thai, British, American), six schools (public, private, international, boarding), and countless apartments and houses... I have currently having spent an accumulated two-third of my life living overseas. If I am to meet someone for the first time, I will introduce myself as: Taiwanese (14 years total), Thai (10 years total), and some kind of European (10 years and counting). This is not entirely right, nor is it entirely wrong. To me, it is not the question of where are your parents from, what passport do you hold, or where do

you feel for more. The answer to a question that seems straightforward is, in fact, very tricky for me to answer.

How do I choose? Why do I have to choose? Why can there only be one anyway?

The bright side of this is that I have three new years celebrations per year! There is one on the Roman Catholic Calendar (Most Western countries), one for the Lunar Calendar (Chinese), and one for the Buddhist Calendar (Thai). On the calendar here, my 3 New Year festivals are on the 1st of Jan, mid-Feb and mid-April. This is probably one good thing about moving several times. Living my life in Europe, I make sure that I remember and am keen to, if not celebrate, acknowledge all three of them. It is not important what people should do these days, and whether I get to take part as well. What is important to me are the different meanings behind the reasons why people celebrate on these days of the year. I feel more strongly about the Chinese and Thai New Year. Maybe it is due to the fact that I know why these days are celebrated, and I find myself agreeing with the reasons why they do it. Nevertheless, it is a good thing because I can feel three times a year intense levels of greetings, blessings, well beings and good intentions. I sent greeting cards to my friends and relatives in Taiwan in Feb. I pray for the people I know in Thailand in April. I gather up with people I feel close to in the UK on the last day of Dec.

Why do I have to choose? I can be any of them and all of them if only I try to understand and appreciate what people from different parts of the world do to show 'thank you.'

Speaking of the holiday season, as it has always been a time of intense longing for the familiarity of home, I now think of it as a sensation of home, how I remembered it as a child. It is where warm coloured light gets lit as the sun sets, where the calling of mothers while they collect their kids from the playground echoes from outside the window, and the air smells like sun-dried clean laundry. Another home would feel like a warm summer breeze that smells like a mixture of freshly mowed lawn and the humidity just before rain; it sounds like dogs barking from far away and vague playing of Thai folk music from the nearby evening markets. But most importantly, the feeling of home is the feeling of security and belonging, knowing that I am safe, that I am accepted for who I am, and where I have value and have a voice."

Analysis of text No. 1: *"Homecoming as 'becoming'"*

Pollock and Van Reken (2009) suggested that the question of 'Where is home' is not the same as 'Where are you from' for most TCKs, as the sense of 'at-homeness' can differ, depending on what the question maker defines home in an

emotional or physical sense. Just like for most TCKs, to me, home is defined by relationships, and 'home' connotes an emotional place- somewhere you truly belong. When the physical concept of 'home' is irretrievably gone for me, 'going home' becomes impossible as I now belong to "everywhere and nowhere" (ibid: 126). I, therefore, realise what Cockburn (2002) suggested could have important implications for me: "TCKs have a greater need to develop identity and a concept of 'home' within their families and through relationships". Stumbling through the road of a highly mobile life, I am aware that my intention for introducing TARMAC to my CCK students is to help them make sense of their cross-culture transition, as I would have hoped for earlier on in life. As I processed what I had to navigate through alone, transitioning from adolescence to adulthood, I hope that the reflexivity obtained and practised along this curriculum can become useful life skills for my students. They can take something with them and apply it in all of their future endeavours, alongside their 'making of the home' wherever their location and infused culture. This assumes that the concept of home is neither the point of departure nor the destination. It is a state of mind that can be settled into. This idea of a 'journey' stems from Deleuze and Guattari's (2004) concept of 'rhizome as an a-centred multiplicity' as a way to approach the understanding of personal identity as a rootless process, without a clear beginning and end without logic. It focuses on the 'in-between' and allows us to question hierarchical organisation, focusing on 'what can become of it and suggest ways of rehabilitating thoughts as a creative and dynamic enterprise. As more non-binary intercultural encounters prompt new intercultural identities, living in-between cultures means being exposed to unified meaning, definition, and organisation. TARMAC is exactly the journey to finding the self as 'nomadic subjects' (Braidotti, 2011) to make sense of the process of "finding rich meanings and identities in unexpected arrangements of the self" (Ros i Solé et al., 2020). This journey for the CCKs, I hope, would create intercultural contacts, creates new ways of attaching and detaching, and function as new 'lines of becoming' (Hiller, 2017), which allow the re-seeing and interpreting of the self. Through creating intercultural 'contact zones' (Pratt, 1991) such as TARMAC, I hope for intercultural frictions to be reflected upon critically and (re)applied productively in the daily life of myself and my subjects.

Autoethnographic text No. 2: *"What colour is a chameleon?"*

"I am always the new one and the foreigner. The superpower that I have obtained through this is being exceptionally good at making myself invisible. From the way I dress to how I express myself... like a chameleon, hypersensitive and hyper-adaptive. In cases where my difference cannot be hidden, my default

accommodating tendency makes me a favourable being as either an easygoing team player or a forever empathetic friend. However, I am usually accepted as part of the pack, and my survival mechanism sees this as success. It in fact, doesn't bother me that much when being placed under the category of 'the foreigner' or 'užsienietis' in the Lithuanian language, which literally translates to *from the other side of the wall*. This is, however, not the case when I am in a room full of my compatriots. I fall into a state of anxiety and uncertainty, with all my radars malfunctioning, my powers confiscated, social boundaries blurred, lacking cultural references and unable to laugh at the jokes. However, when I am in a room of people from everywhere, I feel like a fish in water, where there is no one set of things that I am 'supposed' to know, and I can be who I am, my original colour, and not needing to figure out which colour to change into in order not to stand out."

Analysis of text No. 2: "Rootlessness based on 'sameness'"

As do most CCKs, I share this common experience of a struggle in identity when encountering situations of 'returning home'. Although the process of returning home has been seen as a way out from being an 'adapted foreigner', many go straight into being 'hidden immigrants' in their own land. This is definitely my case, and I believe, it affects my students equally. Pollock and Van Reken (2009) suggested that it is largely due to TCKs' expectations of 'sameness' on their re-encountering of their homeland. However, these expectations toward people who look like themselves to also think like themselves can be very disappointing when not the case. It can be especially true for returning Lithuanian immigrants as CCK subjects of TARMAC. In the context of my CCK participants, the concept of the collective 'sameness' is heavily reinforced as the continuation of the National Revival Movement in the 1990s, where special attention was focused on the protection and emphasis of a one-dimensional nation identity (Garšvė & Mažeikiene, 2019)- with an educational focus on language, heritage and citizenship, and no focus on ethnicity. Garšvė, Mažeikiene, & Ruškus (2018) explain the lack of governmental action as Lithuania still faces challenges with migration issues as the historically constructed national identity does not allow schools as an agent of socialization to provide space for identity negotiations. These barriers largely limit the possibility of addressing the emerging diversification of identities to prevent intercultural tensions in schools and society. In our local context and considering the living everyday experience of my CCK participants, there is an emphasis on maintaining certain oppositions and binaries (local vs foreign student, integrated vs not-integrated foreigner students, the CCK vs non-CCK counterparts). It is important for the created TARMAC 'contact

zones' to align with Deleuze's concept of 'difference' which gives rise to a multiplicity that is non-hierarchical. This difference manifests itself in the linguistic and the many semiotic expressions through which identity is performed. This programmed conformity must be challenged during the TARMAC journey while maintaining a neutral voice, a critical eye, and a productive inceptive. Unlike 'sameness', the difference is not a static and fixed dead-end. Rather, it is full of possibilities and provides us with many identity repertoires.

Conclusion

As part of a PAR infused pedagogical intervention, this article prompts autoethnography as a pedagogy strategy that invites both academic supervisors and students to write themselves into research, making the reading-writing relations of knowledge production more transparent and personal (Game, 1991). Autoethnography is applied as 'situated learning' (Armstrong, 2008), where the process of problematising the power relations that shape their own identity and understanding of the world and their awareness of how power is exercised concerning individuals' performance of identity. Personal identity and representations in the form of stories are explored as 'routes' rather than 'roots' (Friedman, 2002). Personal 'taken for granted assumptions' need to be reflected extensively upon to align with the increasingly transnational world and borderless identities. It can be argued that autoethnography has the potential to revolutionise both teaching and learning, and educational research as a means of questioning ourselves in relation to the pupils and classrooms, the social and political contexts that we study, as "autoethnography has transformed the way we approach ourselves and our research; it is now time we let it change how we teach" (Barr, 2019). It is important that the same transparency and reflexivity can be extended to have implications on teacher (or facilitators) training when it comes to facilitating intercultural dialogues and investigations. This is especially relevant with Lithuanian schools' urgent need to form cross-culture transitional care awareness and construct strategies that can be implemented immediately-keeping student well-being at utmost importance.

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PECULIARITIES OF SOCIO-EDUCATIONAL SUPPORT FOR WOMEN EXPERIENCING DOMESTIC VIOLENCE IN THE CONTEXT OF A PANDEMIC

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Abstract. *The article deals socio-educational support for women experiencing domestic violence in the context of a pandemic. Domestic violence is a fairly common problem, but it is still often overlooked. It is usually analysed from a purely social or criminogenic perspective. There is a lack of a holistic approach to the phenomenon of violence, emphasizing the possibilities of educational empowerment. In the context of the pandemic, the possibilities for both social assistance and educational empowerment have changed. The information disclosed in the article is relevant for institutions and communities that face with the need to organize professional help for domestic violence victims during the Covid-19 pandemic situation. The theoretical parts of article contain the analysis of the publications made on the domestic violence and socio-educational support, educational empowerment process of the review. The empirical part of the research present how Covid-19 pandemic situation affects the provision of socio-educational assistance to women experiencing violence.*

Keywords: *domestic violence, educational empowerment, socio-educational support.*

Introduction

The 21st century has not only brought to society a high level of civilization, scientific achievements that have made it possible to live longer and better as well as solve various health problems more successfully, but, in turn, the pace of life, social problems and various mental health trauma have led to crisis situations in modern society (Didžiokienė, 2016). Of course, the world-wide situation of Covid-19 pandemic, which has exacerbated already deep problems of society, cannot be ignored as well. Social isolation has led to an increase in scale of problem of domestic violence against women (Aldrich & Lotito, 2020; Roesch, Amin, Gupta, García-Moreno, 2020; Alon, Doepke, Olmstead-Rumsey, Tertilt, 2020; Ceuterick, 2020). Research has also shown that the number of female suicides has increased as a result of the pandemic (Čepulienė et al., 2021). Although it is too early to draw final conclusions on the impact of a continuing pandemic on mental health of a society, the scientific community is concerned about this particularly vulnerable groups and the effectiveness of the assistance strategies applied (Costanza et al., 2020; Dawson & Golijani-Moghaddam, 2020).

The scientific literature distinguishes the following types of assistance to women who have experienced domestic violence: social, legal, psychological and educational (Bell & Goodman, 2001; Kaur & Garg, 2008; etc.). If the first three aspects are analysed in detail both theoretically and practically, insufficient attention is paid to educational support, especially to the educational empowerment of women, during which the decision to “live differently” leading to emancipatory processes takes place (Gelbūdienė, 2018).

A woman must become “socially empowered” – to be able to recognize the phenomenon of violence, to find sources of help on her own, to have enough knowledge to solve the situation on her own, and not to remain dependent on assistance institutions (Gelbūdienė, 2018). This is where the importance of educator help comes into play. However, when analysing women’s educational empowerment and the enablers competencies it needs, it is important to note that empowerment often seems a controversial process, as professionals manage professional knowledge, as well as, are considered experts in a particular field and can therefore be placed in a position of power in respect of violence victims. This would deprive individuals of the power to make their own decisions. But empowerment-oriented practices, on the contrary, must provide opportunities to develop knowledge and skills and treat professionals as partners rather than authoritarian experts.

These aspects make up the scientific problematic nature of the article, which can be expressed in two problematic questions: *what is the educator's influence on the effectiveness of assistance (empowerment) provided for women who have experienced domestic violence in the context of a pandemic? and what are the peculiarities of providing socio-educational assistance to women who have experienced domestic violence in the context of a pandemic situation?*

Aim: to expose the peculiarities of providing socio-educational assistance to women who have experienced domestic violence in the context of the Covid-19 pandemic.

Research methods: analysis of scientific literature, partially structured interview, interpretive phenomenological analysis.

The Phenomenon of Domestic Violence Against Women

Domestic violence includes all intentional physical, psychological, economic and sexual actions directed against the person with whom the abuser is closely related (by family or partnership relationship), and these actions violate his/her constitutional rights and freedoms as a citizen and a person; also, it causes economic, physical or moral damage (Kurst-Swanger & Petcosky, 2003).

Any healthy woman may get involved in a violent relationship, and, even after breaking free from it, she will never be the same because long-term domestic violence imposes irreparable psychological harm which develops as a response to

a violent situation. The complex post-traumatic syndrome, the syndrome of a battered woman, the condition of acquired helplessness, the violence vicious circle and the Stockholm syndrome phenomena not only damage the mental health of women but also cause tight and complicated attachment of battered women to their abusers and to the abusive environment. Traumatic encounters make victims doubt the fundamental human relationships, encourage exclusion from the family, friends, love relations and community (Gelbūdienė, 2018).

Peculiarities of socio-educational assistance to victims of violence and their educational empowerment

Women, who have experienced domestic violence, need external support in order to take responsibility for their own lives, to change their attitude towards themselves and their relationships with those around them, to change their goals and priorities and to increase their need for self-realization and life satisfaction. This also requires the creation of a suitable educational environment, taking into account all the parameters of this environment and the creation of the necessary conditions. Not only teachers but also social workers, psychologists, integration program coordinators, etc. become educators when working with people who have experienced violence or other trauma. In other words - educators - specialists who provide assistance to women who have experienced domestic violence, who create and operate in an educational environment and provide targeted information related to the educational purpose.

According to Langeveld (from Levering, 2012), the main goal of an educator is to help a particular person, in the particular circumstances in which he or she lives, to reach his or her best potential. In this case, the educator is assigned not only rational (theoretical) but also moral responsibility. Regarding the role of educators in providing socio-educational support to women who have experienced violence, it is important to mention the context of interpreting education as relational, which, helps to create relationships that address not only lack of learning motivation but also social adaptation and other people's functioning in society problems Saevi (2015). The aim of the educator (teacher, social worker, psychologist, curator of the integration program) is to help a woman who has experienced violence to acknowledge the experience of it, to perceive the meaning of this experience and to create conditions, while minimizing the threat of secondary victimization, to safely acquire new skills, knowledge, experience and successfully self-individualise by renouncing violent relationships and reintegrating into the labour market and society (Demidenko, 2019).

Regarding the competence of the educator, the versatility of the educator's knowledge is especially important (Gelbūdienė, 2018). One of the essential things for an educator is to understand how a woman, who has experienced domestic

violence, is traumatized both physically and psychologically. What feelings and emotions does she experience as a victim of domestic violence. Why a woman finds it so difficult to break free from a violent relationship and why she finds herself in it at all. Another important aspect in assessing the overall dynamics of a violent relationship is being able to see the individuality of a woman in each situation. Every specialist (educator) must understand how much help he or she can offer to a woman, a victim of violence, within the framework of his or her profession, institution regulations and laws. Of course, the relationship with the victim of violence must be sincere and open, but the educator must understand that he or she is not capable of solving all the problems of a violence victim and this must be said to the woman, emphasizing the specific help that can be given. Only she, herself is an expert of her life, and a specialist is only a partner in helping to achieve woman's goals and needs (Cattaneo & Goodman, 2015). It is especially important not to judge a person - both the woman and the abuser – and that is really a very difficult thing to do, but by helping one, you cannot humiliate the other. Unconditional acceptance of a woman victim is also associated with not judging - accepting a person for who she is, is also a value. The main approach of the educator is intolerance of violence with no exceptions. A specialist, who believes in a person's ability to change, recognizes his or her strengths. It increases person's self-esteem, hope, and motivation to change. It is often questioned whether socially excluded and low-power people can make their own decisions, but empowerment is not just about strengthening power and competitiveness. Empowerment is granting of the power to make decisions about one's environment and goals, living conditions, professional activities, and so on. Thus, not only specialists, but all the participants in the assistance process as well, including those who need help, become responsible for decisions and their implementation (Baranauskienė, 2014).

Thus, an equal relationship between the educator and the woman, a victim of domestic violence; attention to the uniqueness of each woman and her life situation; creating of learning conditions for each woman; the pursuit of restoration of women's power, autonomy, self-confidence, communion with other people and control over their lives in the life change context are the essential “axes” of socio-educational support for women who have experienced domestic violence.

Educators are looking for different ways to empower women who have experienced violence. According to Langeveld (from Levering, 2012), only those teaching methods that promote individualizing and increase the awareness of oneself and the environment, are of absolutely importance. The most important axis in the application of all teaching methods is taking care of the learner. Therefore, the didactics of teaching socially vulnerable people is inseparable from socio-education and psychology - a person experiences certain feelings, life events, possibly experiences trauma, lives in a certain community and is affected

by the processes, which take place in it (Demidenko, 2019). It is not surprising that the method of experiential reflexive education is considered to be one of the most effective in the process of socio-education of socially excluded people (in this case - women who experienced violence). In the broadest sense, the method of experiential education is reflecting on and making sense of one's being and functioning in the environment. According to Gurova and Godvadas (2015), the method of experiential education is a reflection and meaning of one's being and functioning in the environment. Experiential education is understood as learning from the experience. It is a process when a person acquires knowledge, skills and forms their values from the direct experience (Štuopytė & Demidenko, 2021). Experiential education occurs when a person engages in a variety of activities, then reflects on their experiences and, through this analysis, gains useful insights that they integrate into their changing thinking and behaviour patterns.

The effectiveness of the experiential reflexive education method in empowering women, who have experienced violence, is confirmed by a study conducted by Jonava District Social Services Center, in 2020-2021. The aim of this study was to determine the links between emotional competencies, stress coping mechanism and alcohol consumption in women experiencing social exclusion and intimate partner violence (Gataveckienė, 2021). In addition, the study revealed that socio-educational and psychological support interventions, using the method of experiential reflexive education, help to increase women's emotional competencies, enable them to break free from the role of the victim of violence. Thus, experiential reflexive education is an important construct in applying both interventional and preventive measures among women experiencing social exclusion and violence.

Peculiarities of Socio-Educational Support In The Context Of A Pandemic

Violence has generally been found to increase in the face of pandemics. Scientists analyzing domestic violence describe the situation of violence during a global pandemic as a "double pandemic", „hidden epidemic” or „shadow pandemic”: the lockdowns and other social isolation measures implemented by all affected countries have forced women to be confined to their homes despite the fact that they are subjected to family violence, with limited or no social support options available (Maji, Bansod, & Singh, 2021).

The World Health Organization (WHO) provided guidance to both professionals and victims of domestic violence on what help is available during this difficult period for society, already in April 2020, at the beginning of the pandemic. In exceptional cases, it was recommended to provide assistance by telephone, online, as well as by developing of the security plans, but the main

means of assistance remain the victim's withdrawal from the home or his or her accommodation in specialized help centers.

In assessing the risk of domestic violence to quarantined people, different countries have tried to adapt traditional methods of assistance, taking into account the uniqueness of the current situation. For example, in France, grocery stores and pharmacies were equipped with emergency buttons, and those who experienced violence were able to report the crisis by giving special code words to sellers, who, in turn, informed the responsible public authorities. In Australia, specialist authorities prepared special guides for a closest circle of people: relatives, friends or neighbours on how to deal with ongoing violence, when noticed. The National Domestic Violence Hotline, USA, has also been offering service via online texting chat so that victims of domestic violence can seek help. In Beijing, a judicial court has been using cloud-based platforms and online court hearings to deal with cases of gender-based violence in the times of pandemic. Indian non-governmental organizations asked for the phone numbers of police officers to be made public by sticking them in visible places; the construction of a temporary shelter was also initiated (Mittal & Singh, 2020).

Based on the above literature review, it can be maintained that there is a need for a holistic response model to deal with the issue of domestic violence during current and possible future pandemics. Assessing the fact that the role of both NGOs and educators remain an integral part of assistance to victims during a pandemic, a study was conducted in one of the Lithuanian Social Service centers, which revealed the peculiarities of provision of socio-educational assistance to women experiencing domestic violence in the context of the Covid-19 pandemic as well as assessing the role of the educator in the process of empowering the female victim.

Methodology of the empirical research

The methodological provisions of the research presented in the article are determined by the specificity of the research goal. In particular, the study seeks to understand the availability of socio-educational assistance to women who have experienced domestic violence in the context of a pandemic situation. It is qualitative research that, according to Merriam Sharan (2009), Carenza (2011) is most appropriate for analysing people's experiences in different contexts to reveal why and how such phenomena occur. The choice of a qualitative research strategy inspired the choice of a partially structured interview. This method is ethical, suitable for working with the experiences of women who have experienced violence; allows the collection of complex, multi-layered data on educational empowerment and the availability of socio-educational assistance in the context of a pandemic and is sufficiently open to contingency data.

Research design and methods

The participants of the study were selected purposefully, according to the identified need for socio-educational assistance. A mixed selection strategy was applied to the participants, combining several selection methods:

- 1) Criterion selection (women have experienced domestic violence, they have been identified as in need of socio-educational assistance);
- 2) Convenient selection (participants are clients of Jonava District Social Services Center, identified during the pandemic).

Table 1 Characteristics of interviewees (made by authors)

Name* (changed)	Age	Education	Family status	Socio-economic status	Duration of SSC assistance received
Marija	37	vocational	married	unemployed	1 year
Ona	32	vocational	lives with a partner	works seasonal jobs	1,5 years
Irma	45	vocational	married	works seasonal jobs	8 months
Toma	28	secondary	lives with a partner	unemployed	5 months

The method of Interpretative Phenomenological Analysis (IPA) was chosen for the analysis of the findings of the partially structured interview. This method emphasizes the importance of interpretation and is often chosen to examine not only what individuals (in this case, women who experience violence) experience, but also how they perceive their experiences. The method emphasizes the idea of man as a “self-interpreting being” (Taylor, 1985 from Pietkiewicz & Smith, 2012). In addition, the chosen method of data analysis also emphasizes the fact that a person is constantly exposed to external world factors, so the analysis of his personal experience also identifies social world factors - which is very important in the context of socio-educational assistance during the pandemic.

Results and discussion

Several general thematic groups or clusters were identified in the analysis of the findings of the semi-structured interview using the IPA analysis. The clusters of topics and sub-topics that emerged during the interviews are presented in Table 2.

Table 2 Topics identified during the analysis of the findings of the interviews with women who experienced violence (made by authors)

Topic clusters	Initial phase	Phase of change	Achievement phase
	Pandemic-fear-despair	Hope – education and change	Self-discovery, new meaning
Topics /subtopics revealing the experiences of women who have experienced violence.	<ul style="list-style-type: none"> • Feelings of fear, shame and despair intensified during the pandemic. • Questioning the effectiveness / appropriateness of the proposed assistance. • Establishing a connection with the educator. 	<ul style="list-style-type: none"> • Education by participating in socio-educational assistance classes. • Pandemic - experience of unusual forms of education / learning. • The role of the supporting person - the educator. • Change, transformation 	<ul style="list-style-type: none"> • “Discovering Your New Self” • "Ceiling effect" • "The meaning of injuries suffered - a positive perception"

The initial stage. Pandemic-fear-despair:

Sharing their experiences of violence and access to help during a pandemic, the women talked about the feelings of fear and shame that were exacerbated by the quarantine announced for the Covid-19 pandemic. It deepened ***feelings of fear, loneliness and despair***, according to the participants:

"When they closed everything and told us to sit at home - I was scared ... I always tried to be at home with him as little as possible ... I didn't know what to do if it started again, where to go ..." (Toma, 7); *"I was always afraid of him ... and I felt ashamed that I was suffering ... with that Covid it would be even worse - you would not go anywhere, you would not tell anyone ... the first thoughts were really like this ..."* (Marija, 12);

On the other hand, it was the pandemic and the fear of not receiving help that led some women to seek help themselves:

"... then I probably realized for the first time that I was left completely alone ... with him alone ... you understand ... well.. that now it doesn't matter to him that I'm with bruises and someone will notice ... I would still not go anywhere, it won't be seen at work, in kindergarten, at school ..."(Ona, 11); *"... social (worker) has talked to me ... invited me to events ... events about violence... well, maybe they have suspected ... but I never went... I felt ashamed ... I thought - if anything happens - I would come, I would say... And I felt calmer because of this then ... And when we were closed, everything became hopeless ..."* (Irma, 8).

The findings of the interview correlates with Boeckel, Blasco-Ros, Grassi-Oliveira, & Martinez (2014), Yamawaki et.al. (2012) statements, that victims of long time spousal or partner violence experience feelings such as: loneliness, loss of self-confidence, doubts about the ability to manage one's life; guilt and shame; fear, anxiety and negative self-esteem.

Establishing a connection with an educator:

Responding to questions about the availability of help during a pandemic, women not only shared their fears of not receiving help due to quarantine, but also stressed the importance of establishing **connection with an educator**:

"... I was scared ... and I thought, that's it - I'll tell the social (worker) ... I was so sure ... That's it, enough, but I wasn't able to go then ... I don't know what it would be like if the social wouldn't call ... Well, she said that they call all their families, they ask how they are doing ... and for me, that she calls, and asks, and it's not the same for her... I somehow believed her and told ..." (Ona, 18)

"... We mostly talked on the phone then. It was somewhat calmer when she called, but when he was at home, what would I say... Then she said that the center was working, if it's locked – to press the call button. And then I went out to the store and went straight there... I was lucky, that my social was working, she immediately understood me - we took the children, clothes and they drove me to that crisis center ... I don't know ... but if Inga (the name of the social worker has been changed) wasn't there, then I would probably not have said anything to somebody other than her ..." (Marija 21).

The phase of change. Hope - education and change:

Sharing their experiences about the period after seeking help, the women who experienced violence talked about **hope** that arose. They also talked about how **their perception of themselves, their relationship with the abuser** changed after counselling and socio-educational activities, and shared **new experiences of unusual forms of education** and experiential reflexive learning:

"... somehow everything seemed easier ... the quarantine was freer, I went to talk to a social worker and a psychologist alone - it was already possible ... and then I was offered to attend women's group - not to attend - you know, just by phone ... it all seemed very strange to me ... well, nonsense, I thought ... Well yes, they showed, explained ... not bad. They gave my child a tablet to study, and then I took a phone call in the kitchen ... Giedrius (the child's name was changed) laughed at me, that his mother was also learning ..." (Irma, 22); *"... I thought I'd rest now, but it was hard ... he kept calling ... so he (confirms speaking about a partner) – one time he would apologize, another, he would try to scare me ... oh, well, he was talking nonsense there ... somehow it was hard, the kids and everything ... I was even thinking of leaving ... Yes, social has supported me ... we talked a lot ... then those activities ... topics - everything seemed about me ... I don't know how, but it helped – I started looking at myself differently, began to look at my children differently, at him ..."* (Marija, 29); *"... consultations and classes ... I liked that no one instructed you, didn't moralize you ... just spoke to you ... a lot of psychology, a variety of knowledge ... but nobody preached anything, we talked ourselves ... situations, movies there ... we tried to try new things ourselves ..."* (Toma, 14).

Women who experienced violence shared stories and situations that revealed the important **role of a supportive person** in sharing their learning experiences while receiving socio-educational support. Given that this supportive person was usually (according to the interviewees) a specialist (social worker, psychologist), it is appropriate to call him an **educator**. The importance of the relationship with the educator is reflected in the stories of the interviewees:

"... I don't know, I liked the relationship, that nobody force you, doesn't condemn ... well, we just talked, I participated in the group, then with the psychologist ... you know, humanly ... and when somebody believes in you, you start believe in yourself as well. Become more and more confident... I was always afraid of quarrels, I remember in the group they even taught us

to react, pretending we're quarrelling... I never liked to learn, but here naturally, humanly – it suited me ...” (Toma, 22).

The fact that specialists who use psychological and social education resources become a source of education, empowerment and support for people who have experienced violence or other traumas is confirmed in the research of Demidenko (2019), and Gelbūdienė (2018).

Achievement phase. Self-discovery, a new meaning:

Assessing their current situation, women who have experienced violence highlighted changes in self-perception and a review of interpersonal relationships:

“...now... I'm stronger now... less afraid... I realized that I can live without him... I began to trust myself...” (Marija, 33);

“...I have become wiser, I do not allow him to harm me, I do not surrender to him...” (Irma, 29);

“...it changed... I am different now with Petras (husband's name is changed) ... I communicate differently than with Antanas (husband's name is changed) and he treats me with respect...” (Toma, 31).

Researchers in post-traumatic growth also emphasize the importance of changes in self-discovery, self-perception and self-esteem during the process of helping women who have experienced domestic violence (Oginska-Bulik, 2015; Tedeschi & Calhoun, 2004; Elderton, Berry, Chan, 2017).

Some women, while acknowledging the benefits of socio-educational support and empowerment provided, spoke of **reaching the limits of their change** (the “ceiling effect”):

“...my social (worker) then really helped me... I live with Vydas (husband's name is changed) ... I don't know if I forgave... I have changed, you won't destroy me so easily now... I think he feels it too... children, they also feel... the relationship has changed now, and what more is needed? ...” (Ona, 27).

Healing for a victim of violence is a long, complex process, so the sharing of women about the extent to which they have reached the limits of their change is authentic and can be seen as an effect of a “ceiling reached” or a “glass ceiling”. Although the term “glass ceiling effect” was introduced to define inner barriers regarding women's careers, there has been an increase in analysing the experience of the glass ceiling effect on other socially vulnerable groups research in recent decades (Demidenko, 2019; Janušauskienė, 2016).

Interesting interviews about discovering a **different - bright - meaning of experienced violence**:

“... I didn't think I'd ever say that, but it's good that it all happened ... otherwise I might suffer until now ... me and kids ... sometimes, you know, it has to be very bad to understand, that enough is enough – it's either now or never ...” (Marija, 38);

“... I often think, if I survived then, I managed, I went out ... I'm not afraid of anything now ... I know how to live now...” (Irma, 35).

Analysing these interview data, the correlations between the findings of the selected interviews and the data of Saigi-Schwartz and others (2008); Bakaitytė (2018); Mažulytė & Skerytė-Kazlauskienė (2015) research, which identify not only the negative but also the positive consequences of trauma or violence, are

observed. Awareness and reflection regarding traumatic experience can strengthen person's psychological resilience to other life difficulties, motivate them to pursue higher goals, learn, adapt and function successfully in everyday life (Gelbūdienė & Demidenko, 2019).

Conclusions

Summarizing the analysis of the scientific literature and empirical data presented in the article, it can be stated, that the situation of Covid-19 pandemic deepened the feelings of fear, loneliness and helplessness for women experiencing domestic violence. Covid-19 has not only led to an increase in cases of gender-based violence but has disconnected the victims from their support networks. Women thought, that help had become inaccessible. But individuals who did decided to seek help during the pandemic – succeeded in finding it.

It should also be noted that women positively assessed their experiences of socio-educational support, empowerment, and experiential reflexive education, pointing to fundamental changes in self-perception, interpersonal relationships, and values driven by newly acquired knowledge and skills. The study confirmed the important role of educator in the process of providing socio-educational assistance. Specialists, who take on the role of educator, support women, provide new knowledge and skills through experiential reflexive educational methods and thus enable them to change the violent situation.

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THE OPPORTUNITIES TO DEVELOP COMMUNICATION AND COOPERATION SKILLS AT CHILDREN'S COMMUNITY CARE HOMES

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Abstract. *The purpose of the article is to reveal the opportunities to develop communication and cooperation skills in children living at children's community care homes (further on CCCHs) based on the experience of social workers working at CCCHs. Problematic question: What are real opportunities for children to develop communication and cooperation skills while living at CCCHs? Nine social workers, who work at CCCHs in seven different locations in Lithuania, participated in the research. The study revealed that, while living at CCCHS, the opportunities to develop communication and cooperation skills change in the positive direction. At CCCHs, a positive family environment, in which closer and warmer relationships form, is created, more time is devoted to mutual communication. Children develop communication and cooperation skills while creating home rules, negotiating and obliging themselves to stick to the set order, learning to create and maintain harmonious mutual relationships, emphasising attentiveness, politeness, empathy, as well as learning to resolve problems and conflicts in a constructive manner, consulting and agreeing regarding the ways to spend their leisure time. In addition, children, while expanding their social ties in their community, learn to coexist with others, as well as to develop social resilience while learning to resist the pressure of others, not to give in to bad influences, to trust their own strength and to take decisions independently.*

Keywords: *children, communication and cooperation skills, community care homes, social worker.*

Introduction

The rapid changes in society and the increasing pace of life present today's people with more and more complex life challenges, requiring the ability to adapt in the process of change and to function effectively in a specific social context, in real life. Life experience shows that those who are able to navigate social situations and participate effectively in social interactions, and who are able to express themselves in the context of a collaborative culture are more likely to join the ranks of the successful. Communication and cooperation are an integral part of our lives. Through communication and cooperation, we exchange information, learn a lot, get to know ourselves and others better, develop ourselves and meet our social needs. Thus, communication and cooperation are an integral part of human existence and underpin almost all human activity. O. Renn (2020) points

out that communication and cooperation provide opportunities to achieve goals effectively, to learn from others, not to get lost in difficult situations, and to learn leadership and initiative in the implementation of various ideas. Effective communication can create a better atmosphere that facilitates communication and cooperation (Husain, 2013). S. Reeves, M. Zwarenstein, S. Espin, and S. Lewin (2011) note that communication and cooperation skills are crucial to guarantee social well-being.

The research (Sinkkonen & Kytälä, 2015; Sala Roca, 2019) shows that children in children's care homes lack independent living skills, including communication and cooperation. R. Raudeliūnaitė and R. Paigozina (2009) point out that children in children's care homes lack a certain amount of social discernment, their communication, activity and cooperation skills are poorer. V. Gudžinskienė, R. Raudeliūnaitė and R. Uscila (2017) also point out that children in children's care homes lack communication skills: they have difficulty establishing a contact, communicating politely, being careful and attentive to others, resolving conflicts constructively, and they lack personal skills, especially self-control, responsibility, and self-confidence. They need the assistance of a social worker, support when developing their communication and cooperation skills.

One of the priority objectives of the EU, including Lithuania, in the transformation of childcare from institutional care to family and community-based services is to prepare children left without parental care for independent living. One form of community-based service provision is a community children's care homes (CCCHs) for up to 8 children. CCCHs are set up in separate premises (e.g. house, apartment) in the community and operate according to the family-like environment model (Ministry of Social Security and Labour, 2014). "The Description of Community Children's Homes" approved by Order No A1-24 of 13 January 2021 of the Minister of Social Security and Labour of the Republic of Lithuania, states that one of the important objectives of the CCCHs is to ensure that the child is prepared to live independently in the family and in society (Ministry of Social Security and Labour, 2021). Communication and cooperation skills are an integral part of independent living. Properly developed communication and cooperation skills would enable children from CCCHs to integrate more successfully into society. Therefore, it is appropriate to investigate the possibilities of developing communication and cooperation skills in CCCHs.

Having performed the analysis of the studies analysing the process of the transformation of institutional care in Lithuania since 2014, it can be established that there is a lack of research on communication and cooperation skills of children living in CCCHs. The studies that have been conducted assess the situation of child care transformation in Lithuania, the motivation and readiness of social workers for this process (Gvaldaitė & Šimkonytė, 2016; Genienė & Šumskienė, 2016; Griciūtė & Senkevičiūtė-Doviltė, 2018), and the challenges to

the professionalism of social workers in the course of the systemic transformation of child care (Kiaunytė & Lygnugarienė, 2019). R.Raudeliūnaitė and V.Gudžinskienė (2016, 2018), V. Gudžinskienė et al. (2017) analysed the trends in the preparation of children for independent living and the development of their social skills in the CCCHs. In the context of these studies, the relevance of the development of communication and cooperation skills in the preparation of children living in CCCHs for independent living is underlined.

The purpose of this paper is to reveal the possibilities of developing communication and cooperation skills in children living in CCCHs, based on the experience of social workers working in CCCHs.

Research question: What are real opportunities for children to develop communication and cooperation skills while living in a CCCHs?

Research methodology

Research methods. In order to reveal the opportunities for developing communication and cooperation skills for children living in CCCHs, based on the experiences of social workers, a qualitative study was chosen. The method of a semi-structured interview was used in the study. What children's communication and cooperation skills have favourable opportunities to develop in CCCHs? How are children's communication and collaboration skills developed in CCCHs?

The obtained data were analysed by using the content analysis method. The qualitative content analysis was performed in the following sequence: the repeated reading of the content of transcribed interview texts, the distinction of meaningful elements in the text analysed, the grouping of the distinguished meaningful elements into categories and sub-categories, integration of the categories/sub-categories into the context of the phenomenon analysed and the description of their analysis (Žydžiūnaitė & Sabaliauskas, 2017). J.W. Creswell (2014) emphasises that content analysis is a valid method for making specific inferences from the analysed text.

The sample of the research. A criteria-based sample was used in the study. The participants of research were chosen according to the following criteria: 1) social workers who have a degree in the area of social work; 2) social workers working in CCCHs, 3) social workers with at least 3 years of work experience in CCCHs. The study was conducted in the May- June of 2021. Nine social workers, who work at CCCHs in seven different locations in Lithuania, participated in the research.

Ethics of the research. The study was based on the respect for personal privacy, benevolence and attitude not to harm a researchee, confidentiality and anonymity (Aluwihare-Samaranayake, 2012). The participants of the study participated voluntarily. They were briefed on the purpose and the use of the study, the method of study data collection and the procedure of the study,

anonymity and confidentiality were ensured. Study participants were assigned a code by using the letter 'A, B, C' and so on.

Research results

The role of the social worker, his/her ability to establish and maintain good relations with children, to understand their emotions, behaviour, needs, differences and to earn their trust and respect are crucial for the creation of a favourable environment for communication and cooperation in the CCCHs. The social workers, who took part in the study, acknowledged that in order that a CCCHs would be dominated by an environment, which is favourable for communication and cooperation, tolerance among community members, a positive attitude towards interaction, caring for each other, positive self-esteem, mastery of communication skills, individual efforts of each member, and community cohesion through democratic decision-making and responsibility are necessary. The participants of the study noted that the children in care come from families at social risk, where the conditions for their development are unfavourable, the children lack communication and cooperation skills, therefore, it is not easy to build a cooperative community, and they pay a lot of attention to the development of communication and cooperation skills in the children. The researchers (Häggman-Laitila, Saloekkilä, & Karki, 2019; Shinina & Mitina, 2019) argue that children growing up in families with disadvantaged conditions for their development lack both personal and social skills, therefore, attention needs to be paid to their development in a care home. Positive interdependence, individual responsibility, stimulating interactions, the analysis of the processes taking place in the cooperation and the anticipation of further opportunities for their improvement, as well as skills in communication, leadership, decision-making, and conflict resolution are important for cooperation (Johnson & Johnson, 2017; Butera & Buchs, 2019).

The analysis of the research data found that opportunities are provided for CCCHs children to develop their communication and cooperation skills. Having analysed the research data, 9 categories, which are associated with opportunities for developing communication and cooperation skills in CCCHs, were identified: children engage in the creation of rules in the CCCHs that assist in building supportive relationships and a culture of cooperation, children agree and commit to maintaining order, build and maintain harmonious interrelationships, a supportive family environment enables children to build and maintain close interrelationships, children learn to resolve conflicts, they plan and organise thoughtful leisure activities, learn to get along with others, life in the community expands social ties, children develop social resilience (Table 1).

**Table 1 Favourable opportunities for developing communication and cooperation skills
CCCHs (made by Authors)**

Categories	Subcategories
The development of the CCCHs rules	Individual suggestions from children
	Consideration of suggestions and presentation of arguments
	Agreement regarding future rules and their drafting
Agreements and obligations regarding maintenance of order	Maintenance of order in rooms
	Maintenance of order in common spaces
Building and maintaining harmonious relationships in the CCCHs	Courteous communication
	Attentiveness
	Empathy
	Observing and recognising effective and ineffective ways of communicating
Family environment favourable for close relationships	Closer and warmer relationships
	More time is spent for mutual communication
Learning to resolve conflicts	Conflict analysis
	Finding possible solutions
	Learning to negotiate properly
Planning and organising thoughtful leisure time	Negotiating and agreeing on ways to spend leisure time
	Conversations and discussions on various issues
	Celebrating children's birthdays and public holidays
Learning to get along with others	Learning to accept another person
	Non-infringement of the rights of others
	Taking into account the needs of others
Expansion of social relationships while living in the community	Learning to get along with neighbours
	Engagement in the community
Developing social resilience	Learning to resist pressure from others
	Resisting to bad influences
	Self-confidence
	Making decisions independent of other people

The analysis of the experiences of the social workers working in the CCCHs, who participated in the study, revealed that favourable prerequisites for the development of communication and cooperation skills are created through the creation of CCCHs rules, which enable the development of harmonious relationships, together with the children. The study found that children provide their own suggestions when creating CCCHs rules. The participants of the study noted, "to make life in the CCCHs smoother, we created rules together with the children. The children presented suggestions" (D), "the children suggested the rules we will live by" (I). The study showed that when creating the rules of the CCCHs not only do children make suggestions, but the discussion of their suggestions, the presentation of their arguments and agreeing on the future rules and their preparation also take place. This is witnessed by the statements of the

participants in the study: „we discussed the proposed rules intensively, everyone argued why their proposed rule was important“ (A), „we had a lot of discussions on the rules, I wanted the children not only to propose the rules, but also to discuss them, to debate them, to consult regarding them“ (G), „when the arguments regarding the rules were over, we debated and decided on what rules would apply at our home” (C).

When creating rules children learn to express their thoughts clearly and in a reasonable manner, to listen to each other, not to reduce the significance of the thoughts of others, they learn to make decisions and to take on responsibility. It should be noted that respect, courtesy and responsibility were the most important components of the rules. Based on the experience of the social workers, it should be noted that the components, which were mentioned in the rules, encompassed listening to one another, the avoidance of the reduction of the significance of the thoughts and deeds of others, the fulfillment of undertaken obligations, not insulting each other, supporting and helping each other, etc.

Agreements and obligations on maintaining order in the CCCHs also provide children with favourable opportunities to develop communication and cooperation skills. The participants in the study noted that there were discussions with the children about keeping order in the rooms and common spaces: „we discussed with the children, in advance, their commitments about keeping order in the rooms“ (B), „we communicate and cooperate regularly to keep order in the common spaces: the children undertake obligations, try to fulfill them, help each other, advise and remind“ (E). R.Meyer, M.Cancian and S.T.Cook (2017) also highlight the importance of mutual agreements in order to maintain harmonious relationships when living together.

The study established that CCCHs try to build and maintain harmonious relationships. Children learn polite communication, attentiveness and empathy. According to the participants in the study, "the enemy of good relationships is rudeness. We try to communicate politely with children ourselves and encourage children to communicate politely, that they would not swear or insult others, or interrupt each other when speaking" (H), "we teach children to show attention to each other" (F), "children are taught to be empathic, to be compassionate, to help each other" (A). The ability to notice and empathise with another person's situation and emotional state, and the ability to look at a situation through another person's eyes is noted by V. Gudžinskienė (2011). A.Main and C.Kho (2020) emphasise that developing empathy is a key factor for positive social adjustment. The study also showed that, in the CCCHs, social workers encourage children to notice and recognise effective and ineffective ways of communication in real situations. The participants in the study indicated that, in real-life situations, during individual and group conversations, children are taught to identify the expressions of appropriate and inappropriate communication.

The study showed that the family environment created by the CCCHs, in which close relationships are inevitable, sets up conditions for communication and cooperation. The analysis of the experiences of the participants in the study showed that CCCHs are characterised by closer and warmer relationships and more time spent on communication. As the participants of the study noted, "when there are few children living in the CCCHs, then there are closer relationships among the children, and we have closer relationships with the children" (C), "the children communicate in a nicer and more intimate way" (G), "we interact with the children more often, we can pay more attention to each child, we have more individual conversations and we talk to all the children, we discuss, we talk about the day, we plan what we are going to do" (D).

Having analysed the experiences of the participants, it has been established that children also develop communication and cooperation skills while learning to resolve conflicts. The study shows that social workers teach children to analyse conflict situations: they encourage them to explain the origins of the conflict, to look for possible solutions, and to reach agreements. The participants of the study stated, "when a conflict arises, we explain why it has arisen and talk that the first thing to do is to have a polite conversation, to find out what one and the other wants, to express his own position" (I), "whenever a conflict arises, we talk to children about how the conflict could have been avoided, we simulate possible solutions" (B), and "even though the children learn to come to an agreement peacefully in the event of a conflict, they have difficulty doing that" (F). The ability to resolve conflicts is the basis for harmonious relationships. S.J.Ferrar, D.M. Stack, K.S. Baldassarre, A. Orsini & L.A. Serbin (2021) point out that the behaviour of different individuals in the same family was very similar during conflicts, i.e. many family members behaved similarly in conflict situations. Therefore, in the CCCHs, it is appropriate to pay special attention to constructive conflict resolution when children are growing up in a family environment, as children growing up in the same CCCHS environment are likely to behave similarly in conflict situations as well. S. Van Dijk (2021) points out it is important to teach children how to manage their emotions, to develop self-control and introspection skills for constructive conflict resolution.

Providing and organising thoughtful leisure time for children is another opportunity to develop communication and cooperation skills. The study showed that, in the CCCHs, leisure activities and the organizing of celebrations are discussed and agreed upon, furthermore, various issues are discussed and debated. The participants in the study noted, "we talk a lot about thoughtful leisure activities, the children often have no experience of thoughtful leisure activities, so a great deal of discussion is necessary" (E), "children express their wishes, how they would like to spend their leisure time, how they would like to celebrate holidays, they learn to express their thoughts and opinions clearly and reasonably, to listen to each other and to make decisions together with others (H), „children

learn to cooperate in the organisation of different celebrations, they express their wishes, needs, ideas, share responsibilities, and stick to agreements“ (D). Through involvement in the planning and organisation of various activities, children develop problem-solving, relationship building and organisational skills. A.M. Salazar, S.S. Spiers, & F.R. Pfister, (2021) state that children need to be involved in the planning, organising, executing and discussing various events. This provides children with an opportunity to be heard and listened to, to take initiative and to develop communication, cooperation and leadership skills.

The changed environment of the CCCHs allows social workers to expand communication and cooperation skills by teaching children how to get along with others: how to accept others, not to infringe on others' rights, and how to take into account the needs of others. According to the participants, "we teach children to understand that not only they, but other persons have needs as well, and that they need to balance their needs with the needs of others" (F), "we teach children that it is not all about their needs and rights, but also about their responsibilities ... the importance of respecting the rights of others while meeting their own needs" (A), and "we teach children that we are all different, and that they need to accept other persons around them" (G). Learning to get along with others is an important component of a favourable environment based on interoperability. S. Van Dijk (2021) also stresses the relevance of getting along with others. C.A. Wringe (2020) also raises the issue of children's rights and responsibilities, stressing that rights go hand in hand with responsibilities and obligations.

Living in a community broadens social ties and facilitates the development of both communication and cooperation skills. Having analysed the experiences of social workers, it was established that children learn to get along with their neighbours and to get involved in community life. The social workers highlighted the following: "we teach children to be friendly with their neighbours, to greet them, to speak politely, to behave respectfully" (C), "we teach children to be community-minded, we celebrate Neighbours' Day, we clean up the neighbourhood, we communicate politely" (I). N. Trocmé, T. Esposito, J. Nutton, V. Rosser, & B. Fallon (2019). also point out the importance of community to a child's well-being, stating that community ties increase a child's self-confidence and his social resilience.

The study revealed that children in the CCCHs develop social resilience: they learn to resist social pressure from others, not to succumb to the bad influence of others, to trust their own strength and to make decisions independent of other people. The participants in the study noted, "we have to talk to children a lot about their giving in to other people's influence, our children lack social resilience, they don't speak up, they don't express their opinions, their needs" (E), "we teach children to say 'no', to stand for their rights, their needs" (B), "by emphasising their strong points, their strengths and not their weaknesses, we build up children's self-confidence and teach them how to make decisions independent

of other people" (H). R. Wiczorek and J. Meyer (2019) point out that providing effective feedback and personal self-confidence improve problem-solving and decision-making and social resilience.

Conclusions

Having analysed the experience of social workers working in the CCCHs, it has been established that the children, who live in the community, are provided with favourable conditions for developing communication and cooperation skills. The study found that children develop communication and cooperation skills by creating rules for CCCHs, presenting individual proposals, expressing their arguments and discussing them, and agreeing on the rules and drafting them. Children communicate and cooperate by discussing and committing themselves to maintaining order in their living environment. The CCCHs build and maintain harmonious relationships based on polite communication, attentiveness and empathy. The family environment in the CCCHs allows for the development of closer and warmer relationships, with more time for communication and cooperation. In the CCCHs, children learn to resolve conflicts. They learn to analyse conflicts, to find possible solutions and to negotiate appropriately in conflict situations. The study showed that planning and organising thoughtful leisure time also facilitates the development of communication and cooperation skills. It also teaches children how to get along with others while accepting others, meeting their own needs without infringing on the rights of others, behaving responsibly and respecting the needs of others. Living in a CCCHs creates favourable conditions to the development of social ties within the community. Children learn to live harmoniously with their neighbours and to find ways to get involved in the community. The study reveals that children develop social resilience through interaction and cooperation. Children develop social resilience skills by learning to resist the pressure from others, not to succumb to bad influences, to trust themselves, and to make decisions independent of other people.

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ENSURING THE BEST INTERESTS OF THE CHILD IN PARENTS' CONFLICT: EXPERIENCES OF DIVORCING FAMILIES

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Abstract. *Divorce causes structural family changes, which require specific decisions to be made. While making any decision that might have any impact on ones' children welfare it is necessary to consider what is best for the children, thus children should be involved in the decision-making process. This article aims to investigate what sort of challenges parents under the divorce process face while they seek to ensure that children interests would be met.*

In order to conduct such an investigation, a qualitative methodology is employed. For data collection, analysis utilizes the semi-structured interview method, for the analysis of data the method of qualitative content analysis is being used. The research analysed seven couples of parents, all these couples are undergoing the divorce process and has children under 18 years of age.

Research's data reveals that it is important for parents to meet the needs of a child, to protect the child from negative effects of the divorce, to keep the child in touch with both parents, to involve the child in the changes that are caused by the divorce. However, parents have different evaluations of children needs, on one hand, some parents do consider a child's opinion as of utmost importance, on the other hand, some parents believe that child's opinion is irrelevant. It is also has been noticed that while parents aim to ensure that child keeps in touch with both of the separated parents, conflict occurs between the parents and the child and among the parents themselves. Parents usually fight with the child over a couple of issues. Firstly, children find it inappropriate to have restricted conditions for interaction with separately living parents. Secondly, it is usually unacceptable for a child to live in a household without his father or mother. Conflicts among divorced parents occur due to different approaches to childcare as well as disputes during collaboration agreement implementation.

Keywords: *best interests of the child, divorce, divorcing parents, Lithuania, right to be heard.*

Introduction

Many countries in the world have ratified the United Nations Convention on the Rights of the Child (United Nations, 1989) (hereafter – Convention), by doing so, all these countries have obliged to respect and to guarantee all the rights, which are listed in the Convention, to be met for every child. Within the Convention, family is acknowledged not only as a cornerstone for society but also as the main influencer of the formation of a child's identity, social role and worldview. The family develops children's norms and values, which are necessary in order to live within modern society (Danilevičienė, 2014; Rajewska de Mezer, 2020). Thus, parents obtain a responsibility to assure that child's rights and interests are met.

Family is considered the most suitable environment for a child to grow and develop. Therefore, a child's right and interest is to be grown by its parents. In the modern world, not only is there a diversity of family forms, but transformations are taking place as well. As the family goes through the divorce, radical relationships change occurs among the family members, although parental rights and responsibilities remain, the manner or such responsibilities implementation changes substantially. It has been noted that parents' divorce has an impact on many minor children. According to the official data, in 2020, there were 15299 marriages in Lithuania, (2019 – 19502; 2018 – 19734), on the contrary, there were 7732 divorces in Lithuania in 2021 (2020 – 7544; 2019 – 8643; 2018 – 8640). Lastly, in Lithuania, the number of children aged 0–17 who after divorce stayed with one of the parents in 2020 was 6118 (2019 – 6659; 2018 – 6640) (Lietuvos statistika, 2022).

Regardless of the reasons for the divorce, in essence, divorce is a conflict between parents that breaks down the original family structure. However, the conflict is not just about the parents, it affects all members of the family, especially the children (Amato, 2000; Oren & Hadomi, 2020; Çaksen, 2021). Thus, it is up to the parents alone to determine how much the child will be involved in the decision-making related to the divorce and how much the best interests of the child will be taken into consideration. With this in mind, it is important to investigate how parents ensure the best interests of the child during the divorce process. The study aims to investigate what sort of challenges parents under the divorce process face while they seek to ensure that children interests would be met.

The ensuring of the best interests of the child

Children, undoubtedly, are important actors in public relations with undisputed autonomy. However, according to Dromantienė and Šalasevičiūtė (2006), children are the group of society whose well-being is and will be the most vulnerable, therefore it is a must to see children not only as a group involved in allocating social resources, but also to see a child as an individual - a recipient of social and legal services. The successful development of a child is possible only when his rights and interests are appropriately taken into account, as parents make any decision concerning the child.

The Convention is the first international instrument to define a child as a person with inherited rights. The implementation of the concept of the Convention led to the beginning of a change in the attitude of our society towards the child - the child was recognized as an independent legal entity, whose rights were defined separately from the family, thus creating an autonomous recognition of the child's needs and interests (Kairienė, 2012). The rights of the child can only be implemented through the rights and responsibilities of others, in particular the child's parents. Thus, the welfare and best interests of the child depend primarily on the parents, whose rights and responsibilities are linked to their responsibility for the well-being of their children. However, as parents exercise their right to divorce, they, in a sense, violate the child's right to be raised by both parents, which often contradicts the child's interest in growing up in the best environment for his growth and development – in a family (Kairienė & Jekaitytė, 2010).

Divorce causes many changes in the lives of family members. Such changes require appropriate decisions to be made. Decisions concerning the child must be made considering the best interests of the child, which must be identified, and to do so the child must be involved in the decision-making process. The child shall not be deprived of his right to be heard. On the contrary, much attention must be paid to the child's views, and the context in which the child exercises his right to be heard must be enabling and encouraging to ensure that the responsible adult is prepared to listen and take the child's views seriously (Committee on the rights of the child, 2009).

The requirement in Article 3 of the Convention states that it is a must to take into consideration the best interests of the child, i.e. the principle of the interests of the child. This principle is a legal cornerstone of a child, according to which other principles of the Convention are implemented (Todres & King, 2020). This principle is quite controversial because it is a tremendous challenge to assess what is best for a child. There is often a lot of "space" left for parents to decide for their child without considering the child's opinions and views. Besides, due to the variety of children's

age groups and needs, it is plausible to claim that what might suit one child may not be suitable for another (Daly, 2018).

The best interests of a child is a varying concept, therefore each assessment of a child's interests requires a certain level of individuality. The identification of the best interests of the child lies in a field of highly subjective interpretations. It is not always clear which interests of a child are best for each particular case, and what criteria are used to decide what is best for a child (Dehghan, 2011; Heinemann, Helén, Lemke, Naue, & Weiss, 2015). When determining the best interests of a child, it is important to evaluate two factors - the child's present and future. The decision must be relevant to the child's present life, favourable to his growth and, thus, favourable to his future.

Methodology

The aim of the study is to identify the challenges faced by divorcing parents in ensuring the best interests of the child. A qualitative research approach was chosen, and a semi-structured interview data collection method was used while asking open questions (Gaižauskaitė & Valavičienė, 2016). The study was conducted on February-March in 2021. The study covers three aspects: parents' understanding of the best interests of the child in divorce; the involvement of the child in child-related decision-making; assurance of the best interests of the child regarding the child's relationship with the separated parent. The obtained data were analysed by the method of qualitative content analysis, which allows the researcher to summarize a large amount of information and accordingly to the content to sort the research data into subcategories, categories and so on. Besides, this method allows one to study certain semantic units in the text of a document, to study the connections of various text elements both with each other and with the entire scope of information as well (Žydžiūnaitė & Sabaliauskas, 2017).

The study involved 7 respondents - divorced parents with minor children. The size of the survey was determined by the fulfilment of the information - it was not appropriate to add new survey participants once the information started to recur. 7 women participated in the study, whose age varied from 27 to 45 years; 5 out of 7 study respondents have a university degree; 2 study respondents have a higher college degree. Respondents experience the different duration of the divorce proceedings as well: for 1 respondent, the divorce proceedings lasted for 1 year; for 5 respondents - less than 1 year. The longest duration of a divorce proceeding among the respondents was 2 years and 6 months, which was experienced by one respondent. The number of minor children in the family also varies. 3 out of 7

respondents are raising 1 child; 2 respondents - 2 children; 1 respondent - 3, 1 respondent – 5 children.

This research was done in accordance with the ethical principles of qualitative research - participants were introduced to the purpose of the research, their questions were answered, identities of all respondents were hidden (all names were changed and coded (1, ... 7), all respondents were taking part in the research voluntarily – they were left with an option to withdraw from the study at any time.

The limitation of the study was determined by the fact that only women (mothers) participated in the study, therefore it would be pragmatic and valuable to disclose the personal experiences of men (fathers) in answering the questions relevant to the study. However, this did not prevent the study from the discovery and identification of the challenges that parents face, as they aim to ensure the best interests of the child during divorce.

Results

1. The notion of the best interests of the child

In order to determine how parents identify the best interests of the child during a divorce, parents were asked how they comprehend the best interests of the child. After analysing the qualitative data survey, 4 categories were formed under the topic *How parents understand what is the notion of the best interests of the child during the divorce proceedings* (Table 1).

Table 1 The perception of the best interests of the child (created by the authors)

Categories	Subcategories	Illustrations
Meeting the needs of the child	Affirmation of all the needs of the child to be met	“The best interests of the child shall be ... things which meet the needs of the child“ (3), „meet his present needs and long-term needs“ (4), “ <...> opportunities for healthy growth” (7)
	Meeting the physical needs of the child	“To meet all their needs <...> and their physical needs” (1) “needs are age-related which must be taken into account <...> to meet the child's physical needs <...> sleep needs” (5)
	Assurance of emotional needs	“<...> creating a happy state for a child“ (3), “<...>security needs, emotional needs. To safely integrate a child from one environment to a new environment <...> (5)
	Assurance of the need for self-expression	“<...> would have their own environment, self-expression, so they can express themselves, do what they like” (4) “opportunities to learn, <...> to unleash their potential” (7).

Prevention of the harmful effects of divorce	Maintaining the emotional stability of the child	“<...>that parents would not convey their pain, negative emotions to a child” (3), “<...> I do not speak poorly about the father to my child” (6), “I try to avoid the creation of additional stressful situations” (7)
	Maintaining the stability of daily activities of a child	“In order to prevent any disruptions of education <...> the children spend one week with their father, and the next one with me. The most important thing is to make life as stable as possible” (1), “<...> so that child's routine would be altered as least as possible” (7).
Keeping in touch with both parents	Maintaining the contact	“That both parents <...> would maintain the relationship with children (1),”<...> that the bond with the child would exist” (4).
	The participation of both parents in the rearing	“That both parents would be involved in the child-rearing and child’s education (1), raised <...> by both parents” (7).
Involving the child in upcoming changes	Informing the child about the change of state	“In the event of divorce, it is essential to explain to the children <...> what is happening and why” (2), “<...> it is essential to talk to the child, to explain <...>” (6)
	Hearing the child’s opinion	“In divorce proceedings, I believe that it is essential to give the child an opportunity to make his opinion be heard as well as to allow him to make his own decisions <...>” (4)

During the divorce, it is of the utmost importance for parents to ensure all the child's needs to be met, including the child’s physical, emotional and self-expressional needs. Under the category labelled as *Prevention of the harmful effects of divorce*, two subcategories were distinguished: *maintaining the emotional stability of the child* and *maintaining the stability of daily activities of a child*. Therefore, it is plausible to claim that parents understand the potential risks of divorce for children, thus they believe that it is important to give the child emotional protection as well as to ensure a normal routine.

The category *Keeping in touch with both parents* includes the following subcategories: *maintaining the contact* and *the participation of both parents in the rearing of the child*. With a fundamental change in parents’ relationship, it is important for a child to maintain contact with both parents so that both parents can be involved in the rearing of their child.

The category *Involving the child in upcoming changes caused by divorce* contains two subcategories: *informing the child about the change of state* and *hearing the child’s opinion*. Parents believe that children should also be informed about the upcoming changes caused by the divorce as well as be keen on expressing their views and thoughts.

2. Parents' attitudes towards the child's opinion on determining child's best interests

In order to determine the best interests of the child, it is necessary to enable the child to express his views. Parents were asked how the child's opinion was considered while making divorce decisions related to the child. After the analysis of the qualitative data research, 2 categories were formed under the topic of *Whether parents do consider a child's views when making decisions related to him* (Table 2).

Table 2 *Attitudes towards consideration of the child's views* (created by the authors)

Categories	Subcategories	Illustrations
The child's opinion is important in making a decision about the child	The child's views are taken into consideration	"<...> children's opinion is important. At the moment, <...> the children see the father only on the weekends, so I fully understand that children need to see him more often and I do not have anything against it". (2)
	The child's opinion is important, although the final decision rests with the parents	"The opinion of the child is very important. The child may express an opinion or a wish of something, whatsoever; it does not mean that the expressed desire will be safe for him. He is still a little child, so no decisive power should be given to him" (5). "I try to consider child's opinion whenever I can <...> If the child says that he wants to see Daddy very much I would see no issue to take him to see his father"(6)
The child's opinion is irrelevant	The child is lacking competence	"We didn't really talk much to the children, we had this discussion only between us <...> but can they say anything about this?" (1).
	Avoidance of manipulation	"... if I say something that children do not want to hear, they go to their father and start to complain about me, so then the father, without knowing the whole situation starts to believe that I am some kind of villain <...> children then start to see me as a villain too <...> then the atmosphere changes, there is no solidarity, and .. is room to manipulate the children" (2).

Under the category *The child's opinion is important in making a decision about the child*, two subcategories were distinguished. Divorcing parents listen and consider their child's opinions. On the other hand, there are parents who value the child's opinion, however, the child's opinion is not decisive.

The following subcategories were formed under the category *The child's opinion is irrelevant: the child is lacking competence and the emergence of a dispute – possibilities for manipulation*. Parents consider the child's opinion to be insignificant because the child is incompetent to speak objectively on divorce issues due to of the possibility of parents' manipulation of a child.

3. Ensuring the best interests of a child regarding the child's relationship with the separated parent

In the event of a divorce where there are minor children in the family, the court must resolve the matters relating to the child by establishing procedures regarding the separately living parent's access to the child.

Parents were asked how they manage to implement the collaboration agreement in relation to the best interests of a child. 2 categories were formed (Table 3).

Table 3 Emerging challenges while aiming to ensure the best interests of the child (created by the authors)

Categories	Subcategories	Illustrations
Conflict with a child regarding the access rights	The child does not want to follow the established procedure	"<...> the child did not want to visit or see his father, now it seems that their relationship had improved, yet he still does not want to stay with his father for a long time. My daughter does go to visit her father <...> (1). " <...> I sometimes feel that the child is so stressed, as he has to go to his father. <...> he needs to deal with on regular basis" (2).
	The child finds it difficult to follow the established procedure: he wants to spend more time with his father	"<...>after a longer stay with her dad, my daughter would become miserable and saying goodbye to her father would become harder each time, even worse than the end of the world. When she returns home, she still would demand to see her father, I call it a "father's phase" <...>. She can see her dad only occasionally. If there is an emotional need for dad, I cannot satisfy it in any way. The child must accept the current situation" (6).
The dispute regarding the collaboration agreement implementation	Different parental approaches to childcare and child-rearing	"The father does not have a child seat in his car, he leaves his tools all over the place, so they are easily accessible to the children, there is also a pond next to his house, which is not surrounded by a fence, he takes children to see a wild horse, often leaves them on their own, etc." (5)
	Deviation from the set terms of the collaboration agreement	"<...> it is often the case that my ex-husband does not return the children on time due to various reasons" (2). "My ex-husband used to appear spontaneously without any notice. Such act would negatively impact my relationship with my son and brought chaos" (3).

Under the category *Conflict with a child regarding the access rights* the following subcategories have been identified: *the child finds the access rights to be unacceptable* and *the child finds it unacceptable to live separated from one of the parents*. During the implementation of the established access rights to the child,

conflicts arise with the child as the child sorrows from living separately from one of the parents.

Under the *Dispute among parents regarding the collaboration agreement implementation*, two subcategories were formed. Parents disagree with each other over the terms of the rights of access to the child as they do not share the same notion of childcare. Additionally, parents dispute over the implementation of the collaboration agreement.

Discussion

The research revealed parents' attitudes in determining the best interests of the child during the divorce period. During the divorce, it is important for parents to meet the needs of the child and to protect the child by maintaining his emotional stability and guaranteeing daily activities, which also is related to meeting the child's needs. Whatsoever needs should be taken to be the same as interests. Therefore, in order to identify the best interests of the child, it is not enough only to enable and help the child to express his views, it is also necessary to make the child heard. It turned out that some parents do not consider the child's opinion to be important at all and take child-related decisions without the child's involvement.

The child cannot control the divorce process, but he must be involved regardless of his age. The child has an expectation that his views will be heard, thus, he will be able to influence decisions crucial for his present and future. Adults control children's level of involvement, as it is up to them to determine whether a child will be able to be involved. This shows unequal power relations, as adults often "act on behalf of children" indicating that they act in the "best interests" of the child (Malone & Hartung 2010). The reason why children are not included in the decision-making process lies in the attitude of adults, some adults cast doubt on the child's competence and ability to be objective in decision-making on issues directly related to a child (Malone & Hartung, 2010; Banham, Guilfoyle, Napolitano-Lincoln & Cavazzi, 2011; Kairienė, 2012). One research respondent noted that "<...> but can they say anything about this?" Such a point of view towards the children causes a social norm of not giving children rights to actively participate in systems that may have an effect on them (Banham et al., 2011).

The observations of the study revealed the content of conflicts arising from the implementation of the collaboration agreement between divorced parents. Conflicts with the child arise due to the restricted separately living parent's access rights to the child, as children usually find them unacceptable. The problem is that once the court has established a procedure regarding the access rights to the child, a parent that the child stood with has a responsibility to allow the child to interact with a separated

parent. However, if a child expresses a reluctance regarding the court established access rights, his opinion becomes irrelevant in the context of the parental dispute. As one respondent said: "If my son refuses to go to his father, I encourage him a little, but how much can I encourage a fourteen-year-old? I cannot force him to go to his father's, as hysteria begins. This then causes a conflict with the ex-husband". Other conflicts arise from the fact that a child has to live separated from one of his parents, due to this, children experience emotional drawbacks caused by only occasional interactions with the separated parent. Divorce is a parental decision. And while the child must be given the opportunity to express his views, the child's views are not taken into account because the decision on divorce rests solely with the parents. Perhaps the opinion of the majority of children going through parents' divorce could be illustrated by the following quote, which was made by one of the respondents: "the child wants us both to be in the same place, so he would not have to go anywhere and leave his father."

It must be acknowledged that in cases where family life does not endanger the child, i.e. the child feels good living with both parents, parents' divorce threatens the child's right to be raised by both parents and thus is against the best interests of the child. During or even after a divorce, it is natural for the child to identify himself with the family in which he was born, this is where the child's inherent right to grow up with both of his parents under the same roof comes from.

However, the existence of the family structure is determined by its' main elements – its' members. From a child's perspective as soon as parents start to live separately, the whole family structure collapse, hence, the child does not belong to the family in which he was born. In addition, the child's social integrity is violated, as soon as parents start to live apart – the child experiences confusion, pain, uncertainty, which leads to his normal life being disrupted. Sometimes children also need to deal with the possible loss of relationships or a decline in the intensity of relationships with family members in the broader family, and often with a significant diversion that takes their lives off course (Oren & Hadomi, 2020). The end of their parent's marriage is a complete loss, turning children's lives upside down and reactions vary with age, but across the board, children experience feelings of confusion and betrayal as they watch their family fall apart and feel neglected while their parents struggle with their own problems. Children just wish their parents would get back together and shape up (Clarke-Stewart & Brentano, 2006). As in the case of other groups of children, those of parental divorce or separation are at particular risk of myriad developmental problems, compared with those living with both biological parents (Kwame Owusu-Bempah, 2014).

Fulfilling a child's legal right to have contact with their parent and to have the other parent influence the educational process (as long as it does not pose a threat to

their life and health, of course) is a means to protect their wellbeing and makes it possible for the child to develop socially and psychologically in a correct way (Rajewska de Mezer, 2020), but only if the intended rights of access to the child are appropriate and acceptable to the child himself, i.e. meets his best interests.

This research allows inferring that conflicts between parents arise due to different approaches to child care and child-rearing as well as due to the disputes over the collaboration agreement implementation. Different and inconsistent, parental attitudes towards the child puts diverse demands on the child, disrupts the child's normal routine and create room for manipulative attempts. Therefore, the failure to provide safe care for the child contradicts the child's best interests. The child might suffer from a decrease in parenting quality from one or both parents if the latter are too overwhelmed by the divorce experience (Grant, 2016). During the divorce, parents are usually highly conflicted, not all issues are settled peacefully, due to this child's interests do not receive appropriate significance (Gal & Duramy, 2015). When two people choose to have children together, they actually declare their irreversible commitment toward their offspring, with the intention that it will be the most significant libidinal investment in their lives (Oren & Hadomi, 2020). Any subsequent events that alter the relationship between the partners should not affect their parental responsibility to pursue parenthood that is in the best interests of the child.

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THE ATMOSPHERE OF FAMILY LIFE AS AN IMPORTANT CONDITION FOR OPTIMIZING FAMILY EDUCATION ON THE EXAMPLE OF THE FUNCTIONING OF FOSTER FAMILIES IN THE CITY OF SZCZECIN

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Abstract. *The family, influencing a child in the course of everyday life, has many mechanisms at its disposal, which it uses intentionally and unintentionally. The basic value of a family home is a unique atmosphere, a climate specific to each family, in which it organizes conditions for the child's development in all its areas and personality development. In addition, the atmosphere of family life significantly contributes to building the emotional balance of the child, protects it against various unfavorable phenomena and situations, and builds the child's awareness of himself as a person. The atmosphere of family life is not an easy phenomenon to define. It consists of many factors, such as internal factors, such as the personality of the mother and father, mutual coexistence between family members. Another group of factors are those of an external nature, for example the size of the family, its economic and social status, place of residence. The first part of the text is a discussion of the atmosphere of family life in the light of pedagogical and psychological literature, indicating various approaches, their specificity and its importance in optimizing upbringing in a family. The empirical part focuses on the description of the atmosphere of family life and its specificity in foster families operating in the city of Szczecin. Here, particular attention was paid to the types of atmosphere in these families, its conditions and importance for the optimal development of a child. The final part of the text consists of the final conclusions and conclusions resulting from the research on the practice of working with families, including foster families, as well as with families of children in this form of foster care.*

Keywords: *atmosphere, family, family support, family values, foster family, multidimensional work with the family, reintegration, relations between family members, self-help, upbringing in a family.*

Introduction

Upbringing in a family is a process of intuitive or thoughtless, planned or spontaneous influence of parents on a child, its siblings, other relatives or relatives living with a given family or having constant and meaningful contact with them. Family education aims to build proper interpersonal relationships in the family based on love, reciprocity and respect between all family members. This process consists of caring, educational and socialization activities, as well as forming moral, social, cognitive, intellectual, creative, aesthetic, health and

environmental values for which parents are primarily responsible (Marczewski, Gawrych, Opozda, Sakowicz, & Skrzydlewski, 2017). The aim of upbringing in a family is to support a child in his comprehensive development, enrich his personality, show him how to use potential abilities, help in self-realization and prepare him for life in a society in which he is to play the role of an active member and play basic social roles in the future.

One of the key elements of the family upbringing process is the specific atmosphere accompanying it. It was made the subject of the research presented in this text. The aim of the research was to characterize the atmosphere of upbringing in professional foster families functioning in the city of Szczecin. Apart from describing the specificity of the atmosphere of upbringing in families, attempts were made to show the premises for practice, i.e. specific guidelines for the needs of working with families, for families, with particular emphasis on professional foster families.

These studies were quantitative and qualitative, taking into account the concept of family epistemology. The triangulation of research methods, techniques and tools was applied in accordance with the adopted research objective. The final part of the research process was the analysis of the obtained research material. More about the research methodology adopted for the purposes of this text can be found in the following parts.

The atmosphere of family life - an outline of the problem

The uniqueness and specificity of educational and socialization interactions in the family towards / for the benefit of the child make the family the first and basic educational environment, a key place for development, education, satisfaction of needs (e.g. love, security, recognition, self-fulfillment or physiological). The atmosphere created by the family as a unique human community strengthens and enriches the child's development process from the first days of life. Each family creates a specific atmosphere, unique in other families or in other environments, it organizes conditions for the development of personality, achieving emotional maturity and life balance. The educational atmosphere in the family is characterized by mutual kindness, marital and parental love for children, cooperation and interaction of family members, the use of positive educational methods, creating and cultivating family traditions and a sense of responsibility of family members for themselves, especially parents for their children.

In the literary spectrum, in the course of defining the atmosphere of family life, it is emphasized that this is an ambiguous concept. When analyzing them, many researchers pay attention to various components (Świdrak, 2013, p.42 and next; Śnieżyński, 2019, p.79 and next). One of them is the nature of the relationship between spouses and the resulting relationship as parents. The

following elements play a key role in forming marital relations: the quality of experiences from the family home, the specificity of the culture of the family of origin or the personality of the spouses. The relationship between parents may depend on factors such as: social positions and roles, emotional attitudes, perception of oneself and of a partner, behaviors and habits preferred by parents or the way of solving conflicts in the family (Sikorski, 2021, p.80 and next; Rostowska, Lewandowska-Walter, 2019, p.105 and next). Another element indicated as important in understanding the atmosphere of family life is the degree of interest in and attitude towards the child. It is very important that parents are constantly interested in the problems, worries, experiences of the child, his interests or passions (this is especially evident in the later stages of the child's life). Their interest in the child allows them to build a correct image of themselves and the surrounding world, and thus to shape their personal and social identity. It is also significant that the attitude of a parent to a child should be positive and saturated with deep affection (Tyszkowa, 1990, p.13 and next; Nikitorowicz 2005). Another element indicated in the literature when considering the atmosphere of family life are the methods of upbringing in the family (Bereźnicka, 2014, p.120 and next; Janke, 2008; Konarzewski, 1987; Ochmański, 2001). The upbringing methods used by parents should take into account the child's abilities in accordance with the child's development stage, have a positive and liberating connotation, be preventive and predictable, expressed in removing threats in optimal development, guided above all by the principle of the best interests of the child. Yet another factor determining the choice of a method of upbringing in a family is explaining, excuse for to the child in the course of educational interactions the legitimacy of taking certain behaviors and avoiding others, showing the possibility of choice and its consequences, as well as using one's own example (Łobocki, 2003; Dąbrowska, Wojciechowska-Charlak, 1996).

When analyzing the atmosphere of family life, many authors, for example H.Cudak (Cudak, 1995), draws attention to the importance of everyday behaviors of family members manifested towards each other and setting them in the family system of culture, integrally connected with the system of values preferred by family members. According to Cudak (1995) a very special element emphasized in the spectrum of views on the atmosphere in the family is its unique emotional saturation, emotional mood or empathy.

Considering the multiplicity of approaches to the atmosphere in the family, one can find numerous classifications thereof. One of the most frequently quoted is the division of the family atmosphere into friendly and unfriendly (Ziemska, 1979). In a friendly family member, positive emotional ties, trust, love, tolerance are united, and the relations between them are based on cooperation and mutual help. In an unfriendly family atmosphere, there are negative emotional ties, the

lack of positive relations between family members, a high level of conflict or a sense of loneliness (Olearczyk, 2007).

An interesting classification of the atmosphere in the family from the perspective of family pedagogy is the one proposed by J. Wilk (2002), distinguishing a democratic, autocratic or disorderly atmosphere. In a democratic one, there is mutual kindness and trust, parents take into account their children's needs and foster their satisfaction, create opportunities for the child to initiate, use adequate rewards more often and rarely resort to punishments, stimulate the ambitions and aspirations of their children and self-control mechanisms. The autocratic atmosphere is characterized by a traumatic relationship between parents and children based on fear, parents do not take into account the needs of their children, they set norms, prohibitions and orders in a directive (without justification), apply strict control and require absolute obedience, and the child faces a system of repression for all transgressions. In an atmosphere of disorderly relationships in the family, coincidence, chaos, confusion, indecisiveness and inconsistency of parents in relation to the child are ruled by, there are no clear rules and norms, and even if they are, no importance is attached to them, but possible reprisals for exceeding them. In the above-mentioned two classifications, the positive dimension of the atmosphere in the family is clearly visible and its negative contexts are also noticed. It is indisputable that when considering the optimization of family education, we will only take into account the positive types of atmosphere in the family and strive to develop them. In the event of negative types of atmosphere in the family, there will be a need to holistically support the family, undertake educational activities for the benefit of the family and with its participation in the process of transforming intra-family educational mechanisms.

The atmosphere of family life analyzed above, as an important condition for optimizing family education, is a very important area of research interest in the spectrum of pedagogy and beyond. That's why undertaking further theoretical and research in this area is justified.

Methodological basis of research

The research presented in this publication was conducted in the form of family foster care, i.e. professional foster families operating in the city of Szczecin, West Pomeranian Voivodeship (Poland). They were implemented as part of the project "Professional foster family - a chance for a better future for a child" affiliated at the Department of Social Pedagogy of the Institute of Pedagogy, Faculty of Social Sciences of the University of Szczecin in 2014-2020.

The conducted research consisted of three stages. First, it was a theoretical-methodological conceptualisation of research issues. On the basis of this

analysis, pilot studies (i.e. the second stage) were conducted in five professional foster families in the city of Szczecin. Only after the previously adopted methodological assumptions and the obtained data from the pilot studies were corrected, were the actual studies carried out, i.e. the third stage.

Among the surveyed professional foster families there were: 9 professional families, 3 specialized professional families, 16 professional families performing the functions of family emergency. In total, 28 foster families with 182 children were examined. In the group of surveyed parents, there were 28 men and 28 women. They were between 25 and 40 years old. The group of 182 children included 90 boys and 92 girls. Among the examined children there were 70 children up to three years of age, from three to 10 years there were 60 children. The rest were children over 10 years old. There were also 6 family care coordinators (3 woman and 3 man) as well as 6 social workers working in the city of Szczecin in the Municipal Family Support Center in Szczecin (only woman), 6 family assistants (only woman) and 6 family doctors and specialists doctor. For the purposes of this article, the problem of the atmosphere of family life in professional foster families for children staying in this form of foster care was analyzed (due to the given editorial requirements). The analysis of the specificity of family life in these families, with particular emphasis on its internal and external elements, was considered through the prism of Ludwik von Bartalanffy's concept of family epistemology, whose fervent supporter in Polish psychopedagogical literature is Ryszard Praszkiel (Praszkiel, 1992, 37-61; von Bartalanffy, 1984). When analyzing the obtained material, the author took into account the model the so-called *The Diamond of family life, that is a holistic model of the atmosphere of family life*.

The research used triangulation of research methods and techniques (Palka, 2005), because the diagnostic survey method with the qualitative dimension of the case study was used. The use of triangulation of methods makes it possible to obtain richer material and a wider interpretative spectrum of the problem under study.

As part of the diagnostic survey, a questionnaire was used for foster care coordinators, social workers, family assistants and family doctors as well as specialist doctors. The individual questionnaire was varied. In the questionnaire for foster care coordinators, the respondents were asked about the fulfillment of the tasks assigned to them by foster parents, with particular emphasis on the implementation of educational and socialization processes towards / for the children entrusted to them.

The Diamond of family life, this is a holistic model of the atmosphere of family life according to Urszula Kazubowska

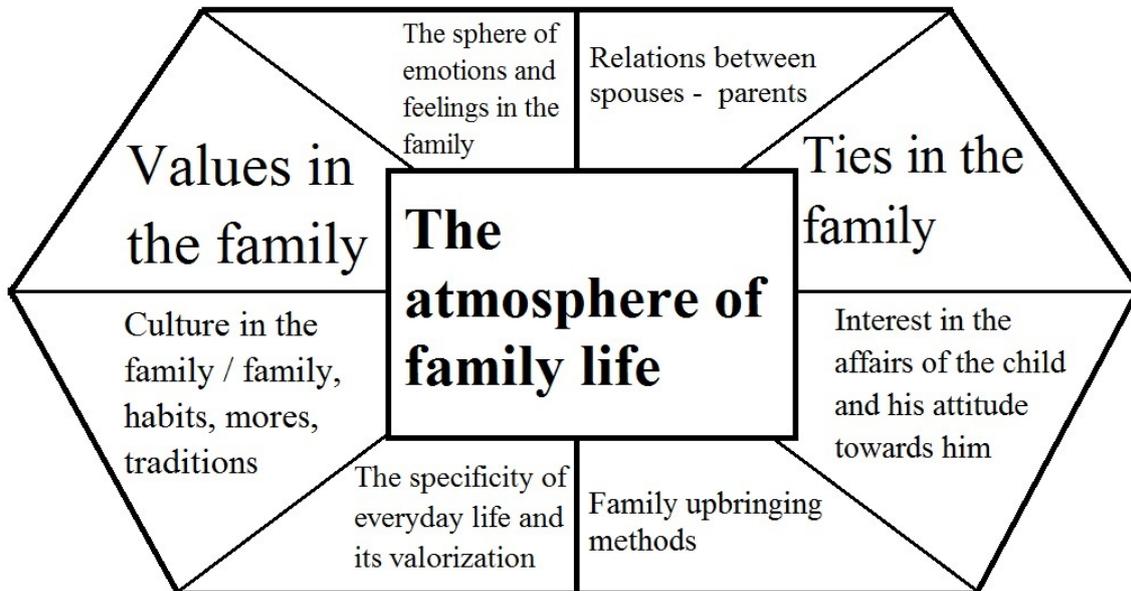


Figure 1 The Diamond of family life, that is a holistic model of the atmosphere of family life (made by author)

In the survey for social workers, emphasis was placed on the dimension of cooperation between foster parents and biological families of children staying in their family. Family assistants were asked in the survey about the specificity of reintegration work carried out by foster parents towards the children's biological families. Family assistants were also asked to assess the biological parents' readiness to resume parental responsibilities.

When examining doctors, the aim was to obtain information to what extent foster parents use the services of family doctors and specialist doctors. However, as part of the case study, an in-depth qualitative interview with foster parents in professional foster families was used, from which a wide spectrum of knowledge was obtained about the functioning of their family and the creation of upbringing, socialization and educational processes towards children temporarily entrusted to them (Kvale, 2004).

As part of learning about the specificity of the processes carried out in foster families, the focus was, among others, i.e. on creating the atmosphere of family life, its components and methods of their implementation for children staying in them. The material obtained through the interview was supplemented with the technique of direct observation of family members, which allowed for deepening the knowledge about the ways of carrying out the upbringing, socialization and educational processes in the surveyed foster families. The obtained empirical material was subjected to an in-depth quantitative and qualitative analysis with the aim of making a holistic diagnosis of families. The family environment as the first and most important educational environment in

human life is a unique research area of a sensitive nature. This is called a soft area of research that requires a researcher to be reflective, deeply reflecting and interpretative multidimensionality, a specific research intuitiveness, and a narrative nature of family life. Analyzing the problem of the atmosphere of family life as an important condition for optimizing the process of upbringing in the family, evaluation was avoided, while single-level evaluation was aimed at subjecting the obtained data to a multidimensional, objective analysis aimed at creating a model of the most effective possible reintegration work with biological families of children staying in family forms of foster care.

The atmosphere of family life as an important condition for optimizing family education on the example of the functioning of foster families in the city of Szczecin - analysis of own research

In many definitions, the atmosphere of family life is of special importance to the mutual relations between parents (Bakiera, 2020; Ładyżyński, 2012). Sometimes you can find the phrase that the atmosphere of family life consists only of relations between parents, which are generated due to various faces (favorable-good, unfavorable-bad) by the use of educational methods. The relationship between parents has a significant impact on the development of the child's personality and behavior (Bakiera, 2013; Margasiński, 2015; Gójska, Huryn, 2007). In 28 surveyed families, parents were asked to evaluate their mutual relations. All surveyed parents assessed their relationships as positive, arguing that they respect each other, help each other and can always count on each other. They declare that in the event of any conflict, they always try to talk and work out consensual solutions. In the conflict that arises, they negotiate their positions, which in total allows for the strengthening of mutual relations. They avoid arguments that are usually accompanied by anger, aggression and anger.

When asked about the causes of conflicts and quarrels, the most common reasons are household matters or financial problems. Conflicts related to running a household are primarily related to the scope of tasks performed by individual family members. It is about avoiding the interchangeability of tasks between individual family members, which may lead to an excessive burden on one of the family members. When it comes to financial problems in foster families, they are primarily related to the lack of adequate resources to meet all the needs of the entire family. It happens that the funds obtained from appropriate institutions are insufficient in relation to the real needs of children brought up in a foster family. Importantly, these conflicts are not related to different views on raising children or opposing views on the model of family functioning. It is important that the surveyed foster parents always try to reach consent, being aware that only it guarantees the proper upbringing of the child. Good and positive relations between parents declared by the surveyed foster parents give

hope that a favorable atmosphere of family life will be created by them, which is an important condition for optimizing the family process of upbringing and socialization.

There are many theoretical approaches to family ties in the literature (Dyczewski, 2002; Kawula, 2006; Janicka, 2010). The family bond after L. Dyczewski is a complex of forces that draw its members to each other and bind them together, and these forces result from the marriage relationship, awareness of genetic relationships, emotional experiences, relationships, cooperation, legal, religious and moral factors (Dyczewski, 2002). On the other hand, S. Kawula believes that the family bond is the oldest type of bond, thanks to which it is possible to transmit the most important values of culture in the family, such as, for example, traditions, rituals and customs. Strengthening these ties is the best way to counteract various dysfunctional and pathological in the family phenomena by consolidating many positive values and inhibiting negative ones (Kawula, 2006).

Asking the surveyed foster parents about the specificity of ties in their families, all agreed that they are very important to them and that building and nurturing them is an end in itself. Above all, they emphasize a strong emotional bond in their family manifested by mutual love, kindness and devotion, a sense of security and a sense of belonging to the family. They also mention economic ties (running a household, satisfying developmental needs) or securing ties (performing caring activities for family members). While characterizing the ties in the family, the surveyed parents stated that they are crucial for them in the process of raising children entrusted to them and they try to constantly and systematically build a bond between themselves and their children in everyday situations of family life. The all respondents described their bond with the child as safe, i.e. characterized by a parent's friendly attitude towards the child, stimulating its development in accordance with their abilities and the pursuit of satisfying their needs. The surveyed parents also pay attention to the importance of the marital bond and the need to develop it at all stages of family life.

Another element considered in the holistic spectrum of the atmosphere of family life is the parents' interest in and attitude towards the child. In this regard, the surveyed foster parents agreed that the parents' interest in the child's affairs is one of the most important elements of a favorable atmosphere for family life. They do not allow the lack of interest in the child's affairs, worries, problems or experiences during the implementation of the upbringing process in the family towards the children entrusted to them. They emphasize the need for parents to be fully involved in the child's life, its presence and accompanying the child in every situation. Without it, upbringing in a family would only be an instrumental activity towards a child. The surveyed parents believe that every parent, including foster parents, must have a positive attitude towards their children, full of love, dedication and the joy of being with them.

Considering the atmosphere of family life, the surveyed parents noticed that its important component are the methods of upbringing in the family. The methods of upbringing in a family are specific ways of dealing with children in family and extra-family life, creating educational conditions and situations. Their aim is to induce positive activity of the child and changes in mental dispositions and behavior. If we describe the methods of upbringing in the family in this way, the following types of upbringing methods can be mentioned after M. Grochociński: direct and indirect influence (Grochociński, 1979; Sikora 2010). The methods of indirect educational impact consist in deliberately organizing the conditions and way of life of a child so that his experiences, reactions and acquired experiences bring him closer to the educational aims set by his parents. The methods of direct educational impact are those that are implemented during direct contact between the educator-parent and the charge-child. The basic condition for the effective use of these methods is, above all, the authority of the educator towards the pupil, the free and honest atmosphere of upbringing and the child's trust in the educator. The method of conversation can also be included among the aforementioned methods of upbringing in a family (Kazubowska, 2020). Among the 28 surveyed families, all parents expressed their opinion on the use of upbringing methods in the family. For all surveyed parents, the most preferred methods were direct, i.e. applying explanations to the child and convincing them in various matters and situations, suggestion and persuasion towards the child, and the method of reward and punishment (the latter were pedagogical punishments, i.e. they did not degrade the child's dignity). It is also important that the surveyed parents highly value conversation as a key method of upbringing in a family. They do it very often, talk about various matters, sometimes even very unpleasant ones, but they are aware that this method requires enormous commitment, tact and knowledge about the child's needs and the specificity of its development. It is very pleasing that the surveyed parents indicated that a very rich source of knowledge about the methods of upbringing in a family was the completed training course for them to take on the role of a foster parent. They do it very often, talk about various matters, sometimes even very unpleasant ones, but they are aware that this method requires enormous commitment, tact and knowledge about the child's needs and the specificity of its development. It is very pleasing that the surveyed parents indicated that a very rich source of knowledge about the methods of upbringing in a family was the completed training course for them to take on the role of a foster parent.

The next element of the holistic model of the atmosphere of family life adopted in this text is everyday life and its valorization. The process of upbringing in a family takes place mainly in the course of various situations in everyday life. Everyday life is a source of learning a variety of social behaviors, building a model of communication with people and interpreting all changes in

the surrounding world (Ładyżyński, 2020). The surveyed parents perceive everyday life in their family as a systematic process of raising the children entrusted to them, teaching children to behave properly in various situations, or the possibility of building relationships between family members. They indicate that they use everyday situations to show the meaning of specific situations in the family or events in the context of values and norms recognized in the family.

Another important component of the atmosphere of family life is the culture of the family / family, customs and customs preferred in the family. The culture of the family is a specific result of two cultures, that is, the mother and father brought out of the family home. It is this area of cultural contact, previously subjected to the process of marital internalization, that constitutes a unique platform for introducing a child into the culture of the family. The concept of parents' pedagogical culture is also connected with the family culture. M. Bereźnicka defines it through the prism of three aspects. The first is the theoretical aspect related to the need for parents to have a certain compendium of pedagogical knowledge in the field of educational issues. The second is the instrumental aspect related to caring for the comprehensive development of the child / ward, noticing and stimulating his interests, cognitive curiosity and activity. The third aspect is the normative one, requiring parents to evaluate and interpret positive and negative events, to choose educational methods adapted to the age and situation of children, and to apply adequate rewards and punishments (Bereźnicka, 2015, p.35). In the family, the child is introduced to social life by participating in the socialization process conducted by the parents. The surveyed parents, referring to the role of culture in the family, indicated its various aspects. They emphasized the importance of the internal - family culture that determines the recognized patterns of behavior, the attitudes of family members towards themselves and the surrounding social reality. Above all, they indicated that they teach children brought up in their families to live in accordance with the culture adopted in the family. This applies even to very mundane activities, e.g. they show how to behave at the table, how to use cutlery, how to relate to other children or to themselves. They introduce children to the culture of social life, for example by taking children to the cinema, theater, church or shop. The surveyed parents pay great attention to the issue of children's participation in the media and teach them how to use them safely. Foster parents familiarize children with the customs and traditions functioning in the family and teach children how they can participate in them. In this way, they forms the child's identity and help them prepare for effective participation in social life. The surveyed foster parents integrate the system of values recognized in the family in a very integral way. They are a kind of guideline for parents, which allows them to follow the path to the full development of humanity. Parents' own and realized values constitute the foundation on which they carry out family educational and socialization processes for the benefit of their

children (Kazubowska, 2019; Kazubowska 2010). Values are a path for them to follow, encouraged by their raised children. Importantly, the values are not only a theory for the surveyed foster parents, but try to introduce them to the practice of everyday life. This process, called the axiologization of everyday life, is showing children how to introduce the adopted values into the practice of family life. Everything that happens in the family, even in the most trivial matter, is always related to the values recognized in the family.

The last element indicated in the *The Diamond of family life* (see "Methodological basis of research") is the sphere of feelings and emotions in the family. For the surveyed parents, it is a very special area in the specter of family upbringing and socialization processes. Foster parents care very much about this sphere in their family and children brought up in their family teach how to "tame" emotions, anger or aggression at times. Sometimes, as they say, it is not easy, sometimes they feel helpless in the face of the enormous emotional neglect of the children entrusted to them. In their educational and socialization activities towards / for children, foster parents focus in a special way on the sphere of feelings and emotions, talk about it with children and try to make them aware of why it is worth and should understand themselves and try to understand others. The surveyed foster parents strongly emphasized the need to teach children the art of expressing feelings, talking about what they feel and how to sympathize with the feelings of others. It is noteworthy that all surveyed fathers agree that upbringing in a family cannot lack the emotional closeness of the parent with the child (writes about it e.g. Żywczok, 2013, p.24), cordial relations between the mother and father and him, as well as constant helping the child in many problematic situations or supporting him in making various choices and the integral responsibility for the latter (the role of the father in the family was also researched by Sosnowski, 2018).

Among the 6 surveyed coordinators who were asked about the assessment of the atmosphere of upbringing in 28 surveyed foster families functioning in Szczecin, all agreed that it is a very friendly atmosphere, having a developmental character for children placed in these families. Working and cooperating with foster families, meeting them in various situations, they emphasized the high level of parents' preparation for the tasks assigned to them, as well as the high level of responsibility for the children entrusted to them. The coordinators state that the surveyed foster parents are also characterized by a very well-developed pedagogical awareness (writes about it P. Wesołowska, 2019), which helps them to effectively implement educational and socialization processes in their families towards and for the benefit of children raised there.

Similarly to the coordinators, the surveyed social workers (6 in number) and family assistants (also 6) assessed the atmosphere of upbringing in 28 surveyed foster families, with whom they systematically cooperate, stated that the atmosphere in these families is positive and shows signs of development.

Also family doctors and specialist doctors (especially cardiologists and orthopedists, because families consult them most often) assessed the attitude of foster parents towards children as positive, which manifests itself in conscientious, constant care for children, care for their health, responsibility for them and educational awareness.

The above-presented analysis of selected components of the holistic model of the atmosphere of family life called the Diamond of family life in the spectrum of research conducted in 28 foster families of the city of Szczecin allows us to ask ourselves about the specificity of the educational atmosphere in these families. From the obtained data, one can very clearly conclude that the dominant type of family atmosphere in the surveyed foster families is a favorable, democratic atmosphere focused on the multidimensional development of all family members. This atmosphere makes it possible to optimize the upbringing and socialization processes carried out in the family. Taking into account the way of carrying out the process of upbringing and socialization in foster families in the city of Szczecin, it can be stated that all activities of these parents serve the child's good and fulfill the tasks assigned to them in an optimal way. In the event of any problems or difficulties in the implementation of educational work with children, parents turn for help to appropriate social service employees, various institutions or support from other sectors, e.g. non-governmental. In the light of the foster parents' educational work, there is a need to support them even more intensively so that they can fulfill the important task of bringing up children in the foster care system even more effectively. It is also important in the context of social needs to promote foster parenthood, so that there are more people willing to take on this responsible and very demanding task, which is raising and caring for children under the foster care system.

Conclusions and summary

Considering the problem of the atmosphere of family life as an important condition for optimizing family education, on the example of the functioning of foster families in the city of Szczecin, it is worth indicating, on the basis of the adopted Diamond of family life, i.e. a holistic model of the atmosphere of family life, specific features of the atmosphere in these families. Taking into account the adopted components in the indicated model, the following features of the atmosphere of family life in the surveyed foster families can be distinguished: 1) relations between the parents were positive and imbued with respect and lack of conflicts; 2) family ties are safe, aimed at stimulating the child's development; 3) foster parents are very involved in the child's affairs and have a positive attitude towards him; 4) are supporters of unconditional upbringing (writes about it A. Kohn, 2013, p.28 and next), and the resulting deep convictions influence the upbringing methods used in the family, which are direct and based on dialogue

with the child; 5) foster parents perceive everyday life in the family as an opportunity for the multidimensional development of a child; 6) family / family culture is transmitted through the participation of children in various family events; 7) values preferred by parents are for them the basis for building upbringing and socializing influences towards and for the benefit of the child; 8) the sphere of feelings and emotions is for the surveyed parents one of the key areas in the area of upbringing processes in the family and they take care of it especially when working with their children. From the abbreviated features of the atmosphere of family life in foster families operating in the city of Szczecin, this model of atmosphere could be called a "two-subject model of the creative development of children and parents in the educational process" (term created by the author of the text).

In the above-mentioned model, the two basic entities, parents and children, complement each other, and by being in the family educational process, they contribute to the creative development of both parents and children. This mutual, direct relationship between parents and children, saturated with deep emotions, contributes to the optimization of parental competences and at the same time creates an opportunity for the children for harmonious and multidimensional development. The indicated two-subjectivity in the context of family upbringing processes can also be understood as an important element in the process of preparing candidates to fulfill parental functions in family forms of foster care.

From the research results presented above, significant conclusions can be drawn for social practice. During the training of candidates for various forms of foster care, particular attention should be paid to the aspect of building relationships between parents and children, as well as the mechanisms of building the atmosphere of upbringing in the family. One should also not forget to teach candidates a constructive, art-based model of conflict resolution within and outside the family. During the training, candidates for parents in foster care should be convinced of the necessity to saturate educational influences on the children entrusted to them on axiology. Yet another important element in working with candidates for foster care is the need to teach them methods and techniques of working with biological families of children. On the other hand, when it comes to reintegration work with the background families of children brought up in care, it is important to work with them holistically, using new methods such as SWOT analysis, genogram, ecomap, in-depth motivational interview or the Family Group Conference. All this would be aimed at creating a chance for the child to return to the family home.

The above-mentioned selected proposals for activities towards / for the benefit of the child and the family give hope for the optimization of upbringing processes in foster families and create opportunities for children to achieve full personal and social development.

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AUTISM AND CREATIVITY: A SOCIAL ROBOTICS APPLICATION

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Abstract. *This paper focuses on the relationship of genius with certain forms of autism. It synthesizes some results of two ongoing research activities. The first one concerns the investigation of creativity and the arts in the digital age, while the second an educational experience to support the socialization of people with Autism Spectrum Disorder.*

The educational experience was based on storytelling, drama, and programmable toy robots. Our research emerged that low functioning autistic people may exhibit creative attitudes, but the creativity of educators has a crucial role in stimulating their creativity.

Keywords: *Autism Spectrum Disorder, creativity, drama, educators' creativity, programmable toy robots, storytelling.*

Introduction

The term autism comes from the Greek word *autos*, meaning *self*. It was first used in the expression *autistic thinking* by the Swiss psychiatrist Eugen Bleuler (1911) in relation to schizophrenia to describe the withdrawal of schizophrenic patients into their fantasies (Kuhn & Cahn, 2004).

The first clinical definition of autism appeared in the first half of the 20th century. Grunya Efimovna Sukhareva (1891-1991), a Soviet child psychiatrist, published a detailed description of autistic symptoms in 1925. Her article, written in Russian, was translated into German a year later (Sukhareva, 1926). She initially used the term "schizoid (eccentric) psychopathy" but later replaced it with "autistic (pathological avoidant) psychopathy" to describe the clinical picture of autism. In 1943, Leo Kanner, an American-Austrian psychiatrist, published the first systematic description of early infantile autism (Harris, 2018). In 1944, Hans Asperger (1906-1980) published a definition of autistic psychopathy that was similar to Sukhareva's definition (Asperger, 1991). Asperger identified the many following characteristics of autistic people:

- lack of empathy
- little ability to form friendships
- one-sided conversations

- intense absorption in a particular interest
- clumsy movements

In 1994, the American Psychiatric Association (APA) recognized the diagnosis of Asperger's syndrome in the fourth edition of its Diagnostic and Statistical Manual (DSM). In 2013, APA revised the DSM and in the fifth edition of the DSM deleted Asperger's syndrome in favor of a single category, Autism Spectrum Disorder (ASD).

Difficulties in interaction and social communication are considered one of the core deficits of this disorder (Baron-Cohen, Ashwin, Ashwin, Tavassoli, & Chakrabarti, 2009). Autistic traits are detectable from early childhood and tend to remain throughout the person's existence.

The Center for Disease and Control (CDC) reported that approximately 1 in 44 children in the U.S. is diagnosed with an autism spectrum disorder (ASD), according to 2018 data (Maenner et al., 2021). In Europe, the three-year (2015-2018) program Autism Spectrum Disorders in Europe (ASDEU) scrutinized 631,619 children, with an average estimated prevalence of 12.2 per 1,000 (one in 89) children aged 7-9 years. Overall ASD prevalence estimates varied among European countries, from 4.4 - 19.7 (percentiles 10 and 90) per 1,000 aged 7-9 years.

This paper reports on an ongoing research investigating the relationship between autism and creativity, also, illustrating an educational experience carried out with a group of four young adult boys diagnosed with a low functioning autism.

Before presenting our research outcomes, a short highlight on autism and creativity is helpful.

Autism and creativity

The psychiatrist Michael Fitzgerald is one of the eminent scholar who studied the connection between autism and creativity to ask the question if there is a link between autism and exceptional ability. In the popular book *Autism and creativity: Is there a link between autism in men and exceptional ability?* (Fitzgerald, 2004), he presented the diagnostic issues about autism and the descriptions of autism from 1980 to 1990s, then discusses the psychology of high-functioning autism/Asperger's syndrome according to the literature of that time. He claimed many geniuses exhibit Asperger's traits, e.g., Isaac Newton, Albert Einstein, George Orwell, and Herbert George Wells. Nevertheless, in the past, this idea was not shared by many researchers. It was believed that people with autism could not develop any creativity, except for Asperger people. The severe difficulties in the sphere of communication and socialization of non-high functioning autistic subjects brought many researchers to believe they cannot be creative (Hermelin, 2001).

Recent findings suggest that individuals with ASD are not necessarily impaired in creativity but possess specific creative capabilities (Hetzroni, Agada, & Leikin, 2019; Kasirer, Adi-Japha, & Mashal, 2020; Liu, Shih, & Ma, 2011).

The literature is rich in studies and experiments on the creative ability of children with ASD (Artemova & Ryazhenova, 2020; Epp, 2008; Khodadadi, 2018; Perriello, 2019). Many studies show that creativity is something that can be built upon and enhanced. An autistic child's creative progression relies on a number of factors. These can include the encouragement of teachers and parents to promote creativity, as well as the type of approach taken to arouse creative enhancement (Smith, A., & Madden-Zibman, 2014). The case of a 6-year-old boy diagnosed with autism without mental retardation presented and discussed by Melinda J. Emery illustrates many aspects of art therapy and how it can improve the social skills and creativity of an autistic subject (Emery, 2004). This case also warns on the role of the therapist and the effort necessary to achieve results. From her experience, she concludes that:

- The constancy of parents, teachers, and therapists is necessary to help children with autism.
- Children with autism thrive in an environment where patience, acceptance, understanding, and constancy are fundamental for their growth and development.
- Art therapy for autistic children may serve as a path toward increased awareness of the self, and the sense of self is a cornerstone for relating.

A remarkable study based on sandplay showed that this form of art therapy encourages autistic children to become more creative and imaginative (Lu, Petersen, Lacroix, & Rousseau, 2010).

Art therapy methods have been used to help children with ASD develop a better understanding of appropriate ways to respond in social situations (D'Amico, & Lalonde, 2017; Van Lith, & Beerse, 2019). Art therapy with puppet making and puppetry using the *Expressive Therapies Continuum* (Kagin & Lusebrink, 1978) has been explored to promote emotional empathy in individuals with ASD within the larger goal of addressing socialization (Malhotra, 2019).

Recently, robot interaction has been experimented as a method of enhancing creativity (Wainer, Ferrari, Dautenhahn, & Robins, 2010).

The following paragraphs illustrates and discusses an educational experience performed combining use of programmable toy robots, storytelling, and drama.

Research objective and methodology

The research objective results from the activities of two ongoing research started in 2019:

- Creativity and the arts in the digital age

- Social robotics.

Part of the two researches endeavor converged in a specific investigation strand started in 2020 and concerning the development of educational interventions to improve the communication skills of people with ASD using programmable toy robots (PTRs).

The first step of this investigation (January-December 2020) was a literature analysis on social robotics for autistic people and the development of some explorative practices using PTRs with autistic adolescents (Marzano, Tambato, Zorzi, 2021). The first step emerged the question of autistic people creativity and the possibility to involve them in creative educational interventions.

Based on the first step, a second investigation step has been defined and carried out (January-December 2021). It included two main activities:

- Reviewing scientific literature on autism and creativity.
- Defining and developing an educational intervention based on the integration of PTR with storytelling and drama.

The literature review analyzed the main scientific contributions on autism and creativity (about 47 items, including books, articles and reports) available in various in databases (Scopus, Web of Science, SAGE, ERIC, IEEE, etc.), following a consolidated methodology (Booth, Sutton, & Papaioannou, 2016; Fink, 2019; Jesson, Matheson, & Lacey, 2011).

The educational intervention involved four subjects, aged between 16 and 33 years and diagnosed with a severe level of autism, and two social educators. The educational intervention took place in Italy, at the Disability Service Center of the Central Friuli University Health Authority (March-November 2021). The autism level of the young adults involved in the research was determined through the Childhood Autism Rating Scale (CARS), which provides a score range from 15 to 60 (Chlebowski, Green, Barton, & Fein, 2010; Schopler, Reichler, DeVellis, & Daly, 1980):

- Score 30 is the cutoff rate for a diagnosis of mild autism.
- Scores 30-37 indicate mild to moderate autism.
- Scores 38-60 indicate severe autism.

The adaptive behaviour of the autistic subjects have been measured through the Vineland Adaptive Behavior Scales (VABS) that is a tool that utilizes semi-structured interview and the Adaptive Behavior Composite (ABC) to measure the individual's adaptive functioning (Saulnier & Klaiman, 2018; Sparrow, Cicchetti & Saulnier, 2016). VABS uses qualitative descriptors of “high” (domain and ABC Standard Scores of 130–140), “moderately high” (domain and ABC Standard Scores of 115–129), “adequate” (domain and ABC Standard Scores of 86–114), “moderately low” (domain and ABC Standard Scores of 71–85), and “low (domain and ABC Standard Scores of 20–70).

Table 1 reports the VABS and CARS evaluation of the four autistic involved in the project.

Table 1 The level of autism of the young boys involved in the research (own source)

Subject nickname	Age	Communication Skills	Daily Living Skills	Social Skills and Relationships	Overall Summary	CARS
Ludovico	15	20	28	20	20	39
Alberto	16	20	60	20	20	39
Cristiano	21	20	23	20	20	47
Michele	33	20	20	20	20	37

In the following paragraphs, the results of the investigation are shortly illustrated and discussed, starting with a short overview of autism and creativity resulting from our desk research.

The educational intervention

The low-cost LEGO® BOOST PTR, in the humanoid version of Vernie, was used for the realization of the educational intervention. Vernie is a PTR that can be programmed to perform sequences of interactive tasks, such as moving (forward, backward, right, left, in a circle), speaking, moving arms, moving head. It has a color and distance sensor capable of detecting 6 colors and objects at a 5-10cm distance. Vernie is programmable using an icon-based drag-and-drop coding interface (Benedettelli, 2018; Bundschuh, 2019) through an Android smartphone or a tablet (Fig.1 and 2).

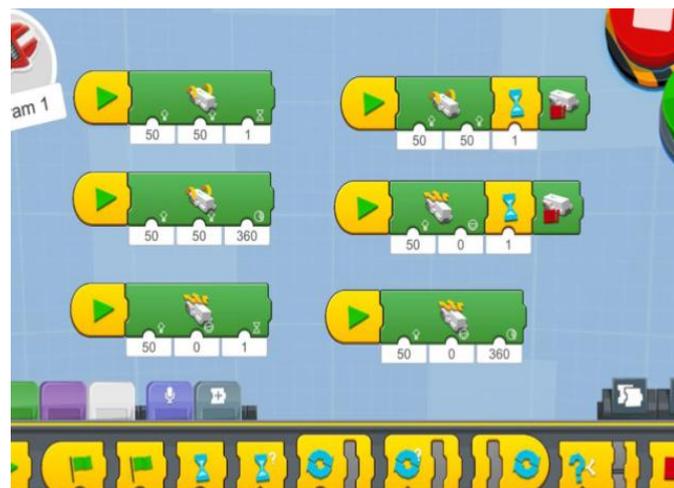


Figure 1 The robot Vernie (own source) Figure 2 Programming blocks (own source)

The educational intervention had foreseen that each autistic subject should have gone to a commercial establishment (supermarket, bar, bakery, newsstand)

to purchase something. Four shops were chosen close to the Disability Service Center, where the autistic subjects were assisted. Then, an educator, previously taught to perform the intervention, defined a social history for each kind of purchase. Verni was programmed to be the protagonist of the four social stories, appropriately performed within a room of the Center. To this end, using Google Maps, four maps were reproduced on 110x60cm sheets with the route to reach the target places on feet. In addition, cardboard reproductions of the shops were made, trying to make them as resembling as possible with their real correspondent (Fig. 3).



Figure 3 *The supermarket and newsstand with their cardboard reproductions (own source)*

The educational intervention has been organized in two Phases:

- Phase I. The educator creates a social story involving an autistic subject. The social story is performed using Vernie, the maps, and the cardboard reproductions. The story was divided into steps corresponding to a robot action previously programmed by the educator. Table 2 shows the steps of a social story.

- Phase II. Once the training with Vernie has been completed, the educator organizes an activity out of the Center. The autistic subject, accompanied by the educator, leaves the Center and goes to the store to buy a product. The autistic subject is asked to apply what was previously learned in Phase I.

Table 2 *Example of social story (own source)*

Step	Actor	Action
1	Vernie	“Good morning, my name is Vernie. What’s your name?”
2	User	“My name is <username>”. [Vernie pauses until the user responds. The educator can help the user to answer]
3	Vernie	“Well <username>! Now I'm going to buy <product name> at the <shop type> shop which is near the Center. See how I do it. ”
4	Vernie	Vernie moves on the map obtained through Google Maps (Figure 4).
5	Educator	The educator can program specific activities that Vernie will have to perform during the road. To this end, the educator can use the color and proximity sensor. For example, Vernie can ask the user "Where am I now?", "The shop is still far away", or "Is there something in front of me?. Do you know what it is? ".
6	Vernie	[Vernie arrives at the shop, stops, and asks the user] "Do you remember what I have to buy ?."
7	User	“You must buy <product name>”. [The educator can help the user to give the answer]
8	Vernie	“Thanks a lot, <username>.”
9	Vernie	“I am in. Now I put the sanitizing gel. ”
10	Vernie	Vernie does where can purchase the product.
11	Vernie	"Please, I would like <quantity> of <product name>."
12	Vernie	[Vernie receives the product] “Thank you. How much do I pay ?. ”
13	Vernie	Vernie pays and leaves the shop.
14	Educator	The educator asks the user to tell what Vernie did. The educators reviews the story several times, asking each step what is happening and what will happen at the next step.

Phase I and Phase II are repeated several times, and each time the educator evaluates the autistic subject's performance using a weighted checklist, based on a five-point Likert scale for each action, such as understanding, communicating, interacting, moving, etc.

The educational intervention emerges two main considerations: the benefits of robot therapy for people with ASD and the importance of creative educators.

Some reflections: the importance of creative educators

Some reflections emerged from our research are synthesized as follows.

To realize the illustrated educational intervention, digital basic competence and knowledge of the behavior of autistic people have been necessary. The two educators involved in the intervention have been taught to appropriately use the Lego Boost Verni robot with the four autistic subjects. The use of storytelling and drama was discussed before starting the intervention with experts and academic researchers. Educators participated in a three-month preliminary phase analyzing the literature on social robotics for autistic people and deepen the idea of combining storytelling and drama with the Verni robot. The reported experience indicated that educational institutions should create the right attitude of future social educators towards digital technology and robot therapy. It should be necessary to improve their professional skills and competence. According to the educational experience highlighted in the previous paragraph, a preliminary competency framework in social robotics for social educators should include:

- Digital technology understanding - encompassing knowledge about the multifarious dimensions of the digital revolution and its impact on social services and SEN.
- Digital-based SEN programs - comprising both theoretical and practical knowledge of online educational models as well as teaching-learning practices that can support the implementation and running of programs for people with special needs, also remotely.
- Sectorial knowledge - including knowledge in specific fields, such as the use of PTRs with children with ASD.

However, it also emerged how the creativity of educators has been relevant to stimulate the creativity of the four autistic subjects involved in the educational intervention. Educators had the idea to use cardboard reproductions to facilitate the identification of the real places and engage the young autistic adults in cardboard design and realization. They participated in the Verni robot construction, the design of the social stories and their dramatization as well as in defining the dialogue with Verni. The creativity of educators encouraged the four autistic subjects to be creative and active in co-design the educational intervention. This result confirmed what literature shows about participatory design in the context of designing technologies that could support autistic people in daily life (Coon & Watson, 2013; Fabri, Andrews, & Pukki, 2016; Maun, Fabri, & Trevorow, 2021; Millen, Edlin-White, & Cobb, 2010). Most research on participatory design for people with ASD focuses on solutions to overcome the difficulties these persons could find to use technology products and applications due to communication impairments, inability to understand social situations and confusion in recognizing other people's feelings.

In the last few years, many applications of participatory design concerned social robotics and autism (Aslam, Dertien, & van Dijk, 2019; Costa, Lehmann, Dautenhahn, Robins, & Soares, 2015; Malinverni, L., Mora-Guiard, J., Padillo, V., Mairena, M., Hervás, A., & Pares, 2014).

According to the evidence coming from the recent studies and experiences, one can conclude that the creativity of educators may have a crucial role in designing new innovative educational interventions and can be precious in the participatory design of technological applications for people with special needs. Of course, educators' creative skills should be grounded on solid knowledge of technologies and special needs education theories and practices.

Conclusion

The continuous processes of digitization and digitalization are profoundly changing contemporary society, affecting private and public organizations as well as public and social services.

Robotics and artificial intelligence can provide valuable solutions to extend and enhance social services, for example, supporting people with various cognitive disturbances or limited opportunities. Moreover, digital competence has become a prerequisite in societal participation.

In this paper, the question of creativity and ASD has been shortly illustrated and discussed, focusing on brilliance and autism. Research showed that many geniuses present some autistic traits since being a genius implies high observation ability and capability to concentrate on a specific topic for a long time.

We also presented an educational experience concerning the combined use of storytelling, drama, and robotics. It is part of a more articulated ongoing research on the use of programmable toy robots and autism. Despite its inherent limitations, this experience encourages the use of robots to improve the communication skills of autistic people. This experience will be exploited to realize an experiment involving a large audience of children with ASD and to design the guidelines for a socialization robot therapy for autistic people. Moreover, our experience has highlighted some crucial aspects concerning the need to professionalize social educators and develop their creativity. Training, coaching, and other support should be provided to social educators and students in social pedagogy in order to develop their skills, focusing mainly on innovative ways in which digital technologies can enhance and transform the assistance of vulnerable and disabled people, as well as helping those with behavioral disorders.

For this purpose, an effort should be necessary to design and experiment with training courses that improve the digital social innovation competence of active social educators and social educator teachers.

Moreover, reflection should be made during their professional training and development on the best way to acquire knowledge of distinct digital

communication behaviors in the various assistive contexts as well as a mastery of the different digital tools that can be employed for supporting assisted people.

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MŪŽIZGLĪTĪBA
Lifelong Learning

MANAGERS' SELF-DEVELOPMENT IN THE CONTEXT OF CAREER GROWTH

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Abstract. *Career growth or career planning is a process that a person can go through to improve their professional status. It is the process of making decisions for long term learning, to align personal needs of physical or psychological fulfilment with career advancement opportunities. In the study, the relevance of self-development of career and professional growth of managers was determined by the need to organize events to support career growth. In order for the process of professional development of managers to be of high quality, a methodology is being developed based on the characteristic and relevant knowledge of adult education. Central to this process is proper planning, timing and flow between learning new information, practice and evaluating the improvement process. A manager's career vision is the most important part of a leadership development plan. This will set the general tone for the professional development strategies that the manager must implement. He needs to rethink what he really wants to achieve in his professional life. Internal motivators for managers' self-growth play an important role in this re-evaluation process.*

Keywords: *career growth, competencies, managers, motivators, professional development.*

Introduction

Career development or career development planning refers to the process an individual may undergo to evolve their occupational status. It is the process of making decisions for long term learning, to align personal needs of physical or psychological fulfilment with career advancement opportunities.

In the study, the topicality of managers' self-development career growth and professional development were determined by the need to organize career development support measures. The purpose of the study was to identify and describe the conditions necessary for self-development of managers as well as determine motivators for managers' self-growth.

Improving professional competence in cooperation with industry associations ensures that the skills and knowledge acquired by employees meet the needs of the labour market and promotes labour productivity, flexibility, adaptation to change and rapid technological change, thus increasing career development opportunities

both within and across sectors (Latvia's Sustainable Development Strategy until 2030). By analysing globalization trends in the world and learning about the key demands of a future society, global education is a lifelong learning approach with a specific learning style and mindset that provides links between local, regional and global dimensions, enabling the acquisition and development of skills and competences. The competencies needed for managers to adapt to changing societal requirements (Hoffman, 2015).

Therefore, the lifelong professional development of heads of institutions is becoming relevant, regardless of their age, gender and previous education. This, in turn, makes it necessary to give a different meaning to the role of education in society as a whole and to its functions, goals and objectives (Arhipova & Kokina, 2020). Managers are the ones who set an example and stimulate others in the lifelong learning process and are facilitators in society. This depends on the ability of managers to keep up with the latest developments and challenges in life and the needs of society and also motivates them to take an active part in acquiring independent learning skills, the need for self-expression, self-disclosure and self-improvement. An effectively built system of motivations gives a correct understanding of the importance of self-growth.

Methodology

The manager with his personality and abilities empowers the employees in the implementation of common goals making them feel confident in their competence and knowledge. The manager helps the staff to constantly improve in order to understand their personal potential. The ability to manage one's own and others' interests, to focus on work, other people, to be objective, to be open to new ideas and new actions, to pay attention to observation and evaluation, to be free from personal problems and to maintain a creative work tone is especially important in the work of a manager. A competent manager needs creative activity skills and developed creative thinking. Personality traits of a creative manager are perseverance, dynamic progress, openness to change, tolerance, willingness to take risks, curiosity, variety of interests, originality, inner strength and emotional discipline.

Socio-economic conditions, scientific and technical progress require managers to learn throughout their lives and, in fact, continuously. Professional development in this context is understood as a consistent process, not just as knowledge acquired over a period of time. A person's need for education can be fulfilled regardless of age, gender, previous education or level of training (Gogan & Duran, 2014). Central to this process is a proper planning, timing and layout between learning

new information, practice and evaluating improvement process. No less important is the precondition that the managers themselves must try out the learning activities that they will use later in the work. Given that the 21st century presents new challenges and many societal processes are changing rapidly, it is impossible to predict what specific professional skills the future will require (Maier, 2017).

As an employer, leadership development is crucial for organisation and is a key aspect of management that all employers must engage in. Without effective leadership development practices in place, organisation may well be facing an uncertain future, as key skills are lost.

The following advice highlights some of the key strategies in leadership development

Almost everyone who engages in intellectual work understands the need for self-development. However, very few people manage to bring this idea to a concrete result. Most often, either because it is not clear where to start or because the chosen self-improvement methods turn out to be difficult, uninteresting and do not give quick results. In this case, a clear system of motivations is the key to success in this process.

Knowledge of self-development methods allows to start and maintain this managerial activity even if there is a moderate motivation for professional growth. The main principle of this work is to consider all available opportunities as a certain resource for professional development, then to look for possibilities to use these resources in the development of one's abilities and competencies. In general, it will be the basis for self-development. In order to activate professional self-development, a manager cannot do without special techniques and technologies. Consider some of the most accessible to everyone (*Figure 1*).

Assessment of knowledge in modern economics, management, industry technologies, as well as innovations in management including organizational transformation. Knowledge tests, practical exercises and case studies can be used to obtain such assessments. Based on the assessments obtained, it is important to draw the right conclusion about the nature of the changes in professional competence in the recent period.
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Evaluation of one's personal professional qualities, for example: criticism - self-criticism, confidence - self-confidence, dependence - independence. These qualities can also be assessed by means of a special personality test, a questionnaire, an introspection of one's own behaviour in crucial professional situations. It is also important here not only to measure some characteristics, but also to identify where progress is being made (positive dynamics) and where it is not.

Identifying both the dynamics of positive competence and the reasons for its absence: this will help to clarify and concretize plans for working on oneself in the next stage of career development.
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*Figure 1 Manager's special techniques and technologies
(Arhipova & Kokina, 2020)*

Managers with a high self-assessment of career competence successfully create optimal models for organizing their professional activities that allow them to control and adjust their careers. At the same time, as the level of self-assessment of career competence increases, the manager develops an idealized idea of his/her career opportunities and professional value for others. This reduces intensity of looking for ways to increase the productivity of professional activity comparing to existing professional and regulatory standards.

In order to solve the problem of self-development, it is important that any manager has some resources. The first is self-development. The second resource is access to information. The third resource is the methodological provision of production conditions, i. a set of activities, training technologies and training programs that a manager can use for his or her professional development. These are not all mandatory activities or training courses, but programs offered to interested employees of the organization. A manager selects from the set only what he or she deems useful and appropriate for his or her needs and career development plans (Maxwell, 2017). Everyone has unlimited potential to change, transform and develop their personality. In the pursuit of perfection, people are always moving towards personal life goals and are the constant interaction of behaviour, cognition and the environment. Personality development takes place throughout life (Maslow 1970; Rogers, 1977), so modeling the conditions for spiritual growth and the need for self-realization are relevant.

The reason why people need to constantly learn, according to psychologists, is the human tendency to self-improvement. This tendency may be unconscious. It usually comes to the fore when the need arises to make a decision to achieve one's goal. If it is necessary to learn something new, acquire new skills, a situation arises, which Avery G. and Gayle C. (Avery & Gayle, 2004) call the task of personal development. It arises in the complex as a result of both external conditions (economic, social, political, cultural, etc.) and internal personal tendencies. These inner tendencies are motivators man needs for self-development. They largely determine human behaviour. The human world is open to all possibilities according to Jean Paul Sartre (Sartre, 2007). Sartre's views show that leaders' self-development and improvement are based on their position of self-motivation and active living.

Researchers also write about the other side of the trend of professionalization - it considers the role of performer, resource, production, business element, entity that performs certain functions in the education strategy of people. From the point of view of philosophy, such an understanding of a person is undesirable, because a person is divided into components that are subject to the needs of social and economic structures (Cunningham, 2004). The goal in development is no longer a human being, but a social and economic structure. In the end sometimes prosperity

is mentioned from time to time, but the full development of the human being as a goal in itself is practically ignored (*Figure 2*).

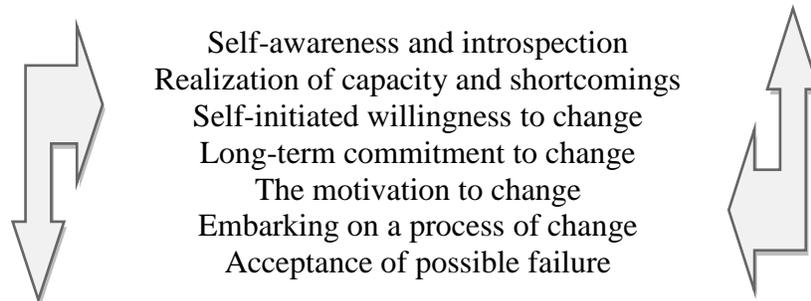


Figure 2 The Need to Optimize an Individual's Potential (Cunningham, 2004)

In a rapidly changing world of work, and the constant demand for newness, self-development is no longer an option but a necessity. Self-empowerment and the associated self-advancement need to dovetail with the new job requirements of the modern enterprise. In these terms, self-development is the personification of the process of constant change. Consequently, self-development in the work environment is the evolution from a state of being de-skilled to being multi-skilled, and ultimately to constant reskilling or skill renewal (Roy, 2015).

Having motivation and development plan, managers will achieve the following:

- greater overall career satisfaction;
- more interesting opportunities and challenges;
- more influential career.

Despite these definitions, information gaps remain:

- What should be included in a leadership development plan?
- What are the other benefits of creating such a plan?

There are 4 main components that must be always included when designing a leadership development a leadership development plan is an invaluable tool for strategically guiding managers throughout their careers and careers program.

These components are listed below:

1. Creation of career visions

A manager's career vision is the most important part of a leadership development plan. This will set the overall tone for the professional development strategies that the manager must implement. He needs to rethink what he really wants to achieve in his professional life. The manager should also carefully consider their past achievements and assess whether they have contributed to their career growth and development. He must honestly assess his strengths and weaknesses as well as his managerial and technical skills.

2. Setting management development goals with a clear time schedule.

A clear and very specific timetable for achieving results will ensure that the manager implements his vision a reality. This will lead him to take further concrete steps to achieve their long-term professional development goals. It will also force the manager to take proactive measures to support their career vision.

3. Inclusion of specific activities that can be measured daily, weekly, or monthly.

Manager can't expect to achieve his career vision in a very short span of time. This is why he needs to create specific action steps that can be measured from time to time. They must not only be specific, but also measurable and realistic. Results of the action steps must be assessed by the key performance indicators that can be monitored daily, weekly or monthly.

4. Regular assessment & evaluation of the overall leadership development plan.

Manager needs to regularly reassess his leadership development plan to keep it relevant. He can't always expect to have the perfect plan. This is the reason why assessment and evaluation is very important. Implementing such strategy can actually produce a feedback mechanism (Adams, 2006). Manager will then be able to adjust the leadership development plan easily in order to address the deficiencies and the problems encountered. He can also change it quickly when there is a change in his career vision. Leadership development plans must be flexible.

The trick, of course, is to pick the right leadership development program for the right moment. For example, young managers should be looking to advance in their roles – which should be reflected in their leadership development plan as the time to become a more impactful leader. Such managers can develop their leadership skills through leadership training programs focusing on developing personal leadership styles (Fayol, 2013). This could include better self-awareness, understanding the dynamics of human behaviour in different situations, and practising leadership with small and large teams. Integrated leadership coaching can also be helpful (Maxwell, 2013).

The self-development of a manager is a process of consciously purposeful development of oneself as a leader, which includes the improvement of one's knowledge, skills, personal and functional qualities, competence in general, ensuring the efficiency of professional activity. This process is the unity of the following components:

- personal development/personal growth;
- intellectual development;
- professional development.

A certain level of knowledge in self-development issues and methods is required, as well as the presence of these external organizational and methodological conditions. It should be noted that there can be no self-development without the desire to perform one's functions effectively and productively. Therefore, the first diagnostic feature of a self-developing manager is his or her attitude towards work (Morris, 2005).

Professional development of managers is a process in which a manager engages in systematic and continuous learning activities with the aim of causing a change in his or her knowledge, values, attitude or skills. Implementing self-directed learning requires high motivation, as well as cognitive skills, a creative approach and a desire for self-development, which is not typical for all people. In the humanist sense, learning is the structuring of personal experience for the purpose of personal self-development and self-realization.

Results

In order for the professional development process of managers to be of high quality, a methodology based on the characteristic and relevant knowledge of adult learning is being developed. As already mentioned, central to this process is proper planning, timing and layout between learning new information, practice and evaluating improvement process (*Figure 3*).

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- Decision on the need for change
 - Development of a self-development program
 - Work on the implementation of the program
 - Adjustment of the program or work on its implementation
 - Analysis of the program implementation, setting new higher goals
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Figure 3 The most important algorithms for personality self-growth (Covey, 2013)

The researchers also write about the main stages of self-development program for managers to which attention should be paid (*Figure 4*).

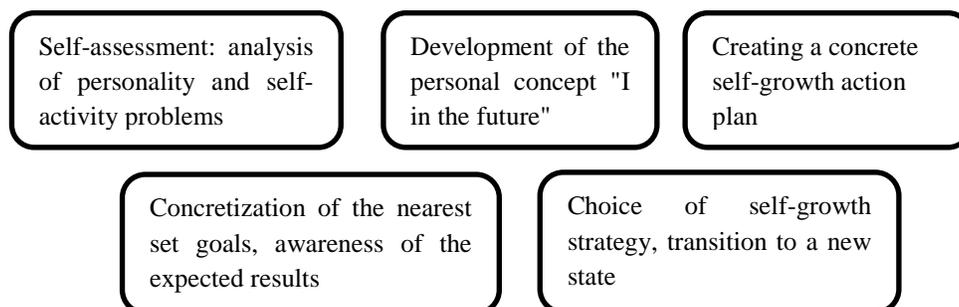


Figure 4 The main stages of the self-growth program (Covey, 2013)

To be effective, managers must adjust their behaviour and their strategies to suit the current circumstances. They may have to depend on their intuition, internal motivators, collected data, existing skills, or previous experience to judge how to proceed in a given situation. They must remain flexible and adopt different methods to deal with any eventualities that might arise (*Figure 5*).

Directions of self-growth	The problem of self-growth
Self-creation	What skills and personality traits do I not have today? What needs to be redeveloped?
Self-improvement	What are the necessary skills and personality traits in principle, but need to be further developed?
Self - prevention	What unwanted actions and personal expressions should not be allowed in an attempt to avoid them?
Re-education itself	What ingrained negative activities and personality traits that significantly interfere with work should be eradicated?
Compensation	What positive features can compensate for existing gaps in activities and weaknesses in personality?

Figure 5 Directions of self-growth of managers' personalities (Roy, 2015)

Human behaviour is determined by motives that ensure not the adaptation to the environment, but the growth of the human self, the human tendency to organize one's inner world and achieve the integrity of the personality, to understand the meaning of existence. If the tendency to self-realize manifests itself at the moment when a person has an external need to develop, the combination of these two motives results in the need to learn. Thus, under the influence of objective and subjective factors, the desire to learn is an integral need of human life (*Figure 6*).

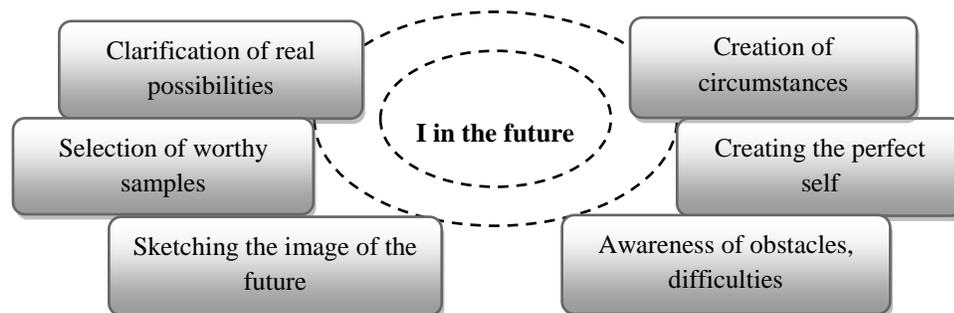


Figure 6 Rules for creating a personal concept "I am into the future" (Covey, 2013)

Young managers will be interested in Maxwell's "magnifying glass" principle of leadership self-development (*Figure 7*).

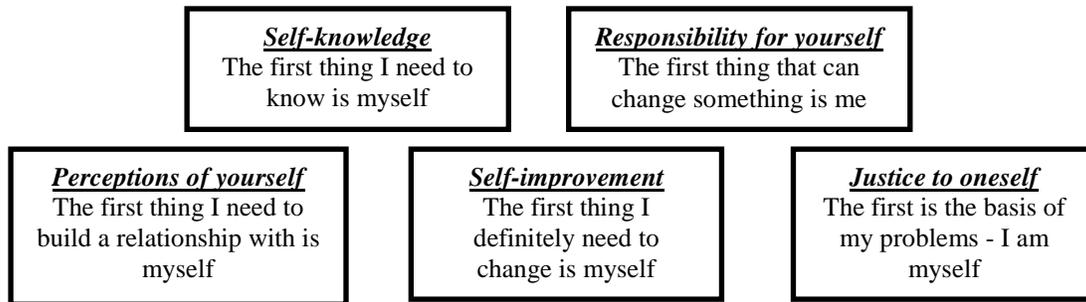


Figure 7 Maxwell's "magnifying glass" principle of leadership self-development (Maxwell, 2017)

Because the purpose of the study was to identify and describe the conditions necessary for the self-development of managers as well as determine motivators for managers' self-growth, in the course of the study, a questionnaire was developed to find out which internal motivators are the most important. Managers of state-owned enterprises and the private sector participated in the survey to obtain the results. 17 internal motivators were offered for analysis in the questionnaire.

Table 1 Internal motivators for managers' self-growth (Arhipova & Kokina)

Motivators	Number of respondents out of 124
Awareness of the lack of results achieved and the desire to improve them	99
Sense of "competence" crisis	118
High level of professional claims	108
Needs for self-expression, self-disclosure, self-improvement	124
The need to participate in the most important thing	112
The need to connect with more creative, interesting, successful, recognized people	93
The need to engage in effective teamwork	124
The need for innovation, originality	124
Needs for power, leadership	98
Need for research, better understanding of the regularities that improve productivity	112
Willingness to test new knowledge, knowledge in practice	99
General creative development of the personality	124
Confidence about oneself, one's abilities, competencies	118
The need for risk to overcome difficulties in dealing with external conditions	118
Desire to get team opinions, not to lag behind other successful leaders	99
To increase prestige, the desire to improve the image of a managed organization	124
Desire to improve material provision	105

The questionnaire was completed by 124 managers. Responses processed and results shown in the table and a chart (*Table 1 and Figure 8*).

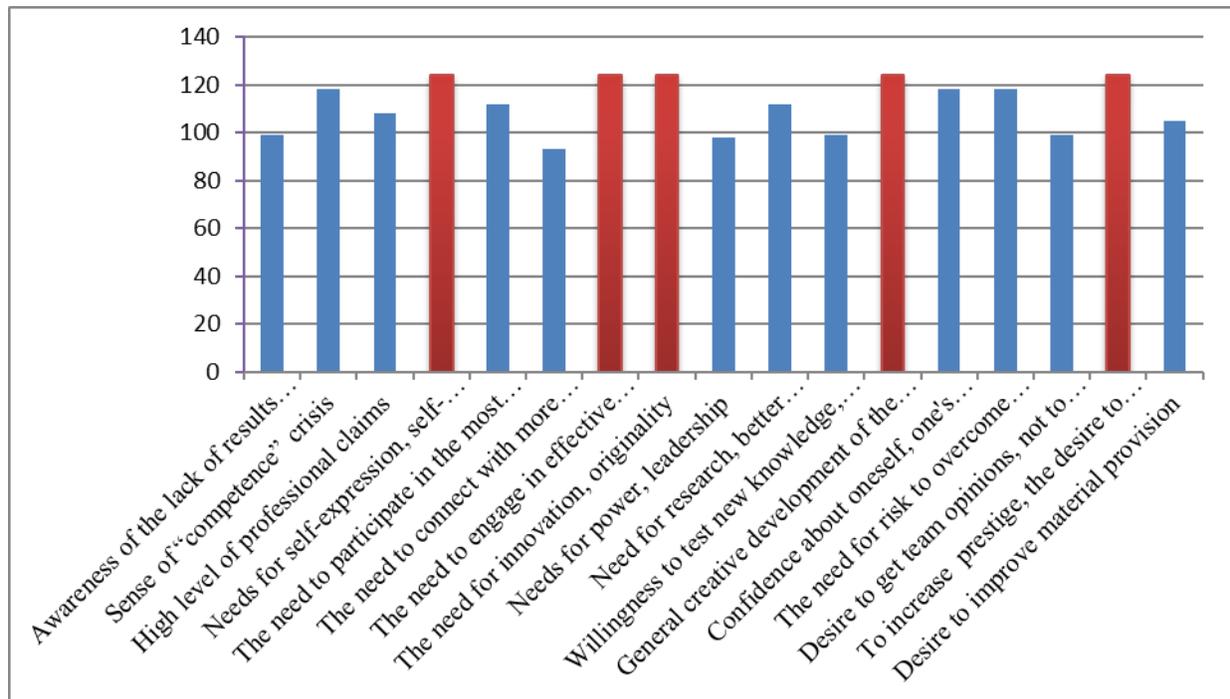


Figure 8 *Internal motivators for managers' self-growth* (Arhipova & Kokina)

After data analysis, we see that the most important internal motivators for managers' self-growth are:

- needs for self-expression, self-disclosure, self-improvement
- the need to engage in effective teamwork
- the need for innovation, originality
- general creative development of the personality
- to increase prestige, the desire to improve the image of a managed organization.

Conclusions

The education and professional development of heads of institutions need support at both local and national level, as the level of education of the whole society depends on it. To be effective, managers must adjust their behaviour and their strategies to suit the current circumstances. They must remain flexible and adopt different methods to deal with any eventualities that might arise. Strong

leadership is vital to the survival of any organization, and people with leadership potential tend to succeed and hold high positions.

Self-expansion and the self-development associated with it must meet the new requirements for the work of a modern enterprise. Self-development is an evolution from a state of no skills to multi-qualifications and, ultimately, to continuous professional development.

A manager's career vision is the most important part of a leadership development plan. This will set the overall tone for the professional development strategies that the manager must implement. He needs to rethink what he really wants to achieve in his professional life. Manager needs to regularly reassess his leadership development plan to keep it relevant. He can't always expect to have the perfect plan. This is the reason why assessment and evaluation is very important.

Leadership development programs are a critical element of a comprehensive leadership development plan. By integrating leadership development training into managers' plan, they'll be ready to make the most out of opportunities for consistent career progress, and be confident as they step into new roles or face new challenges. Professional development of managers is a process in which a manager engages in systematic and continuous learning activities with the aim of causing a change in his or her knowledge, values, attitudes or skills. Implementing self-directed learning requires high motivation, as well as cognitive skills, a creative approach and a desire for self-development, which is not typical for all people.

An effectively built system of motivations gives a correct understanding of the importance of self-development. Internal motivators for managers' self-growth play an important role in the re-evaluation process. Knowledge of self-development methods allows to start and maintain this managerial activity even if there is a moderate motivation for professional growth.

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SELF-ASSESSMENT OF OPERATING THEATRE NURSE COMPETENCE IN PERIOPERATIVE CARE

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Abstract. *Assessment of competence level of operating theatre nurses (OTN) has a significant role in ensuring patient safety, continuity of perioperative care, and positive care environment, allowing to identify shortcomings and address them. The competence level describes quantitatively the competence in perioperative care — a set of skills, attitudes, and knowledge required for effective and safe perioperative care. A simple method to assess the competence level is a self-assessment scale; however, this method has not been used in Latvia to establish the OTN competence level*

The goal of this work is to determine the perceived level of competence in the perioperative care of OTN in a multi-profile hospital in Latvia. For this purpose, a modified perioperative competence self-assessment scale was used, based on Gillespie's (2012) Perceived Perioperative Competence Scale-Revised (PPCS-R). The results show that OTN have a high perceived level of competence. However, the leadership subscale (which includes coordination and management) displayed lower levels of perceived competence, which shows the insufficiency of training. The results also show that certified OTN, those with more work experience, and OTN with a Bachelor's degree have a higher perceived competence level. The scale adapted to Latvian exhibits equally good internal consistency as other versions of PPCS-R.

Keywords: *competence in perioperative care, modified PPCS-R, operating theatre nurses (OTN), psychometric scale, self-assessed competence level.*

Introduction

One of the founders of nursing theory, Patricia Benner, defines competence as knowledge, skills, and attitudes that are used in specific situations of nursing care (Benner, 1984). The components of competence are important characteristics of nurse professional performance because of their impact on patient outcomes

(Gillespie, Chaboyer, Lingard, & Ball, 2012). A high level of competence is required to complete the work of operating theatre nurses (OTN) - to provide perioperative nursing - due to technologically complex nursing interventions and the high risk of patient morbidity (Bathish, McLaughlin, & Talsma, 2015). Assessing the level of competence of practising OTN is relevant for the evaluation of continuing education needs, including improvement of nontechnical competence.

Factors comprising the competence can be evaluated by comparison with a certain benchmark, which corresponds to expectations of performance in providing patient care, for instance, the standard of the profession. However, previous research has shown that different healthcare systems and professional standards have a set of empirical commonalities which allows conducting a general and universal comparison of competence levels (Meretoja, Isoaho, & Leino-Kilpi, 2004; Gillespie, Polit, Hamlin, & Chaboyer, 2012). In those studies, a psychometric test was used as an effective and simple instrument, which evaluates the level of competence by using a self-assessment scale. Although this methodology is easy to use, it has not been used previously to assess the competence level of Latvian OTN.

The aim of this study is to assess the level of competence in the perioperative care of OTN working at a single surgical centre of a multi-profile hospital in Latvia, based on the Perceived Perioperative Competence Scale-Revised (PPCS-R).

Use of self-assessment scale in the assessment of competence level

Relying on P. Benner's analysis of nurse competence, where competence is split into 7 roles - helping, coaching, diagnostic/patient observation, managing care, therapeutic interventions, care quality assurance, and organising care (Benner, 1984; Benner, Tanner, & Chesla, 1996) - Finnish researchers formulated a quantitative self-assessment scale which can be universally used to express the level of nursing competence, noting that these roles match the clusters of competencies in nursing care by their intents, functions, and meanings (Meretoja et al., 2004).

Performance of the scale is not equally good for all specialities of nurses, using the guidelines of nurses' professional organisations as the framework for expectations in professional attainment results in creating a scale that is too general and unsuitable for quantitative analysis (Gillespie, Chaboyer, Wallis, Chang, & Werder, 2009). Therefore, a group of Australian researchers led by B. Gillespie created a specific survey for nurses involved in perioperative care. The survey refines the domains proposed by Benner through both expert elicitation and rigorous statistical analysis. This survey is called Perceived Perioperative Competence Scale-Revised (PPCS-R) (Gillespie et al., 2009; Gillespie, Chaboyer, Wallis, & Werder, 2011).

Analysis of PPCS-R results proved that such demographic factors as gender, clinical experience, specialisation, and hospital type are accountable for as much as a third of the variability of perceived level of competence (Gillespie, Hamlin, Polit, & Chaboyer, 2013). Considering latter majority of comparative studies includes at least part of these variables in the analysis of their results (Gillespie, Harbeck, Falk-Brynhildsen, Nilsson, & Jaensson, 2018).

Methodology

The aim of the study is to assess Latvian OTN perceived level of competence in perioperative care, using a modification of a previously validated self-assessment scale. The research tool in this study was a quantitative survey, based on the Perceived Perioperative Competence Scale-Revised (PPCS-R) (Gillespie et al., 2012b).

PPCS-R is based on the perceived competence scale PCS, which was developed by B. Gillespie as part of her doctoral thesis; it consists of only 12 items with a 5-point Likert response scale (Gillespie et al., 2011). In 2009, the group developed a 120 item survey Perceived Competence Scale-Revised (PCS-R) by conducting a literature review and focus group discussion with 27 OTN (Gillespie et al., 2009). The validity of the instrument was verified by a panel of 8 international experts who proposed a modification - removed 22 items, leaving 98 (Gillespie et al., 2011). Then the group conducted two pilot surveys; the first one was conducted with 345 respondents, concluding that it did not have enough statistical power and had an excessive internal consistency, which indicates redundancy of items (Gillespie et al., 2009). The final pilot study was conducted in 2012 with 1205 respondents; 58 items were rendered redundant using statistical analysis methods, leaving the scale with 40 statistically meaningful items (Gillespie et al., 2012b). The result of this work is the well-known PPCS-R, which is statistically robust and widely used.

The questionnaire in this study consists of two parts - one to collect demographic data and another for the self-assessment scale. The part for demographic data collection includes questions about participants' age, work experience as OTN, education, specialist certification, and native language (total of 5 questions). The survey uses a 40-item adapted PPCS-R - a version of PPCS-R, translated to the Latvian language following the guidelines of the International Test Commission without conducting a pilot study. Responses to items were given by a 5-point Likert response scale, where 1 corresponds to "never", but 5 corresponds to "always". The total score obtainable for the whole scale is 200 points. Items are split into two subscales - technical and nontechnical - which each include three domains as shown in Table 1.

Table 1 Classification of items in PPCS-R (Gillespie & Pearson, 2013)

Subscale	Domain	Number of items (j)	Conceptual definition of domain
Technical	Foundational	9	Behaviours that reflects foundational skills and knowledge, for instance, knowledge of procedures and surgical instrumentation
	Proficiency	6	Behaviours that characterise skills built upon exposure to clinical practice
	Professional development	6	Behaviours that sustain and improve practice standards like keeping up with the latest research
Nontechnical	Leadership	8	Behaviours that support leadership and management of patient care
	Collaboration	6	Behaviours that characterise seeking help and helping
	Empathy	5	Behaviours that establish a connection with patients

Ethics approval for the survey was given by the Ethics Committee of the Institute of Cardiology and Regenerative Medicine at University of Latvia.

This study was conducted in 2021 at the surgery centre of a single multi-profile hospital in Latvia, using a cross-sectional survey. The sample of 48 OTN was created from volunteers who work at the survey site. Inclusion criteria were (1) respondent must be a registered nurse, (2) respondent must have a qualification of operating theatre nurse, and (3) respondent must be contracted to work at the survey site (surgery centre of the hospital). Excluded were any potential participants not meeting the inclusion criteria (for instance, anaesthetic nurses who work in the operating theatre). A questionnaire used in the survey (total of 60 distributed) was freely available at the OTN break room, where the box for returns was also placed. In total, 80% of questionnaires were returned.

Survey data were analysed using free statistical computing software *R* 3.6.1. Descriptive and inferential statistics were used for the analysis. Inferential statistics include only nonparametric tests to compare statistical differences between the groups — Kruskal-Wallis test for multiple groups and pairwise Wilcoxon rank-sum test for pairs. Cronbach's alpha coefficient was used to express the internal consistency of both scale and subscales. The statistical significance threshold was set at $p < 0.05$.

Results

Table 2 characterises respondents' demographic data. Selected categories correspond to those used in the analysis.

Table 2 Summary statistics of respondents (n = 48) (created by authors)

Variable	Mean ± standard deviation	Amplitude	Category	Relative frequency (%)	Absolute frequency (n)
Age	39±11	(23; 60)	-	-	-
Clinical experience	11±13	(1; 40)	<5 years	40	19
			5–10 years	27	13
			>10 years	33	16
Education	-	-	Secondary	23	11
			1 st level vocational higher	17	8
			Bachelor's	60	29
			Masters'	0	0
			Doctorate	0	0
Specialist certification	-	-	Yes	67	32
			No	33	16
			N/A	0	0
Native language	-	-	Latvian	53	25
			Other	40	19
			N/A	7	4

The majority of respondents had a Bachelor's degree and specialist certificate while the rest of the variables were spread more evenly among categories. Data about gender were not collected because all OTN at the survey site are female. Clinical experience (discretised for further analysis), age and scale responses were collected as continuous variables, but the rest of the variables were collected as categorical.

Table 3 summarises the main results - mean score with its standard deviation, confidence interval, relative score (% of maximum), and Cronbach's alpha coefficient (the indicator of internal consistency of the scale elements).

The mean score for the whole scale in this study matches the results of other studies (Gillespie et al., 2018; Falk-Brynhildsen, Jaensson, Gillespie, & Nelson, 2018). This indicates that Latvian OTN have a similar perceived level of competence. Splitting PPCS-R into technical and nontechnical subscales shows lower scores in the nontechnical subscale, which demonstrates lower confidence in nurses' abilities in these domains of competence.

Table 3 Descriptive statistics of the scale and its subscales (created by authors)

Scale (j = number of items)	Mean score of the scale		Relative score (%)	Cronbach's alpha	
	Mean ± standard deviation	Confidence interval (95%)		Coefficient	Confidence interval (95%)
Whole scale (j = 40)	168±15	(162; 174)	84	0,910	(0,84; 0,94)
Technical subscale (j = 21)	91±9	(87; 94)	86	0,908	(0,83; 0,95)
Nontechnical subscale (j = 19)	77±9	(74; 81)	81	0,845	(0,77; 0,89)

The internal consistency of scale is good as it matches the range of Cronbach's alpha values between 0.85 and 0.97 given by previous studies (Gillespie & Pearson, 2013; Gillespie et al., 2013; Ajorpaz, Tafreshi, Mohtashami, Zayeri, & Rahemi, 2017; Jaensson, Falk-Brynhildsen, Gillespie, Wallentin, & Nilsson, 2018; Sönmez & Ayoğlu, 2018). Translated PPCS-R versions (in Swedish, Persian, and Turkish) overall show lower internal consistency, indicating that translation procedure has a higher impact than local peculiarities (Gillespie et al., 2018).

The scale can be split into six domains (as shown in Table 1) - each subscale having three domains. Figure 1 displays respondents' mean relative score for each domain with a 95% confidence interval.

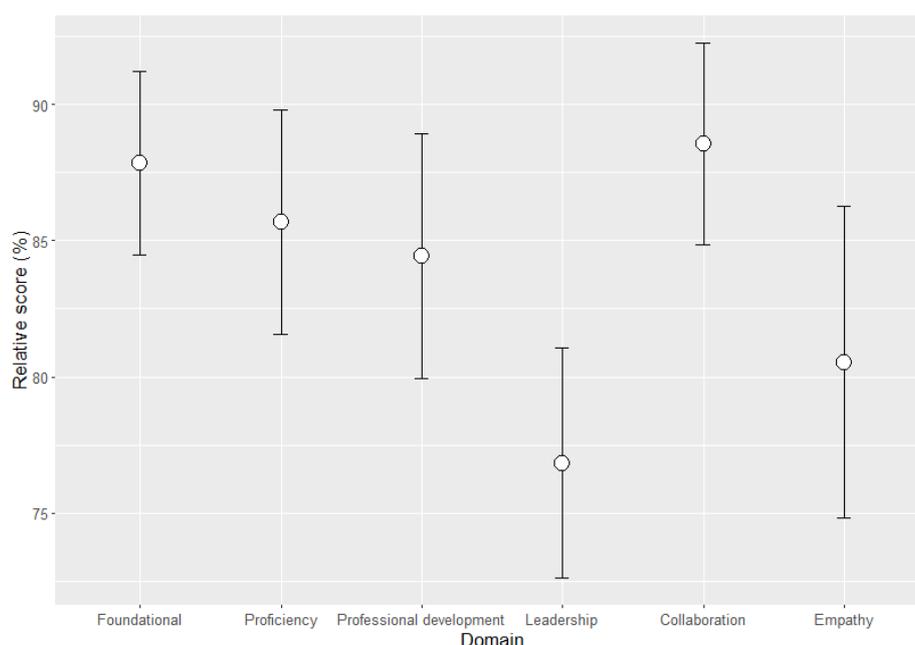


Figure 1 Self-assessment score (% of maximum sum per domain; mean ± 95% CI) for each domain (created by authors)

Respondents have evaluated their foundational competence (technical) and collaboration (nontechnical) as their strongest competence in perioperative care. Proficiency was also scored highly, meaning that respondents regard their competence in nursing interventions as high. For domains of the technical subscale, the variance is lower than for the nontechnical domains. In addition, the lowest scores were given to competence of leadership and empathy. The lack of competence in the empathy domain can be explained by the lack of connection in the anaesthetised patient–nurse dyad (Brodin, Hellzén, & Häggström, 2017; Blomberg, Lindwall, & Bisholt, 2019). The lack of respondents’ confidence in the organisation of operations and management of care actions is not interpretable with the available data. However, it is an important question. A study conducted in Scotland (n = 428), where original PPCS-R was used, also observed that the leadership domain is the weakest, with respondents obtaining only 72% of the total score in the domain (Gillespie & Pearson, 2013).

Analysing respondents’ responses by demographic criteria, Kruskal-Wallis test showed statistically significant impact only for clinical experience ($p = 0.036$), education ($p = 0.043$), and specialist certification ($p = 0.004$). Figure 2 shows clinical experience versus the score.

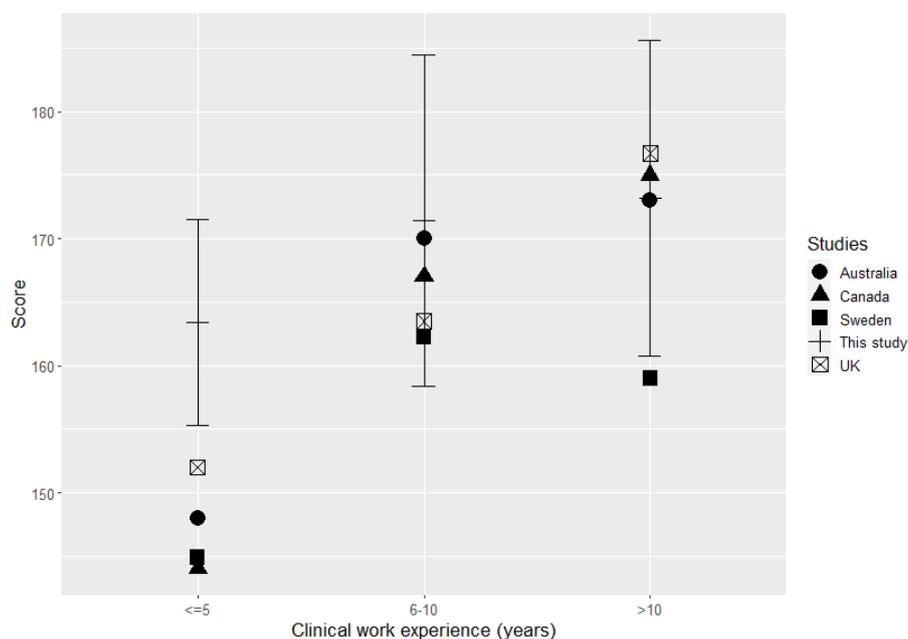


Figure 2 Self-assessment score (mean ± 95% CI) dependent on clinical experience, compared to research in other countries (Gillespie et al, 2018)

More experience is related to a higher score. The least experienced OTN (experience ≤ 5 years) have statistically significant (Wilcoxon rank-sum test $p = 0.047$) lower scores than the most experienced. Comparing these results to previous studies, the respondents in the least experienced group have assessed their competence higher than their counterparts abroad (the mean values do not

match within confidence interval). In other groups, the data largely match, except the outlier value for the most experienced in Sweden (which is explained by cultural differences of older Swedish people or rapid change of the qualifications system after the start of their career). Overall, the results are compatible with P. Benner's nursing theory because more clinical experience improves nurses' ability to use their foundational knowledge and improve proficiency.

Figure 3 displays the relationship between respondents' education and specialist certification status and the score obtained in PPCS-R. The figure shows box-whisker plots. To enable comparison with earlier figures, the mean value with a 95% confidence interval is also shown.

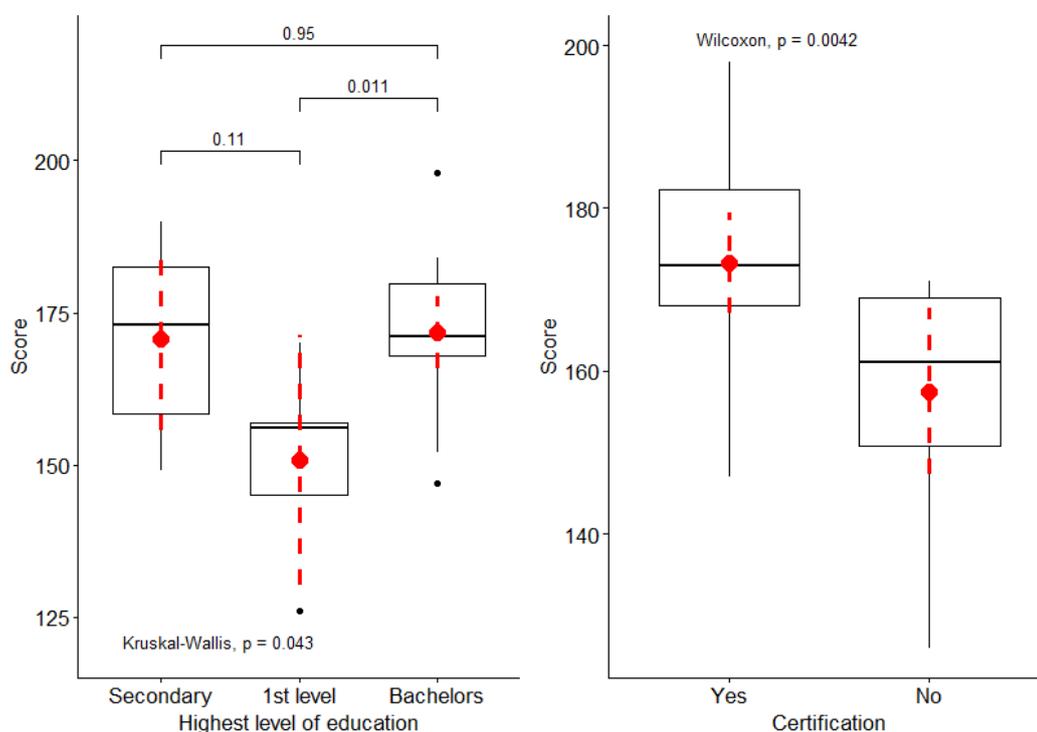


Figure 3. Box-whisker plot for the score dependent on education (on the left) and certification status (on the right). Red features show the mean score with 95% confidence interval; braces indicate p-values of pairwise Wilcoxon rank sum test (created by authors)

The difference of score means is statistically significant only between the group with 1st level vocational higher education and Bachelor's degree ($p = 0.011$) and between respondents with a specialist certificate and those without ($p = 0.004$). Respondents with secondary education have similar mean and median scores as those who have obtained a Bachelor's degree, but both the interquartile range and confidence interval are broader. The broadest confidence interval is for those who have 1st level vocational higher education. The reason for this is the small sample for this group; however, the highest dispersion (indicated by a larger interquartile range) is for the group of respondents with secondary education. A large number of more experienced respondents (experience > 10 years) received

their education before the introduction of higher vocational education in nursing; therefore, more clinical experience can compensate for the lack of formal qualifications.

The group of uncertified respondents have a slightly higher dispersion of their scores. To retain the certificate, nurses should invest considerable resources in continuing education (Latvijas Māsu asociācija, 2019). In addition, the certificate can only be obtained by passing special exams. These factors might explain a higher level of perceived competence among certified respondents.

Regarding the technical and nontechnical subscales, demographic criteria were only statistically significant for the technical subscale. Even then they were significant only for basic competence and proficiency domains.

Conclusions

Adaption of PPCS-R in Latvian exhibits a similar level of internal consistency as other translated versions and the original version. Similarly to studies in other countries, respondents have evaluated their level of competence as high, obtaining a mean score of 84 ± 1 % of the maximum. The weakest competence domains were leadership (the organisation and management of care) and empathy. Respondents had higher perceived competence in technical than nontechnical subscale.

The only significant demographic factors found in this study were clinical experience, education, and specialist certification status. More clinical experience and specialist certification were related to a higher perceived level of competence. Respondents with secondary education only assessed their level of competence to be similar to those holding a Bachelor's degree. However, the variance is higher in the former. The lowest measure of central tendency was for those who have received 1st level vocational higher education, but the reliability is low due to the small sample size for this group.

Formal education had less impact than expected; however, continuing education might be one of the factors explaining why the status of specialist certification has a strong impact on the perceived level of competence. In future studies, it would be useful to elucidate the reasons why leadership is among the weakest domains of competence and what kind of changes in continuing education are needed to improve this domain.

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LATVIJAS SUPERVIZORU DIGITĀLĀS KOMPETENCES PAŠNOVĒRTĒJUMS

Self-Assessment of Latvian Supervisors' Digital Competence

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Abstract. *The importance of digital competence (Dc) is significantly increasing as global digital transformation continue rapidly to develop and digital solutions are extensively integrating into all areas. As a result, Dc is included as one of eight core competences for lifelong learning. The present study aimed to find out the self-assessment of the importance (an assessment of how significant and necessary a certain value is) and attainability (an assessment of how attainable a certain value is) of Latvian supervisors' Dc. Digital competence self-assessment questionnaire is theoretically based on a major European Union research project, DigComp 2.1 and identifies the key components of Dc in 5 areas, namely, information and data literacy, communication and collaboration, digital content creation, safety and problem solving. 56 respondents participated in the online survey during October 2021. The importance and attainability indicators of Dc statements were evaluated on a 5-point Likert scale. The study indicated rather high importance of Dc (3 of 51 statements were evaluated as very important, 43 as rather important and 5 as moderately important). The indicators of the attainability of Dc varied from rather unattainable to rather attainable (26 of 51 statements were evaluated as rather attainable, 21 as average attainable and 4 as rather unattainable). Wilcoxon signed-rank test indicated statistically significant differences in 34 out of 51 statements of Dc that was evaluated higher in importance than attainability. The study results show high level of supervisors' awareness of the digital competence importance. The obtained attainability results allowed to highlight the need for the further digital competence improvement for the supervisors, especially at such digital competence areas as safety and problem solving.*

Keywords: *attainability, digital competence, importance, supervisor.*

Ievads

Introduction

Covid-19 pandēmijas izraisītā krīze un ar to saistītie ierobežojumi veicinājuši strauju procesu un pienākumu pārkārtošanu supervizora darbam tiešsaistes formātā. Attālinātā supervīzija atsevišķos ierobežojumu brīžos kļuvusi par vienīgo veidu šī pakalpojuma nodrošināšanai. Darba organizēšana digitālajā vidē aktualizē supervizora digitālās kompetences nozīmi profesionālo pienākumu

veikšanai, kā arī ētiskos, tiesiskos, datu drošības un kibernetikas aspektus, ko rada digitālo un informācijas tehnoloģiju izmantošana.

Pētījuma rezultāti par informācijas tehnoloģiju izmantošanu attālinātās supervīzijas praksē (Dubņins & Mārtinsons, 2021) liecina, ka supervīzori ir vāji informēti par informācijas tehnoloģiju izmantošanas (kibernetikas) riskiem. Pētījuma autori norāda uz nepieciešamību veikt tālākus pētījumus par digitālo un informācijas tehnoloģiju izmantošanu supervīzoru profesionālajā darbībā.

Lai nodrošinātu kvalitatīvu un efektīvu supervīzijas pakalpojumu, viens no priekšnosacījumiem ir supervīzora augsta profesionālā kompetence. Supervīzoru profesionālās darbības veikšanai nepieciešamās kompetences nosaka supervīzora profesijas standarts (PINTSA, 2019), tomēr supervīzora digitālā kompetence, kuras nozīme ir aktualizējusies līdz ar COVID-19 pandēmiju, profesijas standartā nav noteikta un līdz šim nav pētīta.

Saskaņā ar Eiropas Savienības Padomes definētajām pamatkompetencēm mūžizglītībā “digitālā kompetence ietver sevī digitālo tehnoloģiju pārliecinātu, kritisku un atbildīgu izmantošanu un darbošanos ar šīm tehnoloģijām mācību un darba vajadzībām un nolūkā piedalīties sabiedrības dzīvē” (Eiropas Savienības Padome, 2018). Digitālās kompetences jēdziens definēts arī Eiropas digitālās kompetences ietvarstruktūrā DigComp 2.1 (Carretero Gomez, Vuorikari, & Punie, 2017), kas 2017. gadā izstrādāta Eiropas Komisijas Kopīgās pētniecības centrā (Joint Research Centre). Saskaņā ar DigComp 2.1 ietvarstruktūru ir definēta divdesmit viena digitālā kompetence, un tās ir iedalītas piecās galvenajās jomās: informācija un datu lietpratība, komunikācija un sadarbība, satura radīšana, drošība un problēmu risināšana.

Kā norādīts Digitālās ekonomikas un sabiedrības indeksa (DESI) ziņojumā, digitālās transformācija tempi turpina pieaugt, un digitālie risinājumi arvien vairāk tiek integrēti ikdienā un profesionālajā jomā, līdz ar to pieaug digitālās kompetences nozīmīgums (Eiropas Komisija, 2021).

Latvijā saskaņā ar Ministru kabineta pamatnostādņēm “Nākotnes prasmes nākotnes sabiedrībai” digitālā kompetence ierindota astoņu pamatprasmju skaitā, kas definētas mūžizglītības kontekstā (Ministru kabinets, 01.07.2021.), un viens no mūsdienīgiem un efektīviem profesionālās un personīgās izaugsmes instrumentiem mūžizglītībā ir supervīzija. Tādējādi nākotnes perspektīvā supervīzori kā palīdzošo profesiju pārstāvji, realizējot supervīzijas izglītojošo jeb formējošo funkciju (Apine, 2017), ne vien paši praktizēs, bet arī veicinās strādājošo profesionāļu digitālo kompetenču un zināšanu pilnveidi.

Pētījuma mērķis ir izpētīt supervīzoru digitālās kompetences pašnovērtējumu. Atbilstoši pētījuma mērķim tika izvirzīti pētnieciskie jautājumi: 1) kādi ir Latvijas supervīzoru digitālās kompetences nozīmīguma un īstenojamības pašnovērtējuma rādītāji, 2) kādas ir atšķirības starp Latvijas supervīzoru digitālās kompetences nozīmīguma un īstenojamības pašnovērtējuma rādītājiem.

Lai sasniegtu pētījuma mērķi, vispirms tika izvirzīts uzdevums izstrādāt instrumentāriju pētījuma realizēšanai. Instrumenta teorētiskais modelis balstās uz krievu psiholoģes Jeļenas Fantalovas (Fantalova, 2001) ideju par vērtību novērtējumu pēc to nozīmīguma un īstenojamības. Digitālā kompetence šajā pētījumā tiek skatīta kā profesionālā vērtība. Proti, šī pētījuma ietvaros nozīmīguma pašnovērtējums ir attiecināms uz to, cik lielā mērā kompetence tiek vērtēta kā svarīga un nepieciešama profesionālajā darbībā. Savukārt īstenojamības pašnovērtējums ir attiecināms uz to, cik lielā mērā kompetence tiek vērtēta kā apgūta un reāli īstenojama supervizora profesionālajā darbībā. Adaptējot teorētisko modeli par supervizora digitālo kompetenci kā vērtību, ir svarīgi novērtēt, kādas atšķirības pastāv starp kompetencēm, kuras tiek uzskatītas par nozīmīgām, un tām, kuras ir apgūtas un tiek reāli pielietotas.

Metodoloģija *Methodology*

Pētījums tika īstenots divos secīgos posmos – pētījuma sagatavošanas un pētījuma īstenošanas posmā.

Pētījuma **sagatavošanas posmā** tika izstrādāta supervizoru digitālās kompetences pašnovērtējuma aptauja, kas ir balstīta uz DigComp 2.1 ietvarstruktūru iedzīvotājiem.

Vispirms tika izveidota aptaujas sākotnējā versija ar 63 pantiem, kas apraksta digitālo kompetenci atbilstoši piecām jomām, un tika organizēta ekspertu aptauja ar mērķi novērtēt izstrādāto aptaujas pantu saprotamību un atbilstību pētījuma saturam. Ekspertu grupā tika iekļauti tiesību zinātni, informācijas tehnoloģiju, pedagogijas un pētniecības jomu pārstāvji. Eksperti novērtēja izstrādātās aptaujas pantus triju ballu Likerta skalā un brīvā formā sniedza ieteikumus aptaujas pilnveidei. Balstoties uz ekspertu ieteikumiem, 63 panti tika reducēti, un tika izstrādāta supervizoru digitālās kompetences pašnovērtējuma aptauja, kas satur 51 pantu. Aptaujas panti tika grupēti tematiskajos blokos atbilstoši DigComp 2.1 ietvarstruktūras piecām digitālās kompetences jomām. Sagatavošanas posma noslēgumā tika veikta pilotaptauja.

Instrumentārijs.

Sociāldemogrāfiskā aptauja (astoņi jautājumi par respondenta vecumu, dzimumu, izglītību, supervizora darbības stāžu u.tml.) un pētījuma sagatavošanas posmā izstrādāta supervizoru digitālās kompetences pašnovērtējuma aptauja.

Supervizoru digitālās kompetences pašnovērtējuma aptauja, kas satur 51 pantu. Respondenti novērtēja aptaujas pantus pēc to nozīmīguma un

īstenojamības, izmantojot Likerta skalu (no 1 – nemaz nav nozīmīga / nemaz nespēju īstenot līdz 5 – ļoti nozīmīga / pilnībā spēju īstenot).

Dalībnieki.

Pētījumā piedalījās 56 supervizori. Pētījuma respondentu vidū bija 51 sieviete un 5 vīrieši vecumā no 28 līdz 63 gadiem. Lielāka daļa respondentu (37%) praktizē supervīziju 1 – 2 gadus, 19 % respondentu veic supervizora darbu 3 – 4 gadus, 12 % – 5 – 6 gadus, 2 % – 7 – 8 gadus, 18% – 10 – 11 gadus, un 12% respondentu praktizē mazāk par vienu gadu. Pētījuma dalībnieku sadalījums pēc darba slodzes supervizora profesijā parāda, ka trīs respondenti strādā pilnu darba slodzi, astoņi – ½ slodzi, desmit respondentu ir nodarbināti uz ¼ slodzi, bet 36 respondenti profesijā strādā neregulāri.

Procedūra. Pētījums tika īstenots no 2021. gada 24. septembra līdz 18. oktobrim. Interneta aptauju vietnē www.visidati.lv tika izvietota elektroniska aptauja, kuru veidoja sociāldemogrāfisko jautājumu daļa un supervizoru digitālās kompetences pašnovērtējuma daļa. Informācija par aptauju tika nosūtīta Latvijas Supervizoru apvienības (LSA) supervizoriem, kuru kontaktinformācija atrodama LSA veidotajā un uzturētajā supervizoru sarakstā. Katram supervizoram uz sarakstā publicēto e-pasta adresi tika nosūtīts uzaicinājums piedalīties aptaujā, kā arī saite uz aptauju, kuru aktivizējot, katrs supervizors varēja aizpildīt tikai vienu reizi. Lai veicinātu respondentu dalību, tika nosūtīti atkārtoti aicinājumi, kā arī supervizori tika uzrunāti telefoniski, izmantojot LSA mājaslapā publiski pieejamos kontaktus saziņai. Dalība pētījumā bija brīvprātīga un informēta.

Rezultāti

Results

Aptaujas skalu empīriskā sadalījuma atbilstība normālsadalījumam tika noteikta, izmantojot Kolmogorova – Smirnova testu (Z). Tika konstatēts, ka respondentu sniegto atbilžu sadalījums neatbilst normālsadalījumam ($Z=[0,17; 0,50]$; $0,001 < p < 0,05$), tāpēc tālākajai datu analīzei tika izmantotas neparametriskās statistikas metodes.

Lai atbildētu uz pirmo pētījuma jautājumu, kādi ir Latvijas supervizoru digitālās kompetences nozīmīguma un īstenojamības rādītāji, tika aprēķinātas katra panta mediānas (Mdn) un starpkvartīļu amplitūdas (IQR) rādītāji (sk. rezultātus 1.tabulā).

1.tabula. Latvijas supervizoru digitālās kompetences pašnovērtējuma nozīmīguma, īstenojamības un to atšķirību rādītāji (autoru veidots)

Table 1 Indicators of the self-assessment of the importance, attainability and their differences of Latvian supervisors' digital competence (created by authors)

Panti	Nozīmīgums	Īstenojamība	Atšķirības
	<i>Mdn (IQR)</i>	<i>Mdn (IQR)</i>	<i>T</i>
Informācija un datu lietpratība			
Spēja pielāgot meklēšanas stratēģiju	4,00 (3,25; 5,00)	4,00 (3,00; 4,75)	-1,249
Spēja pielāgot tīmekļa vietnes vajadzībām	4,00 (4,00; 5,00)	4,00 (3,00; 4,00)	-2,790*
Spēja veikt datu analīzi ar programmatūru	3,00 (2,00; 4,00)	3,00 (2,00; 4,00)	-1,483
Spēja veikt datu šķirošanu un filtrēšanu	3,00 (2,00; 4,00)	3,00 (2,00; 4,00)	-1,041
Spēja novērtēt informācijas un datu uzticamību	4,00 (4,00; 5,00)	4,00 (3,00; 4,75)	-1,833
Spēja pārbaudīt oficiālo tīmekļa vietni (URL)	4,00 (3,00; 5,00)	3,00 (3,00; 5,00)	-1,883
Spēja atšķirt maksas saturu no bezmaksas	3,50 (3,00; 4,00)	4,00 (4,00; 5,00)	-3,866**
Spēja organizēt digitālo saturu, izmantojot mapes un marķēšanu	4,00 (3,00; 4,75)	3,00 (3,00; 4,00)	-1,674
Komunikācija un sadarbība digitālajā vidē			
Spēja atšķirt reāllaika saziņas līdzekļus no asinhroniem	3,00 (3,00; 4,00)	3,00 (2,25; 5,00)	-1,242
Spēja izmantot DKT saziņai	5,00 (4,00; 5,00)	4,00 (4,00; 5,00)	-2,762*
Spēja pielāgot DKT darba vajadzībām	5,00 (4,00; 5,00)	4,00 (3,00; 5,00)	-4,335**
Spēja izmantot mākoņa sistēmu datu glabāšanai	4,00 (3,00; 4,75)	4,00 (3,00; 4,00)	-0,208
Spēja izmantot mākoņa sistēmu datu kopīgošanai	4,00 (3,00; 4,00)	4,00 (3,00; 4,00)	-0,613
Spēja izmantot mākoņa sistēmu darbam ar kolēģiem / klientiem	4,00 (3,00; 4,00)	4,00 (3,00; 4,00)	-0,714
Spēja organizēt tiešsaistes tikšanās	5,00 (5,00; 5,00)	5,00 (4,00; 5,00)	-2,189*
Spēja pielāgot DKT tiešsaistes laikā atbilstoši situācijai / vajadzībām	5,00 (4,00; 5,00)	4,00 (3,00; 5,00)	-3,588**
Spēja atrisināt negaidītas situācijas, kas radušās tiešsaistes laikā	5,00 (4,00; 5,00)	4,00 (3,00; 4,00)	-4,917**
Spēja publicēt ziņas sociālajos tīklos	4,00 (3,00; 5,00)	4,00 (3,00; 5,00)	-1,411
Spēja dažādot DKT izmantošanu sevis pilnveidei	4,00 (4,00; 5,00)	4,00 (3,00; 4,75)	-3,809**
Spēja izveidot digitālo identitāti, ievērojot interneta drošības pasākumus	4,00 (4,00; 5,00)	3,00 (3,00; 4,00)	-4,619**
Spēja sadarbības laikā digitālajā vidē ievērot ētikas normas	5,00 (5,00; 5,00)	5,00 (4,00; 5,00)	-2,147*
Spēja digitālajā vidē apzināties kultūras un paaudžu daudzveidību	4,00 (4,00; 5,00)	4,00 (4,00; 5,00)	-0,624
Spēja aizsargāt savu reputāciju digitālajā vidē	4,00 (4,00; 5,00)	4,00 (3,00; 4,00)	-4,390**
Spēja ziņot vietnes īpašniekam, tiesībsargājošām iestādēm par negatīvu komunikāciju tiešsaistē	4,00 (3,00; 4,00)	4,00 (3,00; 4,75)	-0,388
Satura veidošana			
Spēja izmantot DKT satura veidošanai	4,00 (3,25; 5,00)	4,00 (3,00; 4,00)	-3,188*
Spēja izveidot tiešsaistes saturu koplietošanai	4,00 (3,00; 5,00)	4,00 (3,00; 4,00)	-2,408*
Spēja rediģēt koplietotu tiešsaistes saturu	4,00 (3,00; 5,00)	4,00 (3,00; 4,00)	-2,617*
Spēja veidot video saturu	4,00 (3,00; 4,00)	3,00 (2,00; 4,00)	-3,936**
Spēja veidot vizuālu saturu	4,00 (4,00; 4,75)	3,00 (3,00; 4,00)	-3,557**
Spēja identificēt digitālo saturu, ko var atkārtoti izmantot, lai radītu jaunu saturu	4,00 (3,00; 4,00)	3,00 (2,00; 4,00)	-3,519**
Spēja ievērot noteikumus attiecībā uz autortiesībām un licencēm	5,00 (4,00; 5,00)	4,00 (3,00; 5,00)	-2,816*
Spēja izveidot vienkāršu programmu automatizētai uzdevuma izpildei	3,00 (2,00; 4,00)	2,00 (1,00; 3,00)	-4,155**

1. tabulas turpinājums

Panti	Nozīmīgums	Īstenojamība	Atšķirības
	<i>Mdn (IQR)</i>	<i>Mdn (IQR)</i>	<i>T</i>
Spēja uzrakstīt skriptus automatizētai uzdevuma izpildei	3,00 (2,00; 4,00)	2,00 (1,00; 2,00)	-4,904**
Drošība			
Spēja identificēt riskus un apdraudējumus, kas var nodarīt kaitējumu digitālajām ierīcēm	4,00 (3,00; 5,00)	3,00 (2,00; 3,00)	-4,642**
Spēja atpazīt aizdomīgus e-pastus, kas var izraisīt datu zudumus vai apdraudēt digitālās ierīces drošību	5,00 (4,00; 5,00)	4,00 (3,00; 4,00)	-4,831**
Spēja instalēt un aktivizēt savas ierīces aizsargājošu programmatūru...	4,00 (3,00; 5,00)	3,00 (2,00; 4,00)	-4,591**
Spēja izveidot un izmantot drošas paroles	5,00 (4,00; 5,00)	4,00 (3,00; 5,00)	-3,215*
Spēja pasargāt savus personīgos datus un privātumu digitālajā vidē	5,00 (4,25; 5,00)	3,00 (3,00; 4,00)	-5,546**
Spēja pārvaldīt privātuma iestatījumus savās ierīcēs un lietotnēs	4,50 (4,00; 5,00)	3,00 (2,25; 4,00)	-4,824**
Spēja izvērtēt privātuma politikas paziņojumu piemērotību personas datu izmantošanai	4,00 (3,25; 5,00)	3,00 (2,00; 4,00)	-4,510**
Spēja novērst fiziskās un psiholoģiskās veselības riskus un draudus, izmantojot DKT	4,00 (4,00; 5,00)	3,00 (3,00; 4,00)	-3,786**
Spēja identificēt galvenos interneta / digitālo ierīču atkarības simptomus	4,00 (3,00; 5,00)	4,00 (3,00; 5,00)	0
Spēja pasargāt sevi pret kiberuzbrukumu	5,00 (4,00; 5,00)	2,00 (2,00; 3,00)	-6,180**
Spēja izmantot digitālās tehnoloģijas tādā veidā, lai mazinātu to ietekmi uz vidi	4,00 (3,00; 4,00)	3,00 (2,00; 4,00)	-4,700**
Problēmu risināšana			
Spēja noteikt tehniska rakstura problēmu	4,00 (3,00; 5,00)	3,00 (2,00; 3,00)	-4,507**
Spēja rediģēt digitālo ierīču operētājsistēmas konfigurāciju, lai risinātu tehniskas problēmas	3,00 (2,00; 4,00)	2,00 (1,00; 2,00)	-4,681**
Spēja meklēt palīdzību tiešsaistē	4,00 (3,00; 5,00)	3,00 (3,00; 4,00)	-3,859**
Spēja pielāgot digitālos rīkus un ierīces atbilstoši personīgajām vajadzībām	4,00 (4,00; 5,00)	3,00 (3,00; 4,00)	-3,928**
Spēja identificēt jomas, kurās nepieciešams uzlabot savas digitālās prasmes	5,00 (4,00; 5,00)	4,00 (3,00; 4,00)	-4,265**
Spēja izmantot digitālās tehnoloģijas savas digitālās prasmes pilnveidei	4,00 (4,00; 5,00)	4,00 (3,00; 4,00)	-4,627

Piezīmes. N = 56. * $p < 0,05$; ** $p < 0,001$. Apzīmējumi: DKT – digitālās komunikāciju tehnoloģijas, *IQR* – starpkvartiļu amplitūda, *Mdn* – mediāna, *T* – Vilkoksona kritērijs

Visvairāk maksimālo vērtējumu pēc nozīmīguma ieguvuši tādi panti kā *spēja organizēt tiešsaistes tikšanās, spēja sadarbības laikā digitālajā vidē ievērot ētikas normas un spēja pasargāt savus personīgos datus un privātumu digitālajā vidē*. Kā diezgan nozīmīgi tika novērtēti 43 panti, kā vidēji nozīmīgi – 5 panti, proti, *spēja veikt datu analīzi ar programmatūru, spēja veikt datu šķirošanu un filtrēšanu, spēja izveidot vienkāršu programmu automatizētai uzdevuma izpildei, spēja uzrakstīt skriptus automatizētai uzdevuma izpildei un spēja rediģēt digitālo ierīču operētājsistēmas konfigurāciju, lai risinātu tehniskas problēmas*.

Salīdzinot nozīmīguma rādītājus piecās digitālās kompetences jomās, kopumā kā nozīmīgāki tika novērtēti panti, kas ir saistīti ar komunikāciju un sadarbību digitālajā vidē, un drošību.

Novērtējot īstenojamību, neviens pants netika novērtēts kā pilnībā īstenojams. Kā lielākoties īstenojami tika novērtēti 26 panti, bet 21 panta īstenojamības rādītāji atbilst vērtējumam “spēju īstenot vidējā līmenī”. Viszemāk – “gandrīz nespēju īstenot” – tika novērtēti četri panti. Analizējot īstenojamības rezultātus pa digitālās kompetences jomām, kopumā kā drīzāk īstenojami tika novērtēti panti, kas atbilst komunikācijas un sadarbības jomai, bet viszemāk tika novērtēti problēmu risināšanas un drošības jomas panti.

Lai atbildētu uz otro pētījuma jautājumu, vai pastāv statistiski nozīmīgas atšķirības starp Latvijas sertificēto supervizoru pašnovērtētās profesionālās kompetences nozīmīguma un īstenojamības rādītājiem, tika izmantots Vilkoksona kritērijs (T). Rezultāti parādīja statistiski nozīmīgas atšķirības starp nozīmīguma un īstenojamības rādītājiem 34 pantos, kas raksturo digitālo kompetenci, un visos gadījumos nozīmīgums tika novērtēts augstāk nekā īstenojamība ($T = [-6,180; -2,147]$; $0,001 < p < 0,05$).

Analizējot rezultātus pa digitālās kompetences jomām, statistiski līdzīgi nozīmīguma un īstenojamības rādītāji tika konstatēti informācijas un datu lietpratības jomā. Savukārt statistiski nozīmīgas atšķirības starp nozīmīgumu un īstenojamību bija vērtējumos komunikācijas un sadarbības digitālajā vidē, satura veidošanas, drošības un problēmu risināšanas jomā.

Diskusija *Discussion*

Pētījuma rezultāti parāda, ka lielākā daļa no aptaujā iekļautajiem pantiem par digitālo kompetenci supervizoru vērtējumā ir nozīmīgi profesionālās darbības veikšanai. Tas liecina, ka supervizori apzinās digitālās kompetences svarīgumu savas profesionālās darbības pamatuzdevumu un pienākumu izpildei.

Tiek prognozēts, ka digitālā transformācija būs nepieciešama visās nozarēs, lai tās saglabātu savu efektivitāti arī pēc Covid-19 pandēmijas izraisītās krīzes. Izglītībā, medicīnā un citās nozarēs būs jāveido hibrīda pieeja pakalpojumu sniegšanā (Schwab & Malleret, 2020).

Ar minētajām prognozēm sasaucas arī Eiropas Komisijas redzējums par Eiropas digitālo transformāciju tuvākajā desmitgadē (Eiropas Komisija, 09.03.2021.) un digitālās transformācijas pamatnostādnes Latvijā (Ministru kabinets, 14.07.2021.).

Kā mazāk nozīmīgi tika novērtēti panti par tehniska rakstura prasmēm un programmēšanas iemaņām, kas nav saistītas ar supervizoriem nepieciešamajām profesionālajām kompetencēm.

Pētījuma rezultāti pantos, kuri līdzīgi novērtēti pēc nozīmīguma un īstenojamības, apliecina supervizoru apmierinātību ar esošo situāciju un parāda, ka sev svarīgu kompetenci supervizori spēj īstenot atbilstoši savām profesionālajām vajadzībām. Tas galvenokārt ir attiecināms uz informācijas un datu lietpratības jomu.

Analizējot rezultātus **komunikācijas un sadarbības jomā**, var secināt, ka kopumā šai jomai supervizori piešķir vislielāko nozīmi, kas, iespējams, ir izskaidrojams ar prasībām, ko nosaka profesijas standarts, jo komunikācijas kompetence ir definēta kā viena no pamata kompetencēm supervizoru profesionālajā darbā.

Drošība, satura veidošana un problēmu risināšana ir jomas, kurās supervizoru vērtējumi norāda uz kompetences augstu nozīmību, tomēr, iespējams, nepieciešami būtiski uzlabojumi kompetences pilnveidē, jo īstenojamības pašnovērtējuma rādītāji ir salīdzinoši zemi.

Sasaucoties ar rezultātiem pētījumā par informācijas tehnoloģiju izmantošanu attālinātās supervīzijas praksē (Dubņins & Mārtinsons, 2021), šī pētījuma rezultāti parāda, ka novērojama satraucoša tendence digitālās drošības jomā, kas ietver kiberdrošības, konfidencialitātes un personas datu drošības aspektus, un norāda uz papildu riskiem saistībā ar datu aizsardzības pārkāpumiem, kas varētu radīt piekļuvi personas datiem bez personas piekrišanas un pavērt iespējas izmantot tos ļaunprātīgi, lai kaitētu šai personai, pārkāpjot personas tiesības uz privātumu. Tādējādi būtu nepieciešams aktualizēt supervizoriem digitālās drošības svarīgumu un veicināt risku apzināšanos saistībā ar informācijas tehnoloģiju izmantošanu, personas datu apstrādi, kā arī aizvien lielāka apjoma informāciju glabāšanu un apstrādi.

Atšķirības starp digitālās kompetences nozīmīguma un īstenojamības rādītājiem liek domāt, ka pastāv iemesli, kuru dēļ supervizoriem ir grūtības lielu daļu šo kompetenču realizēt, un pamato nepieciešamību veikt padziļinātu pētījumu, lai noskaidrotu iemeslus un apstākļus, kas neļauj supervizoriem pilnvērtīgi realizēt kompetenci atbilstoši tādām līmenim, kādā tā ir nozīmīga profesionālās darbības veikšanai.

Kā pētījuma ierobežojumi jāmin aptaujas aizpildīšanas laiks. Aptaujai bija nepieciešams veltīt līdz 25 minūtēm, kas, iespējams, ierobežoja respondentu aktivitāti un iesaisti aptaujā. Par instrumentārija stipro pusi var uzskatīt aptaujas izveidi saskaņā ar DigComp 2.1 ietvarstruktūras saturu, kas balstīts zinātniskās atziņās un kļuvis par pamatu digitālo kompetenču iniciatīvu izstrādei un stratēģiskajai plānošanai Eiropas Savienībā (Carretero et al., 2017).

Izveidoto supervizoru digitālās kompetences pašnovērtējuma aptauju nākotnē ieteicams izmantot citu palīdzīgo profesiju pārstāvju digitālās

kompetences pašnovērtējumam, lai iegūtu nepieciešamo respondentu atbilžu skaitu pantu psihometriskai pārbaudei, kas ļautu standartizēt esošu aptauju, veicot faktoranalīzi. Nākotnes perspektīvā aptauja varētu kalpot par validētu instrumentu digitālās kompetences pašnovērtēšanai.

Secinājumi **Conclusions**

Kopumā secināms, ka supervizori augstu vērtē digitālās kompetences nozīmīgumu savas profesionālās darbības veikšanai, tomēr nozīmīguma rādītāji ir augstāki, salīdzinot ar īstenojamības rādītājiem, un liecina par nepieciešamību pilnveidot un attīstīt supervizoru digitālo kompetenci.

Ņemot vērā pieaugošās pasaules digitālās transformācijas globālās tendences un pamatojoties uz Eiropas Savienības un Latvijas Republikas plānošanas dokumentiem digitālajā jomā, topošo supervizoru sagatavošanas programmās un kvalifikācijas pilnveides programmās būtu jāpievērš lielāka uzmanība digitālās kompetences daudzpusīgai apguvei. Vienlaikus jānorāda uz digitālās kompetences nepārtrauktas pilnveides aktualitāti visa mūža garumā visas profesionālajās jomās, jo, attīstoties digitālajām tehnoloģijām, mainās arī zināšanu un prasmju kopums, kas nepieciešams pilnvērtīgai profesionālās darbības īstenošanai.

Pētījuma rezultāti parāda nepieciešamību praktizējošo supervizoru vidū īpaši aktualizēt jautājumus par digitālo drošību, lai mazinātu iespējamos riskus un draudus personas datiem un pasargātu gan supervizora, gan supervizējamā privātumu digitālajā vidē.

Ņemot vērā, ka šobrīd Latvijā supervizora profesijas standartā digitālā kompetence tiešā veidā nav definēta, būtu ieteicams pārskatīt supervizora profesijas standartu un iekļaut digitālo kompetenci, aprakstot to atbilstoši daudzpusīgām digitālās kompetences jomām.

Kopsavilkums **Summary**

The crisis caused by the Covid-19 pandemic and the associated restrictions forced to organize processes and duties remotely, which in turn highlighted the importance of the supervisor's digital competence.

The aim of this study was to identify the self-assessment of the importance and attainability of professional competence of Latvian supervisors and to explore the differences between the self-assessment indicators.

The theoretical framework of the research methodology was based on the Russian psychologist J. Fantalova's idea of values, which clarifies the relationship between the importance and attainability of professional competence.

A two-stage mixed method research design was used. The first stage task was to develop the supervisor's digital competence self-assessments questionnaire; and the second stage was the quantitative online survey. Self-assessment forms were evaluated on a 5-point Likert scale. For data analysis, descriptive statistical methods, Kolmogorov-Smirnov test, and Wilcoxon signed-rank test were used.

The study indicated that 3 of 51 statements were evaluated as very important, 43 as rather important, and 5 as moderately important. When comparing the importance indicators by the five digital competence areas, the statements related to communication and collaboration and safety were generally evaluated as the more important. The indicators of the attainability of the statements varied from rather unattainable to rather attainable, 26 of 51 statements were evaluated as rather attainable, 21 as average attainable, and 4 as rather unattainable. When comparing the attainability indicators by the five digital competency areas, the statements related to communication and collaboration were generally evaluated as rather attainable but areas such as problem solving, and safety gained the lowest scores. The results indicated statistically significant differences in 34 of 51 statements that were evaluated higher in importance than attainability.

The results of this study indicated worrying trend in the area of digital safety, which includes aspects of cyber security, confidentiality and personal data security aspects, which points to additional risks of data breaches that could lead to unauthorized access and misuse of personal data. The results of the research show that in the education of Latvian supervisors, it is necessary to allocate place for the acquisition of digital competence.

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THE CHALLENGES OF APPRENTICESHIP: THE STATUS QUO OF PROFESSIONAL MASTERS' PEDAGOGICAL COMPETENCIES

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Abstract. *With the emerging of apprenticeship (work-based learning form) in Lithuania, an important role is played by professional masters, who are monitoring young specialists' professional practice, form their professional skills, develop a well-oriented and skillful specialist. The main aim of this research is to analyze the development of pedagogical competencies of professional masters during work-based learning process. The qualitative research data were gathered during semi-structured interview. Twelve professional vocational masters from different Lithuanian vocational schools participated in the research. The performed thematic content analysis findings showed that the competencies of the professional vocational masters actively develop, grow, and change mainly through interaction with students in the process of work-based learning, when supervising practice masters become counselors, guardians, consultants, and inspirers. The most significant challenges include transferring subject knowledge to students, their motivation, and work with students with special needs. The results reveal that vocational practice masters need to improve their pedagogical competencies and psychological knowledge, which would help students to convey knowledge of the profession and motivate them to learn.*

Keywords: *apprenticeship; competence; master in vocational training; vocational education; work-based learning.*

Introduction

Anyone seeking to improve personal skills should see vocational training as an attractive opportunity (Kaikkonen & Maunonen-Eskelinen, 2020). In this context, there emerges the concept of work-based teaching/learning. It aims to promote the motivation of vocational training institutions to organize the training

process paying constant attention to the improvement of the competencies of a vocational master.

Still this quite an optimistic attitude is juxtaposed by the the reality of vocational education. After reviewing the data of surveys of vocational professionals, it can be concluded that most of the research participants - vocational trainers/masters, who are educating a future professional in their place of work practice, tend to think passively enough, without trying to innovate in the process of their apprentices' development (Tütlys, 2017; Kaikkonen & Maunonen-Eskelinen, 2020).

The topicality of work-based learning highlights the significance of pedagogical competence of vocational masters and presupposes a problem question: what competencies should vocational masters develop while participating in the work-based learning process with the intention to prepare qualified employees for the labor market. The main aim of this research is to analyze the development of pedagogical competencies of vocational masters during the work-based learning process. The object of the research is the development of pedagogical competencies of vocational masters in the process of work - based learning.

Research methods: data collection methods is a semi-structured interview. Data analysis methods are the analysis of scientific literature and the qualitative thematic content analysis of the vocational masters' pedagogical competencies in the work - based learning.

Theoretical Framework of the Vocational Masters' Pedagogical Competencies Development in the Process of Work-based Learning

In the system of work-based learning, the state and employers work together to meet the country's needs for youth education and skills in the labor market. In order to make work-based learning effective, it is inextricably important to support close relationship, communication and cooperation between vocational education and training (VET) teachers and VET masters, so that students have the opportunity to reflect on and link the learning gained in each institution. It is therefore recommended that theoretical knowledge be translated into practical experience, thus helping students to bridge gaps in theory and practice during learning (Tütlys, 2017; Eiríksdóttir, 2020).

The main goal of the work-based learning system is to provide comprehensive basic vocational training, to transfer skills and knowledge, and to provide awareness for qualified activities. According to the training regulations, the workplace is responsible for providing special and general technical skills. The

vocational school/training centre is responsible for combining the acquired theoretical knowledge and skills with practical experience and applying them in specific situations (Tibėnienė, Daujotienė, & Daujotas, 2015).

Table 1 Vocational Trainer/Master Competence Thesaurus (created by authors)

No.	Competencies	Knowledge, abilities and skills
1.	Didactic competencies	knowledge of legal norms of the work environment and institutional policy; knowledge of the subject learning material and the ability to adapt it to a specific situation; development of the relevant knowledge about the profession, the ability to link learning materials and the teaching subject; knowing that students have different perceptions of the subject being taught; knowing how the curriculum fits in with other forms of education; knowledge of various teaching / learning theories and materials; the ability to apply the theoretical knowledge into practice; the ability to draw students' attention to the importance of learning materials for professional practice; knowledge of didactic literature of vocational education and systematic application of methodologies; the ability to recognize learning disabilities such as dyslexia, ADHD and physical learning disabilities, the application of school policies in this regard; knowledge of qualification assessment; knowledge of development-oriented forms of testing
2.	Pedagogical competencies	the ability to manage students' learning; the planning of learning outcomes and their systematic pursuit; assessment of student performance
3.	Practical consultation competencies	having up-to-date knowledge of the professions that are being taught; the ability to recognize different ways of students' learning and to adapt teaching according them; knowledge of modern theories about the development of self-directed learning; knowledge of the literature on vocational guidance and the ability to apply a pedagogical system, which corresponds to the school's vision.

Work-based learning is greatly influenced by the competencies of a vocational master. It is the purposeful efforts of the masters that lead to the excellent educational results of the students, therefore, the didactic competence of the vocational training masters is emphasized. Great importance is given to the

unity of personality traits, pedagogical mastery is also needed, and it is one of the most significant factors of authority (Stankevičienė, 2012; Eidukevičiūtė et al., 2015). The insights of the above-mentioned researchers and the data of document analysis, enabled to design a thesaurus of the most relevant competencies of professional masters (see Table 1).

The theoretical analysis on masters' competencies and student outcomes also highlighted the facts that more competent educators had a deeper understanding of their teaching subject and the impact of their pedagogical means on students. They also had a sense of control during the teaching process, were very passionate about teaching and learning, respected their students, and fostered a positive workshop atmosphere inspiring the active learning (Melnikova & Trakšelys, 2016). The compiled vocational masters' competence thesaurus served as a basis for creating semi-structured interview questionnaire.

Research Methodology, Design and Research Ethics

The qualitative type of research is valuable because it helps to see how each research participant presents the answers relying on their personal attitudes. According to some scientists the qualitative methods allow the researcher to discover the inter-related dynamics, new variables, and relationships of these experiences and to illustrate the influences of their social contexts (Gioia, Corley, & Hamilton, 2012; Creswell, 2013; Shufutinsky, 2020). The originality of the qualitative research process is presented through the interrelationship between the data collection, interpretation and work stages. The data collected during the qualitative research process must be sufficient to draw smooth conclusions, formulate reliable theoretical statements and interrelationships (Gaižauskaitė & Valavičienė, 2012).

The qualitative data were collected while performing semi-structured interview. The major researchers' motivation to choose the semi-structured interview for their research was quite a sensitive topic. Thus, semi-structured interview could serve as a human encounter, the dialoguous nature of which could encourage the participants to present their ideas more frankly (Qu & Dumay, 2011; Brown & Danaher, 2019). The semi-structured interview question blocks were compiled relying on theoretical analysis results – the thesaurus of masters' competencies (see Table 2).

Table 2 *Structure of the Interview* (created by authors)

Question block	Related Questions
Work experience of vocational masters, existing pedagogical competencies.	How long are You working as a vocational trainer/master? (1) Describe Your impressions of being a vocational trainer/master. (2) What is Your opinion about work-based learning?(3)
Participants' knowledge about work based learning. The status quo of their work-based learning experience.	What is Your opinion about the work – based learning? (4) Are You involved in work – based learning? (5)
Priorities provided by vocational masters for pedagogical competencies (general, didactic) while developing apprenticeship in work-based learning	What are Your strong sides concerning competencies? (6) What competencies would You like to develop first? (7)
Peculiarities of formation and development of professional masters' competencies	What is Your experience of planning Your teaching/learning activities? (8) Do You often reflect Your pedagogical success/failures? (9) What are Your insights about the competence and qualification development? (10)

Klaipėda School of Tourism, Kaunas Food Industry and Trade Training Center and Kaunas “Karaliaus Mindaugo profesinio rengimo centras“ were chosen because they are equipped with a modern, innovative hotel and restaurant and trade sector practical training center, where students study and work in real working conditions, trained by vocational masters. Four masters from Klaipėda Tourism School, four professionals of Kaunas Food Industry and Trade Training Center and four masters from Kaunas “Karaliaus Mindaugo profesinio rengimo centras“ were invited to participate in the research on voluntary basis (see Table 3).

The purpose and procedures of the the research were explained to all participants of the semi-structured interview. They were informed about the research ethics as well.

The sample of the research may be regarded as a comfortable one, as the participants of the interview were selected on the basis of the special criteria: all participants must have at least 5 years of work experience in the work-based learning process with students and be willing to share more detailed information about their competence development experience.

Table 3 Sample Characteristics (created by authors)

No.	Education	Age	Work experience	Labor sector
1.	Collegium	45	10	Building industry
2.	Collegium	40	12	Building industry
3.	Collegium	50	25	Building industry
4.	Collegium	42	18	Car service
5.	Collegium	39	12	Car service
6.	Collegium	43	18	Car service
7.	Collegium	45	18	Tourism service
8.	<u>University</u>	48	19	Tourism service
9.	Collegium	35	5	Tourism service
10.	Collegium	52	7	Food industry
11.	University	39	10	Food industry
12.	Collegium	46	10	Food industry

The researchers followed the ethical principles of interview highlighting the ideas of recognition and respect of a person's independence, freedom to participate or refuse to participate in the research, to mind the participant's confidentiality and privacy, to protect the participants from moral hazard (Gaižauskaitė & Valavičienė, 2012).

Research Data Analysis and Discussion

The major research methods for the interview analysis was a qualitative thematic content analysis. It was performed while following the traditional patterns of qualitative descriptive thematic content analysis (Anderson, 2007; Denzin & Lincoln, 2011; Vaismoradi & Snelgrove, 2019; Lochmiller, 2021): familiarization, coding, generating themes, reviewing themes, defining and naming themes, and writing up.

The data gained during the semi-structured interviews formed quite a massive data base. Still, while coding the data according key words and phrases connected with work-based learning and masters' competence development, there appeared that the texts have many similarities. The researchers think that it is due to similar work experience and qualification of interview participants. There are clearly expressed 17 subcategories, which may be grouped into 6 categories. The content of the categories displays two major themes: "Being a Real Master" and "Learning by Doing". While interpreting the texts, the researchers worked independently till the homogenous themes were reached. The final version of the thematisation was compiled while comparing the independent findings. The titles of subcategories are

presented in a more extended way, while trying to stick to the manner of respondents' thinking as all of them tended to use such phrases as "...competence development...", "...understanding of work environment..." (See Table 4).

Table 4 *The thematic content of Masters' competence development (created by authors)*

No	Theme	Category	Subcategory
1	Being a real master	High professional level	Evidence of professional qualification
			Demonstration of excellent professional skills
		Being a strong personality	Authority or a friend
			Development of non-cognitive skills
		Duality of master's work	Understanding of work environment
			Putting theory into practice
2.	Learning by doing	Formation of master's competencies: skills that a master lacks	Problems of applying IT in distant learning
			Lack of knowledge in psychology
			Lack of knowledge in inclusive education
			Lack of didactic skills
			Lack of creativity development skills
			Lack of communication skills in a foreign language
		Development of master's didactic competencies: skills that a master has and polishes	Development of master's explanatory, demonstrative teaching methods
			Development of master's lesson planning, lesson management skills
			Development of project – based learning skills
		Ways of professional improvement	Availability of professional improvement courses
			Availability of pedagogical improvement courses

While reasoning the interpretation logic the researchers anchored to the major concept of "competence" and its structure consisting from knowledge, abilities and skills, attitudes and values (Penttinen, 2020). For this reason the interpretation was organized so that it would enhance the masters' knowledge about work - based learning and the requirements for a master who strives to be successful. Concerning knowledge about work - based learning it was connoted by the third category of the first theme. Work-based learning for some masters is related to practical experience, independence, responsibility: "<...>practical experience, touching, calculating for yourself, organizing work..."(R1) " <...> we have internships, days of practical training, <...>."(R5). More than half of the interview

participants regard a work-based learning concept as a version of the real work environment: *"To feel real, <...>."* (R2) *"<...> you actually face your work."* (R4). *"< ... > - the whole basis is real work, ..."* (R6); *"<...> simulation of a work process a workplace."* (R7). Most of the participants of the research stated that the work in the company is real, because the student performs all the work functions belonging to him/her: *"<...> arrange the workplace, <...>."* (R6) *"<...> all training takes place in those kitchens where they are already doing a specific job."* (R10); *"the work is done in a consistent manner, at the beginning we figure it out theoretically, then the apprentices make calculations, then they distribute the work and we go into production in practice."* (R3); *"<...> students work with modern equipment"* (R9); *"<...> apprentices are provided with excellent equipment which is constantly updated."* (R7); *"<...> having modern equipment facilitates work in the first place, because I have the opportunity to work with all the technologies, I do not have to think of how to get out of a situation ..."* (R8).

These statements demonstrate masters' quite clear vision of work-based learning, its duality, consisting of grouping theory and practice together. They are acquainted with apprenticeship program. They highlight the importance of the modern equipment and technological knowledge how to work with it. Still, nobody mentioned the possibilities of dual vocational training. Thus, it is possible to agree with researchers statement, that dual vocation learning and its positive influence to Lithuanian society of work is still hardly known (Tūtlys, 2017, p.1).

The concept of work - based learning implies the idea of "a real master". The respondents put forward the high professional competence of a master: *"<...> I had my own business, I was a technologist, I saw a lot, so I can provide this knowledge from a to z."* (R3) *"<...> I know what needs to be required, what it takes to train that apprentice should become a valuable employee in the company."* (R11). *"<...>It is important to have special, technological knowledge, knowledge about work organization, because I am competent in that, <...>."* (R12). The participants also highlighted the relationship between a master and a student, stressing the importance of master's personality. *"<...> the best example of a real professional is the master"* (R12); *"<...>master has to be friendly, but strict, teach not only profession, but also discipline, self-confidence, how to be reliable <...>"* (R4).

The latter attitude is supported not only by masters themselves, but also by scientists importance of master's professional qualifications and personality. Stankevičienė (2012), Čemeškaitė (2013) support the position that masters must have a quick orientation, the great importance is given to the personality traits, and pedagogical mastery is acquired, and it is one of the most significant factors of authority.

The idea of pedagogical mastery initiates the analysis of masters' competence thesaurus. The respondents' opinions clearly divide into two large groups: competencies that masters lack and need to be formed and the competencies that masters possess and can develop. As competence formation and development is provided in the process of work based learning the second major theme is called "Learning by doing".

Majority of respondents clearly expressed the lack of knowledge about how to use the technologies in the distant learning: "*<...> When those new programs emerge, they need to be mastered, it takes more time and there is a lack of understanding*" (R1). "*Technology is changing, it is not possible to drive everything in traditional ways especially in the Covidian times*"(R5). Some participants of the research though declared their high qualification and perfect understanding of labor world, still admitt that they lack psychological knowledge: "*<...> we no longer know how to motivate students because there may be a lack of some psychological courses, <...>.*" (R7); "*<...> I consult a psychologist all the time, say how she thinks it would be better to give them some material*" (R2).

One of really challenging issues for a modern master is an inclusive education. Majority of the masters' state that they "*<...> lack the ability to work with the students with special needs <...> with very difficult students, with very difficult situations, <...>*" (R8).

Some of the participants declare the lack of didactic and creativity development skills: "*<...> I need information how to convey training in an interesting way, I lack such competence*". (R6). "*<...> to convey the theory in an interesting and informative way*"(R11); "*I do not know how to urge them to make something original*"(R12).

Masters still stress the unsatisfactory level of communication in a foreign language: "*It would be very good to learn English <...>.*" (R3); "*I need better German in order to participate in dual learning projects <...>*" (R 10).

The specification of vocational training didactics highlights the priorities of demonstrative, explanatory methods. The participants of the research declare that they are satisfied with their skills lesson management, assessment, planning, professional knowledge transfer, progress monitoring, choice of methods: "*<...> lesson management, assessment competence, <...>.*" (R4). , *<...>.*"(R6). "*Knowledge transfer, lesson management, <...>, lesson planning, assessment.*" (R1). "*<...>, Monitoring progress, choosing methods <...>*" (R10).

According to the answers provided by all the surveyed vocational masters, it can be assumed that the vocational masters are characterized by strong, well-developed teaching subject competencies.

Though the vocational masters are satisfied with their professional subject teaching competencies, the dominating lack of vocational trainers/masters technological, didactic, communicative, creative thinking and inclusive education competencies demonstrate the fact that the relevant innovations are quite slowly implemented in vocational education. Some participants of the research openly state that their priority is the formation of students' professional skills and they are not interested in the development of student's personality. *"My business is to teach how to work. Other things are not for me<...>Everything is changing so rapidly, programs, technologies, still everybody expects that a young master would know how to make his/her job"* (R1).

Vocational masters are quite active in their search for interesting programs. The surveyed professionals said they were being forced to change by a fast-paced life, new technologies that required them to learn constantly to pursue new skills: *"It would be very good to have training, some kind of seminars, <...>."* (R1). *"There is no day when I am not in a lecture, training, conference, which deals with the current situation of distance learning, platform management, information generation, lesson structure, task formation, <...>."* (R4). *"<...> I need to improve, constantly raise competencies, is it in one place, it is in another place, is it that I can single out something more? <...> Whichever part is weaker, I seek to strengthen it "* (R4).

The participants of the survey underline the quality and relevance of the professional and pedagogical courses. They state that it is necessary to develop qualifications at the highest level with the highest technology. *"<...> There is always a need for professional development, <...>."* (R7). *"Germany, Austria, not only Belgium, France, where they have those traditions, there is a very respectful, very important approach, in general, professionals in vocational training have the opportunity to improve their qualifications at the highest level with the highest technology."* (R5).

The vocational masters/trainers give the most relevant priorities to the teaching subject competencies of the profession, work organization. From the answers of the research participants, it can be assumed that in their work the masters of the profession follow the traditional (impact) paradigm, when the goals of teaching and not learning are important. When looking at pedagogical communication, the most frequently mentioned competence is combined with interpersonal relationships, where communication itself is understood as an everyday tool to get to know the student better, which helps to educate the student qualitatively and successfully.

While relying on the answers received from the survey participants, it can be stated that 50% of the surveyed vocational masters should improve their

competencies in training students with special needs, as well as develop psychological competencies that would indicate the way to access students. It can be stated that the professional expectations of some vocational masters who participated in the research are the desire to expand, improve their pedagogical competencies, deepen their psychological knowledge, and to improve their qualifications.

The study revealed that vocational masters face a variety of challenges while getting involved in work-based learning. The most relevant challenges identified by the vocational masters are how to involve students, how to understand them, leading them on a path of cognition so that they understand that they are learning along this path. Integrally important is how to educate students with special needs. This shows that the vocational masters lack pedagogical and psychological knowledge that would help to open the inclusive way for all students to get to know and be motivated to learn and work.

Conclusions

After a theoretical analysis it has become clear that a successful professional master in his/her field must acquire experiential teaching and learning methods that guarantee the quality of the development of employees' competencies. Great importance is given to the unity of personality traits that affect his/her behavior and didactic competencies that affect students' learning motivation and outcomes.

One of the most significant factors of master's authority is the pedagogical quality of the teaching performance that has developed over a period of time. Competent and motivated masters are able to create teaching and learning environments, apply technology-based learning, evaluate the achievements and progress of apprentices, motivate and apply support to learners.

The study revealed that the extensive work experience in production and business of the masters involved in the study shows that they have enough professional knowledge to transfer to students, they have a good relationship with the students, but the masters lack pedagogical and psychological knowledge to train a student with special needs to motivate students to learn.

It can be stated that the some vocational masters want to expand, improve their pedagogical competencies, some of them want to deepen their psychological knowledge, and to improve their qualifications. The masters of the profession associate the perspectives of competence development not only in seminars, trainings, but also by cooperating with each other and applying innovative work methods.

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MOTIVATIONAL COMPONENTS OF ADULT LEARNING WITHIN THE INFORMAL EDUCATIONAL SETTINGS

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Abstract. *This study investigated the motivational components of adult learning within informal educational settings using Constructivist grounded theory methodology. The research question - what are the motivational components of adult informal learning viewed in the Equine Assisted Learning practice framework as a learning space, where primarily learning takes place. Three dominant motivational components of adult learning were identified from the study and offered for discussion. Equine-Assisted Learning as an informal learning environment incorporates motivational components that appear intrinsic over extrinsic motivation, performance over achievement, and immediate satisfaction over long-term benefit. These motivational components are detailed further through three surfaced subcategories: interest-driven learning, immediate satisfaction, and desire for the challenge.*

Keywords: *adult learning, Constructivist grounded theory, Equine-assisted learning, informal learning, motivational components*

Introduction

Much of the learning that adults experience occurs outside formal education and is classified as informal learning. Various definitions of informal learning exist in the research literature. Some scholars define it as an informal learning process in which the learning occurs with a low level of structure (Malcolm et al., 2003). Merriam et al. (2007, 2020) suggest that intentionality and consciousness of learning may or may not be present depending on the type of informal learning that is being done. Others described informal learning as not highly conscious and being influenced by chance (Manuti et al., 2015). Conlon (2004) believes no current theoretical model exists to balance conflicts between the role of individual and organizational benefits from informal learning in a global context (Conlon, 2004). The Organization for Economic Cooperation and Development (OECD, n.d) defines informal learning as not organized in any way. Council of Europe (n.d.) points out that informal learning arises from the learner's involvement in activities not undertaken with a learning purpose in mind and are exclusively incidental. For that reason, it is sometimes called experiential learning. However, informal learning may have many forms. An example of one is Equine Assisted Learning (EAL).

Equine Assisted Learning (EAL) is a relatively new notion in academic literature. It could be defined as an innovative informal learning approach through guided human and horse interactions, thus offering an individual and unique learning experience. EAL is mainly based on empirical work that is not theoretically enough founded in research data. This approach is used in various settings for different learning needs or other reasons. The outcomes obtained from learning activities are primarily illustrated through the marketing materials offered by EAL practitioners. Nevertheless, all EAL programs have one common feature: human learning within informal educational settings (Gehtmane-Hofmane, 2016, 2018, 2019).

This study investigates the motivational components of adult learning within informal educational settings. The research question "*what are the motivational components of adult learning*" were viewed in the Equine Assisted Learning practice framework as a learning space, where primarily learning takes place.

Methodology

As a working guide, basic Grounded Theory steps and Constructivist grounded theory (CGT) methodological guidance were used, with flexible guidelines that were evolved and adapted, depending on research needs.

The scope of the research base and the types of empirical data were determined and selected: in connection with the aim of the research question; the methodological approach of the study; the homogeneity of research participants; and the scale of the research and the resources available for the implementation of the fieldwork.

The study participant recruitment was performed using a targeted sampling type - *snowball approach* (Naderifar, Goli, & Ghaljaie, 2017). Participants were selected according to the following inclusion criteria: 1) adults 18 years and older. A person who has attained the age of majority thus assumes legal control and responsibility for their persons, actions, and decisions; 2) physically and mentally healthy adults; 3) adults with valued embodied knowledge. According to Brown (2010), those involved in guided human-equine interactions should first and firmly be defined as *individuals with valued embodied knowledge*. People without experience around horses are more likely to experience high levels of emotional arousal, resulting in less resistance. Therefore, experienced participants may show more resistance to EAL than those with less equine knowledge (Brown, 2010). The author does not focus on a specific number of individuals to recruit but to ensure adequate data for analysis. One of the challenges was not knowing how much any given participant would record data.

According to the Constructivist grounded theory methodological approach, the interpretive understanding of the studied phenomenon and the subjective experience from experiencing subject perspectives were gathered in the mutual

creation of knowledge between the researcher and research participants in the data co-construction process (Charmaz, 2000, 2006, 2014; Gehtmane-Hofmane, 2019). Thus, the author developed insights and theoretical interpretations through the perspectives of the research participants and their respective realities and made further interpretations of this reality by locating the actions within Equine Assisted Learning (EAL) sessions. The author sought to construct data through observations, interactions, and materials on the topic and empirical events and propose motivational components of adult learning during EAL that reflect it.

Constructivist grounded theory (CGT) delays the literature preview but at the same time disavows the idea that researchers begin their studies without prior knowledge about the studied topic (Charmaz 2000, 2006, 2014; Gehtmane-Hofmane, 2019). Thus, the author began her study with several empirical interests – general concepts that give a loose frame to her research interest. The author used those concepts as points of departure and to form interview questions. Guiding interests and sensitizing concepts provided the author with points of departure for developing, rather than limiting ideas. Sensitizing concepts were used as tentative tools to interpret the motivational components of adult learning in the EAL process as preconceived interview guides.

In CGT methodological approach, interviewing differs from classic in-depth interviewing because of the wide range of interview topics to gather specific data for developing theoretical frameworks (Gehtmane-Hofmane, 2019). Thus, the conversational interview method with facilitative questions, reflective questions, and open questions was used in this study. Intensive or in-depth interviews were conducted as directed conversation. It allowed for an in-depth exploration of the learning experience and thus was a helpful method for interpretive inquiry. The in-depth nature of an intensive interview encouraged participants' interpretation of their learning experience and facilitated a detailed discussion between the researcher and the research participants. The questions were sufficiently general to cover a wide range of experiences and narrow enough to elicit and elaborate the individual experience (King, 2004). Using a tape recorder allowed the author to give the research participant full attention while taking notes on key points during the interview. When participants used terms from the lexicon of their experience, the author asked for a more detailed explanation, inviting participants to frame and explore their views. Studying audio recordings of interviews helps the author learn nuances of the language and meanings. Paying attention to language and meanings was crucial here. Tape-recorder interviews made it easy to see when questions do not work or force the data.

Imperative analyzes were performed for both data types, in private and in public discourse. The first-hand data was constructed through in-depth interviews. Data collected in private discourse were mutually built by the researcher and the EAL participant, and they account the context of subjective experience, studied phenomenon, and the research process. Data obtained from field notes and

narratives available in public discourse were used as an additional data source. The CGT methodological approach has both initial codes and in-vivo codes. In-vivo codes were used for participants' special terms and helped preserve the participants meaning of the participants' views. In-vivo codes served as symbolic markers of the participant's speech and meaning. These codes were integrated into theoretical categories and subjected to comparative and analytic treatment like any other code.

In order to facilitate the recording of EAL experiences in participants' own words or pictures and provide a rich data source in real-time, free text diary-keeping was offered in an open format. The diary-keeping was intended to obtain insight into how participants discursively construct an experience (Symon, 2004). Participants were invited to fix personal views without any structure to impede their documentation. The author provided each participant with a clear set of oral instructions that stressed the importance of recording their experience as soon as possible after each EAL session and offered to help them complete their diaries if they found it hard to think of what to record. Participants were given the three options for diary-keeping: audio recording, handwritten, recorded on their computers.

However, field research in private discourse does not give the author a sufficient picture of motivational components in adult learning. Thus, additional multiple forms of data were used to strengthen the data richness. As a secondary data source, the existing data obtained from public discourse were also analyzed: written narratives, interviews, video and audio materials, EAL programs, popular scientific publications, and Internet posts. Existing extant data obtained from public discourse contrasted with elicited data in private discourse in that the author did not affect their construction.

Research Results

Three (3) dominant motivational components of adult learning were identified from the study and offered for further discussion.

Equine-Assisted Learning, where learning takes place in informal settings, incorporates motivational constructs that appear intrinsic over extrinsic motivation, performance over achievement, and immediate satisfaction over long-term benefit.

The motivational components are detailed further through three (3) surfaced subcategories (or motivational components): 1) interest-driven learning; 2) immediate satisfaction; 3) desire for the challenge.

Table 1 *Motivational components of learning* (created by author)

Category	Subcategories	Subthemes
incorporates motivational constructs that appear intrinsic over extrinsic motivation, performance over achievement, and immediate satisfaction over long term benefit	Interest-driven learning is influenced by the process itself and appears intrinsic over extrinsic motivation	interest creates a desire to participate in learning activities without expecting any external rewards
		spontaneous involvement in activities
		accommodate the variation in the motivational strength of interests among different individuals and within the same individual
		driven by both situational interests and personal interests
	Immediate satisfaction	The immediate satisfaction. Engaging with the interest
		Immediate satisfaction over long term benefit
	A desire for the challenge that appears performance over achievement	The participant is offered an independent decision-making role
The learning environment, where individuals realize the creative power of their activities		

The subcategory *interest-driven learning*: The Motivation Theories in Adult Learning emphasize interest as a crucial motivator for adult learners that creates a desire to involve in learning activities without expecting any external rewards (Cook, Anthony, & Artino, 2016).

This study shows that situational and personal interests drive the motivation for learning and are temporarily triggered by features of immediate learning situations produced by the authenticity of animals, in the Equine-Assisted Learning (EAL) case by the natural horse behaviour, thus creating authentic situational content and context for learning. At the more abstract level, the EAL environment offers learning situations with sometimes non-predictable and changing tasks or additional tasks, individual learning processes, and outcomes. Adult learners can arouse interest not only by challenging tasks they met first.

The variety of EAL activities, tasks, and authentic learning situations deals with different variations of personal interests, reflect the richness of learning content and context, exploit the power of attraction for learning, and accommodate these variations between individuals and within the same individual.

In contrast to situational interest, the personal interest of EAL participants tends to correlate with the achievement related to the task or activity. A genuinely

interested participant in achieving tasks is more focused, works on performing tasks longer, uses more thoughtful strategies to complete each task, and enjoys doing so. Higher achievement leads to greater interest and greater satisfaction.

Furthermore, both situational and personal interests are influenced by the process that involves participants in spontaneous learning and appear to have intrinsic rather than extrinsic motivation.

In an attempt to outline differences in the ways adults and children learn, Malcolm Knowles (1984) introduced the concept of *andragogy*, initially defined as the art and science of helping adults learn, and contrasted it with pedagogy, defined as the art and science of teaching children. Knowles posited a set of assumptions about adult learners, and one of them is that the adult learner is motivated to learn by internal rather than external factors (Knowles, 1984).

Extrinsic motivation is used mainly in cognitive-behavioural and social motivational approaches, where external rewards are applied in various ways to ensure that interest in learning is sustained. Cognitive and humanistic approaches to learning motivation are dominated by intrinsic motivators, in which learners are encouraged to harness and use their inner power to pursue their learning goals (Munsaka, 2020).

Intrinsic motivation in EAL occurs due to the internal rewards of adult learners. These internal rewards are individual. It is a love for animals such as a horse or for some learners just interested in this learning process. For others, intrinsic motivation was obtained by doing something for the sake of satisfaction. EAL participants are intrinsically motivated when they do something simply because it makes them feel good, is personally challenging, and/or leads to a sense of accomplishment.

The subcategory *immediate satisfaction*: It is noted that learning from the perspective of observable behaviour are stimulated by the environment and the consequences thereof. If the consequences are pleasant or gratifying, the adult learner learns the behaviour that led to those consequences. Similarly, if the consequences were unpleasant or punishing, the adult learner does not repeat the behaviour that led to those consequences. (Chakanika, Sichula, & Sumbwa, 2016). During EAL, participants get instantaneous feedback for their actions. They can immediately know whether or not they act correctly. From the perspective of EAL, pleasant consequences could be characterized as gratification, in most cases, immediate positive feedback as a reward for doing something in the desired manner. EAL paint a picture of the learning process in which participants/learners can receive instantaneous feedback for their action and allow them to correct their mistakes and improve quickly. During the EAL exercises, the participant immediately experiences the consequences of every performance and decision. These results could give both pleasant and unpleasant satisfaction. When participants/learners derive satisfaction from EAL activities, they naturally want to increase their skills.

The subcategory *desire for the challenge*: Recent research on constructivist learning environment design has argued for the motivational importance of authentic, exciting tasks and contexts. The third identified motivational component of adult learning is the desire for the challenge. EAL participants' willingness to challenge focused on the learning content in context, the tasks and difficulty of the tasks, and the horse with which the participant interacts. In the language of the EAL participants, learning content does not refer to predictable knowledge and skills that they were expected to learn. This could be explained that EAL personalizes learning experiences with a focus on how to provide more learning choices and challenges in a non-prescribed and non-standardized curriculum. Thus, the term learning content and context must be seen from EAL participant/learner individual perspective. That also shows EAL content and objectives outside the traditional approaches in adult learning.

Conclusion

Equine-Assisted Learning (EAL) as an informal learning environment incorporates motivational components of adult learning that appear intrinsic over extrinsic motivation, performance over achievement, and immediate satisfaction over long-term benefit. Interest-driven learning is achieved through the informal learning environment that offers authentic learning content and context and challenges in completing tasks. In the EAL framework, the object of interest might well be identified with a set of situational and personal interests. It should be noted that in this study, the participants were involved in a learning process involving a scientific investigation. Immediate satisfaction is achieved because participants/learners receive instantaneous feedback for their actions to correct their mistakes and improve quickly. During the EAL exercises, the participant immediately experiences the consequences of every performance and decision. It should be noted that these results could give both pleasant and unpleasant satisfaction. The desire for the challenge is achieved through learning content that primarily does not offer predictable knowledge and skills that participants will be expected to learn. This could be explained that during EAL process personalizes learning experiences with a focus on how to provide more learning choices and challenges in a non-prescribed and non-standardized curriculum.

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ASPECTS OF HUMAN CAPITAL MANAGEMENT OF HEALTHCARE WORKFORCE IN THE CONTEXT OF LIFELONG LEARNING: A RAPID REVIEW

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Abstract. *An individual's knowledge and skills, also known as human capital, shape its professional quality and become a valuable resource for the organization when entering an employment relationship. Investment in human capital, promoting the formal and non-formal lifelong learning of the workforce while implementing targeted capital monitoring, is essential to achieve the strategic goals of the organisation. In addition, in particularly critical areas such as healthcare, human capital management can play a crucial role in ensuring the quality of healthcare and patient safety. The study aims to analyse the research carried out on the aspects of human capital management of the healthcare workforce and its role in the health sector. To achieve the goal, a rapid review was performed by including articles indexed in the databases Scopus and Web of Science in the period 2017-2021, according to search strategy. The study shows - human capital is mostly analysed at the national or regional level as an indicator of a country's level of development (macro-dimension). At the same time, relatively little research has been conducted at the micro-dimension, where management of human capital of the healthcare workforce has been studied at the institutional or sectoral level. Research on human capital management in the healthcare sector at the institutional level only fragmentarily reflects its importance and does not provide a comprehensive picture of effective management methods or systems, as well as benefits or barriers to implementation. There is a significant lack of research on the interaction of human capital management with specific factors in the healthcare sector, such as the quality of health care and the safety of patients and healthcare professionals.*

Keywords: *healthcare workforce, human capital management, lifelong learning, skills monitoring.*

Introduction

With the 4th Industrial Revolution, including rapid changes in globalization, technological development, production and social processes, the role and impact of lifelong learning on the development of individuals, organizations, and

countries has significantly increased. In a knowledge-based and service-oriented economy, lifelong learning is crucial in constructing the human capital of the organisation. An individual's knowledge and skills are a set of competencies, which, becoming an employee of the organisation, also becomes the human capital of the organisation, therefore the management of the organisation should support the lifelong learning of employees to promote the development of the organisation. The role of the employer in the lifelong learning of the workforce is emphasized in the “New European agenda for adult learning 2021-2030” – encouraging, where appropriate, the integration of financial incentives, tax incentives, and other social benefits or compensatory measures at employer level in the implementation of policies on adult learning should result in increased employer commitment to adult learning (European Commission (EC), 2021).

To support the lifelong learning of employees and invest in the development of human capital, the employer needs to develop and integrate a human capital management system to ensure continuous monitoring of the human capital components such as education and skills. The need for skills monitoring in the education and labour market is also supported by policy documents at the European level. In 2016, the European Commission's “New Skills Agenda for Europe” identified balancing skills acquisition, building skills systems, and strengthening lifelong learning as development priorities (European Commission (EC), 2016). As a follow-up to this initiative, the “European Skills Agenda for Sustainable Competitiveness, Social Fairness and Resilience” was launched in 2020, setting out 12 directions for development over the next five years. And skilling for a job is a guiding principle, starting from mapping each individual's skill set, delivering targeted training that meets specific up- and reskilling needs, and helping the individual find a job in demand on the labour market (EC, 2020).

The skills development and lifelong learning course set by the European Commission is driving change in both the education and business sectors. Therefore, solutions need to be found to develop and manage the human capital of the workforce by promoting and supporting lifelong learning.

Knowledge and skills as components of human capital

One of the original definitions states that human capital is the knowledge, skills, and abilities of an organization's employees (Shultz, 1961). Over time the definition was supplemented with employee health (Becker, 1993), intelligence, experience (Bontis, Dragonetti, Jacobsen, & Roos, 1999), and employee performance and potential (Thomas, Smith, & Diez, 2013). Despite differences in definitions, the role of human capital in managing human resources and achieving strategic results is becoming increasingly important. Human capital is a relatively new concept in management science and it is an important intangible asset of the organisation. Although human capital – knowledge and skills of employees,

belongs to the employees of the organisation, as an organisation's intangible asset, this capital can affect the productivity, profitability, competitiveness, quality of goods and services, as well as the reputation of the organisation. Previous studies have shown a positive link between the development of human capital in an organisation and performance at both the individual and organisational levels. In addition, this relationship can be analysed from two perspectives: how knowledge and skills of the workforce at the individual level affect organisational performance (Ployhart, Nyberg, Reilly, & Maltarich, 2014) or how organisational performance affects development at the individual level (Crocker & Eckardt, 2013). The knowledge and skills of the workforce can be improved by developing a lifelong learning approach in the organisation and thus promoting personal development through personal growth.

According to the European Centre for the Development of Vocational Training (CEDEFOP) lifelong learning is all learning activity undertaken throughout life, which results in improving knowledge, know-how, skills, competencies and/or qualifications for personal, social, and/or professional reasons, covering related terms such as adult education and continuing education and training (CEDEFOP, 2008). In adult education learning outcomes – knowledge and skills, arise from the direct interaction between the individual and the education provider. But the work environment is an additional dimension where employers by direct or indirect investments can facilitate lifelong learning of the workforce and benefit from this interaction.

Human capital management

Investment in human capital is relevant to achieve the strategic goals of the organisation, but for balanced management, decisions must be data-driven. So, an employer needs to develop an approach to how human capital can be managed and measured and a system where human capital data can be stored, planned, monitored and controlled. Human capital management can be viewed as an integrated effort to manage and develop human capabilities to achieve significantly higher levels of performance (Chatzkel, 2004). To improve the performance, metrics should be used to measure the value of human capital attributes (accumulated knowledge, skills, experience, creativity, and other relevant workforce attributes), and gained knowledge should be used to effectively manage the organisation (Nalbantian, Guzzo, Kieffer, & Doherty, 2004). Afiouni distinguishes 5 dimensions of human capital that, according to management activities, contribute to the organisational outcomes (Figure 1) (Afiouni, 2013).

HCM involves putting into place the metrics to measure the value of HC attributes (accumulated knowledge, skills, experience, creativity and other

relevant workforce attributes) and using that knowledge to effectively manage the organisation

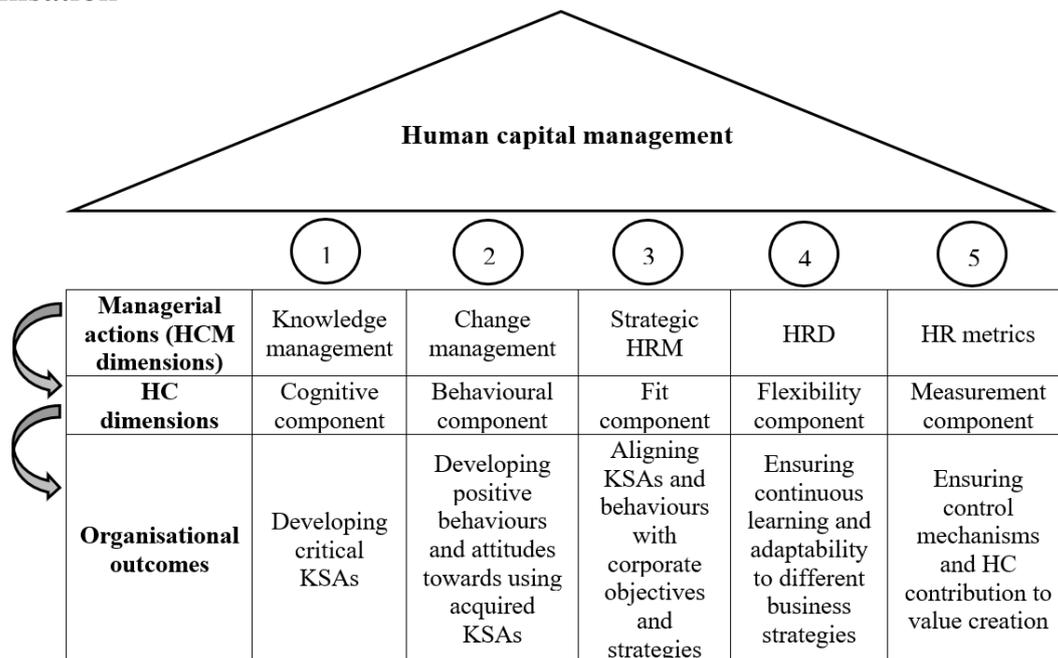


Figure 1 *Human capital management framework* (Afiouni, 2013)

According to the dimensions and managerial actions 5 organisational outcomes regarding human capital should be expected – development, understanding and acceptance, alignment with strategic goals, continuous learning and measurement. As the fifth dimension shows, it is significant to ensure measurement of human capital and implement control mechanisms to monitor contribution of human capital.

In particularly critical areas such as healthcare, human capital management can be essential not only to ensure the productivity, profitability, and competitiveness. Monitoring the human capital of healthcare workforce can also improve the quality of healthcare and patient safety. The healthcare workforce can be defined as people who are engaged in actions whose primary intent is to enhance health, including clinical staff, as well as management and support staff (World Health Organisation (WHO), 2010). The results of the Organisation for Economic Co-operation and Development (OECD) Survey of Adult Skills (PIAAC) indicate significantly higher rates of skills mismatch among the healthcare workforce in comparison to other professional workers, pointing to the risk of skills gap (OECD, 2016). Skills mismatch can be caused by inadequacies in education and training systems and also by inadequacies in health systems and organization of the workplace, so there is a need to take a systems-approach to skills assessment. Besides, it is vital for the healthcare workforce not only to possess the needed skills, but also to be enabled to use these skills effectively (OECD, 2021). As the World Health Organisation (WHO) recommends - transformative, high-quality education and lifelong learning should be

implemented to ensure that all health workers have skills that match the health needs of populations and can work to their full potential; education and training must be focused on practice and tailored to health system needs (WHO, 2016). So efficient and targeted human capital management can serve not only personal growth and the achievement of strategic goals of healthcare organisations, but also the provision of the state healthcare system.

Aim

The study aims to analyse the research carried out on the aspects of human capital management of the healthcare workforce and its role in the health sector. This goal was set based on the findings of the previous study by the authors, where integration of the skills monitoring system in higher education was evaluated (Slavinska et al., 2021). As the results indicated, skills management should also be implemented in the work environment to ensure monitoring of the workforce's lifelong learning, thus facilitating the development of the employer's human capital database.

Methodology

To achieve the goal of the study, a rapid review was performed. This approach was chosen as a rapid review is a suitable approach to provide practical evidence for informed decisions, when time and resources are limited, especially in the field of health policy and systems (WHO, 2017). The search was conducted in two most important multidisciplinary databases containing citation information - Web of Science and Scopus. According to search strategy, studies including "human capital" or "skills management" or "skills monitoring" and "healthcare" or "health care" in title, abstract and keywords, were selected. Databases have been searched from 01/12/2021 to 31/12/2021. Only studies that met criteria - English language, open access, published and indexed 2017-2021 - have been included. The year 2017 has been chosen as the starting point, as in 2016, the European Commission defined skills systems and lifelong learning as development priorities by launching the program "New Skills Agenda for Europe".

The review has been carried out in an accordance with Cochrane rapid review guidance (Garritty et al., 2020). The titles and abstracts of extracted studies using the search strategy have been screened by two review authors independently for potential inclusion (in case of insufficient information, the full text was evaluated). A database has been created with the following information for each article found: author, title, journal, year, and objective. The full text of the potentially eligible studies has been assessed by two review authors independently, any disagreement resolved by consensus discussion. A form

developed by the authors has been used to extract relevant data from the included studies. A report has been made following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Page et al., 2021).

Results

According to the search strategy, 479 records were identified through 2 databases searching. 474 articles were identified by “human capital”, 4 articles by “skills management”, and 1 article by “skills monitoring”. After duplicate removal, 336 studies were selected for the first screening. Only studies examining human capital at the institutional level - respectively, as the intangible asset of a healthcare organisation (microeconomic dimension) were included. Studies examining human capital at a national level from a health sector perspective (macroeconomic dimension) have not been analysed. After applying the eligibility criteria to the abstracts, 21 full-text articles were deemed to fit for in-depth analysis. After the full-text screening, 10 studies were included in the qualitative synthesis (Figure 2).

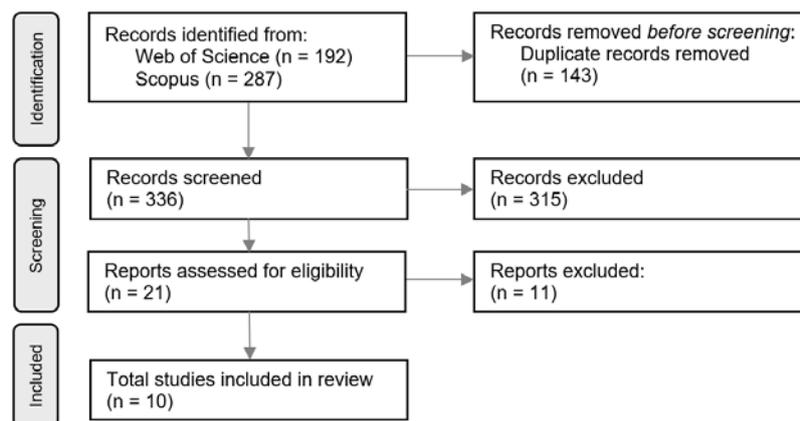


Figure 2 **PRISMA flowchart for the rapid review** (by authors)

The final sample consisted of – 3 cross-sectional studies; 3 qualitative research studies; 2 mixed research studies, 1 literature review, and 1 invited commentary. The countries of origin of the studies were the United States ($n = 2$) Italy ($n=2$) and one study from each country – Israel, Jordan, the Netherlands, Malaysia, the United Kingdom and Poland. Journal types were management ($n = 7$), covering accounting and governance, labour economics, intellectual capital, health organization and management, additional – and healthcare ($n=3$), covering medicine, epidemiology and nursing. Articles included in the study covered various topics (Table 1).

Table 1 *Topics covered, 2017-2021*(by authors)

Title	Topic	Year
Intellectual Capital Management Practices in Malaysian Private Hospitals	intellectual capital management	2017
Strategic human resource management practices and human capital development: The role of employee commitment	employee commitment	2021
Organizing professionals and their impact on performance: the case of public health doctors in the Italian SSN	hybrid professional managers, performance	2019
Investing in human capital: exploring causes, consequences and solutions to nurses' dissatisfaction	job dissatisfaction	2018
The Leadership Case for Investing in Continuing Professional Development	continuing professional development	2017
Understanding self-managing teams in Dutch healthcare: empirical evidence to non-sequential team development processes	team development	2020
Diagnosing Expertise: Human Capital, Decision Making, and Performance among Physicians	doctor's performance, individual expertise	2017
Managing intellectual capital in healthcare organizations. A conceptual proposal to promote innovation	innovation process	2021
Inhibitory effect of the environment for the management of human capital of public hospitals in the opinion of Polish managers	barriers to human capital development	2018
What distinguishes positive deviance (PD) health professionals from their peers and what impact does a PD intervention have on behavior change: A cross-sectional study of infection control and prevention in three Israeli hospitals	positive deviance approach	2020

In 8 studies topics were discovered from a human capital perspective, in 2 studies topics were discovered from an intellectual capital perspective, where human capital was one of the research dimensions.

Discussion

The purpose of this review is to gather and analyse collected evidence on the aspects of human capital management of the healthcare workforce and its role in the health sector by evaluating studies conducted since the program “A New Skills Agenda for Europe” was launched in 2016.

It was discovered, most research is dedicated to studying human capital at the national level and its impact on national wealth from a health sector perspective. There is much less research at the institutional level and even less research is available on human capital aspects in healthcare organisations.

The rapid review covers various aspects influenced by the development of human capital, as well as factors and areas that can affect human capital. As mapped evidence shows, results can be categorized as inputs – factors and areas that can affect human capital development, and outputs – aspects influenced by the development of human capital (Figure 3).

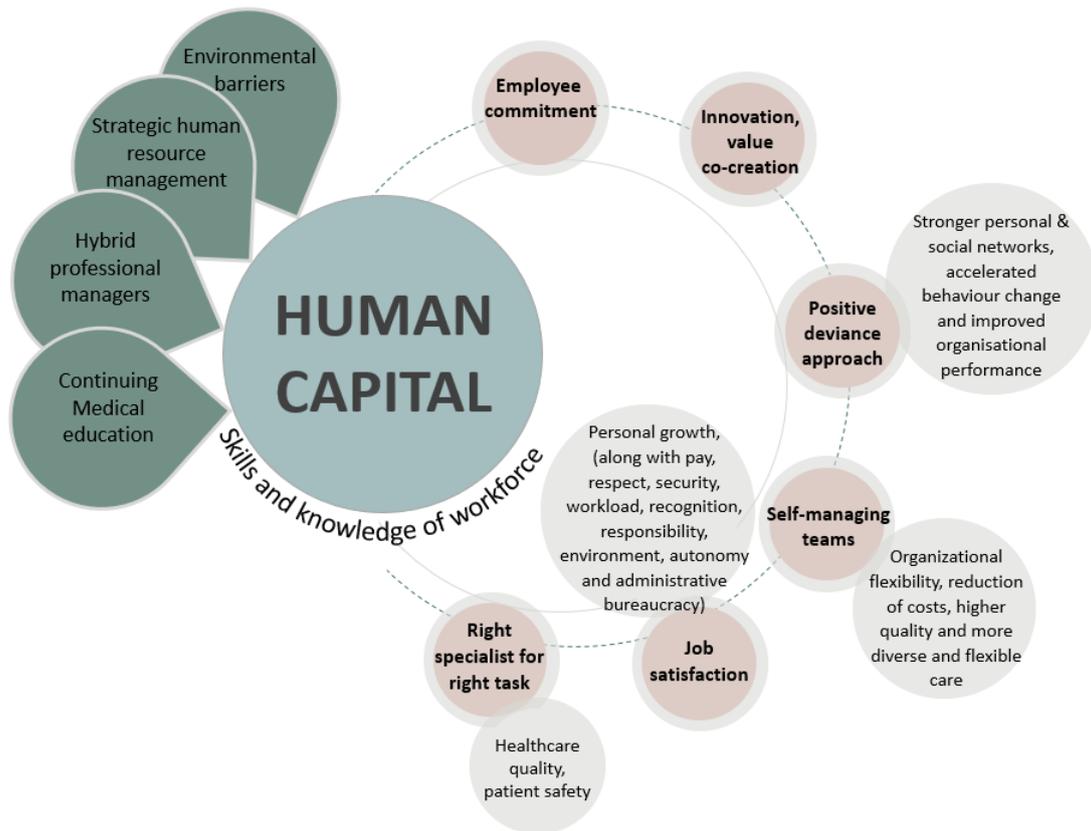


Figure 3 Mapped evidence in the healthcare sector, 2017-2021 (by authors)

Human capital is the most valuable intangible asset that covers various areas of management of healthcare organisations. Inputs identified by the study are related to the role of the management of the healthcare organisations and the impact of decisions on the development of human capital. First, management of healthcare organisations has to assess whether necessary human resources, capabilities, and processes are in place for the successful development and implementation of strategy and should invest more in the knowledge and skill development of the employees (Hamzah, Hassan, Saleh, & Kamaluddin, 2017). Authors emphasize that it is important for the health care workforce not only to develop individual knowledge, but also the internalization of tacit knowledge should be practiced. Human capital should be managed through the practice of strategic human resource management, by investing more in human capital through formal education and training (Alolayyan, Alyahya, & Omari, 2021). Second, a combination of skills appropriate to the specifics of the job is important not only for clinicians, but also for managers. Healthcare managers with balanced skills, combining both sector-specific competencies and organizational competencies and managerial skills (hybrid professional managers), are able to ensure both service quality and financial efficiency (Sarto, Veronesi & Kirkpatrick, 2019). Third, healthcare leaders who recognize the strategic value of

education and engage their people in education can expect a meaningful return on their investment (McMahon, 2017).

According to the study, the evidence shows the impact of lifelong learning on human capital and its impact on other human resource and management processes. McMahon offers continuing medical education as the professional development vehicle to drive change and achieve goals, in accordance with quality improvement efforts, patient safety projects, and other systems changes (McMahon, 2017).

Outputs can be expressed not only in terms of the quality and safety of clinicians' work but also in the spirit and cohesiveness of the employees (McMahon, 2017) as well as improved workforce commitment (Alolayyan et al., 2021). The more healthcare managers invest in meaningful formal training and organizational programs to enhance employees' skills and competencies related to organizational strategic goals, the less likely employees will leave their organizations or look for another opportunity. And as a result - satisfied and committed employees will be more engaged in training and show more interest in development opportunities (Alolayyan et al., 2021). Employees will develop not only greater devotion towards the organization relating to long-term loyalty, but also their sense of professional mission will improve. That raises the significance of employers' and employees' awareness of the cruciality of skills mastery in healthcare.

In addition to employee's commitment, another factor to explore related to human capital is job satisfaction. To measure human capital, a combination of quantifiable indicators (employee turnover, recruitment and retention rates, training costs per employee, average years of service, etc.) and qualitative indicators such as job satisfaction should be used (Halder, 2018). Regarding education, authors point out, that personal growth is one of the key factors affecting job satisfaction alongside pay, respect, security, workload, recognition, responsibility, environment, autonomy, and administrative bureaucracy (Halder, 2018).

Identification of skills and purposeful planning can promote both the formation of self-managed teams and a more balanced distribution of tasks among professionals. Geerts et al. study examine how the workforce is organized into smaller groups as self-managed teams can contribute to organizational flexibility, reduction of costs, and promote higher quality and more diverse and flexible care. Authors conclude that there are eight factors categorized by the individual, team, organizational or environmental level, that influence team management, task management and boundary management, and improvement development process to ensure the effectiveness of self-management teams. Research proves that individual human capital positively influences the development of all three processes (Geerts, Bierbooms, & Cloudt, 2021). At the same time, in human capital management, it is important not only to monitor the knowledge and skills

of employees, but also to be able to apply them purposefully. Healthcare professionals should be able to operate on both dimensions – technical skills and diagnostic decision-making. As specialists often are very strong in one of these dimensions, there is a possibility to improve healthcare outcomes by assigning the right specialist to the right task (Currie & MacLeod, 2017).

Furthermore, knowledge and effective use of human capital can also serve to implement a positive deviance approach. The positive deviance approach assumes that there are individuals or groups in teams whose uncommon behaviour and strategies enable them to find better solutions to problems than their peers, while facing worse challenges and having access to the same resources (Cohen, Gesser-Edelsburg, Singhal, Benenson, & Moses, 2020). Thus, “health systems must act to identify, adopt and nurture their human capital by paying attention to building stronger personal and social networks within health systems, and identifying the most prominent people (leaders) through their multitude of connections on the social map to accelerate behavior change and improve organisational performance over the long run” (Cohen et al., 2020).

At the institutional level, human capital as a part of intellectual capital has a significant role in the innovation process. Human capital may increasingly be a determinant if a healthcare system is ready to adopt a value co-creation approach (Huang, Leone, Caporuscio, & Kraus, 2021). The exploitation of human capital provides a valuable strategy for managing knowledge resources. It plays a crucial role in triggering a value creation process and boosts innovation within healthcare organizations (Huang et al., 2021).

In the picture of evidence must be acknowledged human capital development and its management approach can be influenced not only by management's understanding of the importance of the concept and its ability to develop it, but also by different environmental components. Environmental components, which create barriers for human capital management mostly are systemic conditions, public payers and local politicians of various levels and groups of interest (Lenik, 2018). By successfully removing barriers and providing targeted support for the lifelong learning of the workforce, employers have the opportunity not only to improve their human capital but also to promote employee commitment and job satisfaction, to foster innovation, value co-creation and self-managing teams, to encourage positive deviance approach, to find better solutions to problems and task division and also to improve organizational flexibility, reduction of costs, healthcare quality, patient safety and organizational performance.

Conclusions

This rapid review is a synopsis of evidence and synthesis of knowledge on human capital management and various aspects influenced by the development of human capital, as well as factors and areas that can affect human capital development in the healthcare sector.

Successful human capital management at the individual level can strengthen an individual's personal growth, at the institutional level can contribute to the achievement of the goals of the healthcare organisation, and at the national health level can promote the performance of the health care system and the quality of health care and patient safety. Therefore, it's important to analyse how human capital management, including skills management system can be implemented in a practical work environment.

The study shows - since the publication of "A New Skills Agenda for Europe" in 2016, human capital is mostly studied at the national or regional level as an indicator of a country's level of development. At this macro-dimension, health is one of the hallmarks of human capital alongside education. Another very wide field of research is the impact of various specific health issues on a country's human capital. At the same time, relatively few researches have been conducted at the micro-dimension, where management of human capital of the healthcare workforce has been studied at the institutional or sectoral level.

Although the EC, WHO, and OECD point to the importance of skills balance and the need for skills monitoring and lifelong learning, there is little evidence in practice of attempts to implement such a management approach and systems in the healthcare sector.

There have been surprisingly few studies in the healthcare sector that highlight human capital management approaches and practical solutions. Some studies regarding human capital management only fragmentarily reflect its importance and do not provide a comprehensive picture of effective management methods as well as benefits or barriers to implementation.

There is a significant lack of research on the interaction of human capital management with specific factors in the healthcare sector, such as the quality of healthcare and the safety of patients and healthcare professionals. A novel model should be developed to fully reflect aspects of human capital management in such a specific sector as healthcare.

This study outlines human capital in the healthcare sector from two perspectives – the impact of human capital on other human resource elements (such as commitment, job satisfaction, etc.) and management processes (problem-solving, innovation, and others), and the impact of management of healthcare organisation on lifelong learning and human capital development.

Still further research should be carried on various related aspects as interactions with other forms of the capital of the organisation, integration with education providers in the healthcare sector, correlation with the value and efficiency of the organisation and the effect on financial performance, skills intelligence and healthcare performance as well.

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USING DISTANCE COMMUNICATION AND COLLABORATION TOOLS FOR GENERAL SOCIAL SERVICES

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Abstract. *This paper discusses the use of communication and collaboration tools in the delivery of social services, based on the results of a qualitative study. The research question is what kind of remote communication and collaboration tools are used by social workers in the provision of social services. The paper focuses on the use of telecommunication and collaboration tools by social workers in their service delivery and activities. The study involved 22 social workers employed in social institutions in different parts of Lithuania providing complex services to families.*

The study found that social workers use mobile devices and that the most convenient and acceptable means of remote communication and collaboration are learning environments, audio and video data storage (YouTube), conferencing and chat software (MS Teams, Zoom, Google Meet, Skype, Facebook Messenger, Viber, WhatsApp, Board Connect, Telegram), social networks (Facebook, Messenger), technical means (smart phone, computer, Internet connection).

Keywords: *communication and collaboration, distance tools, general social services, social workers.*

From the end of 2019 more than two years we are attendees of the Global pandemic Covid-19. Our daily life is all surrounded by information about the reasons, consequences, and ways of preventing this pandemic. Every day we see and listen to media, society around us discussing issues connected to this topic. From the beginning until now, we went through different stages and all of them were challenging for everyone no matter of the country, society group, age, sex, or profession. Each person has one's own story of how she/he is dealing with this problem. Since the day of declaring the Covid-19 pandemic around the globe, the World Health Organization is putting all of its effort to include other organizations, international agencies and philanthropists to work cooperatively against the pandemics. It is significant to note that for WHO not only pandemic by itself, but also spreading myths about this virus through social media was and still remains a big challenge (Amiri & Akram, 2020). In this conditions, it is very interesting to try to understand challenges that social workers face since this is

one of those professions when specialists usually have contact with the clients about their mental condition.

As it is known our world is facing one of the biggest challenges in our history and it is very crucial for everyone to stay strong during this time, overcome all problems and issues, face the reality which is already different from what we used to know, and it is likely that it will change even more as time passes.

Social workers are considered to be a group of professionals who often experience high levels of stress and burnout. There can be many reasons, the main being the nature of social work itself, since professionals in this field are working in human service and are involved in complex social situations (Llod, King & Chnoweth, 2011). Most of the people find it difficult to follow all the newly formatted rules and change their lives according to them.

There is an established opinion that despite the time and the main point of a crisis, all crisis situations share a similar characteristic in terms of healthcare professionals like social workers. Be it the influenza pandemic that has taken place in 1918 or the Covid-19 that is experienced today, there is a general assumption that all types of crises outline the vulnerability of individuals and importance of physical and mental health (Farakas & Romaniuk, 2020). Accordingly, social workers must be able to work remotely using various communication and collaboration platforms, such as audio and video storage (YouTube), conferencing and chat software (MS Teams, Zoom, Google Meet, Skype, Facebook Messenger, Viber, WhatsApp, Board Connect, Telegram), social networks (Facebook).

According to the Ministry of Social Security and Labour of the Republic of Lithuania, social work is a term used to define professional activity initiated by social workers and their assistants. It is directed towards people's interpersonal connections, and the improvement of individuals' environmental conditions (2006). It aims to strengthen the receivers of services and is linked with providing help to communities for adjustment to outside changes more easily. Moreover, social workers put efforts into sustainability, adaptability, and integration of people into society. In this field of work practitioners promote social changes in society and provide an opportunity for people themselves to act in solving their problems, enhancing their own responsibility for the decisions they make, without infringing their sense of dignity (Qualification Requirements for Social Workers and Social Worker Assistants, 2006).

Challenges connected to digital tools and skills are also considered in terms of time when services were supposed to be provided according to the social distance reality. In some cases, social workers struggled to have access to essential services (Dauti, Dhëmbo, & Bejko, 2020). It is also important that for social workers it was and in some cases still is a big issue that not everyone is equipped with essential digital tools like computers, smartphones, laptops, etc., so they cannot receive the service needed. Another point in this regard is the knowledge

of these digital skills that is a must to know while working remotely from home (Cabiati, 2021).

“Social work is defined as a profession that, by promoting social change, improving the quality of life, and strengthening solidarity and social justice, enables individuals, families, groups, communities and society to solve interpersonal and social issues. In order to overcome the challenges of life, create prosperity and ensure human rights, social work mobilizes people and structures. The profession is based on the theories and context of social work, social sciences and humanities, is guided by a unique system of knowledge, skills and values, seeks coherence of the interaction between man and one’s environment” (Description of the Study Field of Social Work, 2021, p. 9).

The research on the analysis of the use of technical tools enabled the researchers to find scientific sources (Guide to Distance Learning/Teaching/Education, 2020) that examine the use of technical means by educators when working with students; however, it was impossible to find research on the analysis of experiences of social workers using technical tools in providing social services. Therefore, it is appropriate to examine the kinds of technical means that are used by social workers in providing social services. It should be noted that the research was much broader and covered more groups of recipients of social services, but the following article analyses only the provision of general social services and the communication and collaboration of social workers and recipients of services in the provision of social services to families.

Research object: provision of general social services during the Covid-19 pandemic period (hereinafter: pandemic period), communication and cooperation of social workers with families by using technical and digital means when providing them with general social services.

This article overviews problematic question of the study: What real technical and digital means did the social workers use during the pandemic period to communicate and collaborate with families when providing them with general social services?

The *aim of the article* is to reveal what communication and collaboration tools were used by the social workers in the delivery of social services, based on the experience of social workers. The research question is what kinds of remote communication and collaboration tools are used by social workers in the provision of social services. The paper focuses on the use of telecommunication and collaboration tools by social workers in their service delivery and activities.

Research methods: academic literature analysis, document analysis, qualitative research type was chosen for the study. In the study, the method of a semi-structured interview, quality (content) analysis, summarizing method were used.

Methods

Research methods. In order to reveal kinds of technical and digital means of communication and collaboration used by social workers in providing social services to families, based on the experience of social workers, qualitative research type was chosen for the study. The method of a semi-structured interview was also used in the study. The obtained data were analysed by using the content analysis method. The qualitative content analysis was performed in the following sequence: the repeated reading of the content of transcribed interview texts, the distinction of meaningful elements in the text analysed, the grouping of the distinguished meaningful elements into categories and sub-categories, integration of the categories/sub-categories into the context of the phenomenon analysed and the description of their analysis (Žydžiūnaitė & Sabaliauskas, 2017). J.W. Creswell & J.D. Creswell (2021), P. Mayring & E. Brunner (2009) emphasize that content analysis is a valid method for making specific inferences from the analyzed text.

The sample of the research. A criteria-based sample was used in the study. The participants of research were chosen according to the following criteria: 1) social workers who have a degree in the area of social work; 2) social workers working with families; 3) length of service of social workers who provide services to families is not less than three years; 4) social workers who provided services during the pandemic period. The study was conducted in October-November of 2021. The study involved 22 social workers who provided general social services to families and worked in social service and social support centres and departments, care centres for children and adolescents, institutions protecting children's rights, hospitals and community homes for children in different parts of Lithuania.

Ethics of the research. During the research, the following essential principles of research ethics were complied with (Žydžiūnaitė & Sabaliauskas, 2017): **a right not to be vulnerable**, i.e. without making any negative impact on the physical, mental and social health; **a right not to be abused** by ensuring that participation of research participants and information provided will not be used against them; **usefulness of the research** – the research participants fully agreed to participate in the research because their participation in a specific research makes a positive impact on the development of society and knowledge, as well as the research of new opportunities in Lithuania; **respect for personal dignity** – the research participants were interpreted as independent persons, who were able to control their personal behaviour; every research participant had **a right to make a personal decision whether to participate in the research or not**; **justice** – such factors as the benefit, credulity or compromise was not used in order to involve the “necessary” persons in the research; the participants had an opportunity to ask about the research and receive comprehensive information; the

research participants were treated in a respectful and helpful manner; **confidentiality** – the research participants were assured that information provided during the research (the collected qualitative data) will not be disseminated; the unprocessed information will not be available to any person, who is not related to the thesis and, specifically, to the exploratory part of the thesis; **anonymity** – the research participants were assured that their provided accurate personal data will not be published without coordinating such possibility in advance. Names, surnames, locations, or other similar information that might help recognize research participants and/or identify the subject, were changed. In order to maintain confidentiality, research participants were encoded in letters A, B, C, D, E and etc. The following coding breaks the link between research data and the research participants who provided the data, in order to maintain anonymity, and for the research results not to harm the informants. The research is presented by interpreting and substantiating theory by information, statements and quotations obtained during the interview. The quotations of the research participants are authentic, the language was not corrected. Pauses, drawing of vowels and some consonants are marked in the transcription.

Research results

Provision of general social services to families during the pandemic period. The research data analysis revealed that social workers who provide general social services to the family during the pandemic period use various technical and digital means for communication and collaboration with the family (Figure 1). Research participants noted that they keep in touch with the family by using Internet connection tools, they use computers, write emails, as well as communicate and collaborate by phone either by calling or writing SMS messages. The analysis of experiences of social workers who provide general social services to families showed that for communication and collaboration specialists also use conferencing and chat software. The research revealed that in order to communicate with families, research participants use MS Teams, Zoom, Google Meet, Skype, Facebook Messenger, Viber, WhatsApp, Board Connect, Telegram conferencing and chat software, because only in this way it is possible to *“Promptly provide necessary information to the clients’ relatives. An excellent mediation tool between the client and one’s relatives”* (L); *“Accessible organization, flexible communication of specialists, saves time and money. Clients receive help in a timely manner”* (M); *“There appeared an opportunity for other family members to connect and communicate with children: for grandparents, relatives, who are more distant from the place where the child is”* (B); *“Communication is constantly maintained, there is no gap”* (P). Moreover, the research showed that social networks are also used for the provision of social services. Research participants claimed that they use the social network Facebook.

The research highlighted that social workers also use the audio and video data storage YouTube.

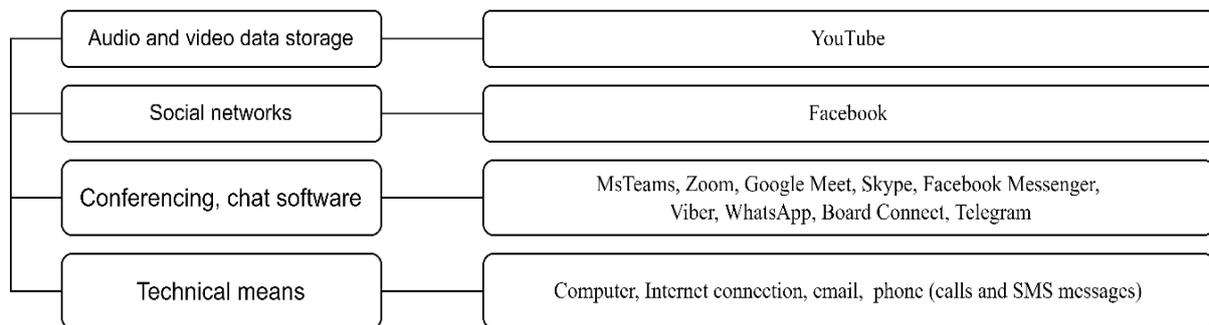


Figure 1 *The use of communication and collaboration means in providing comprehensive support to families during the pandemic period (created by authors)*

The analysis of research data showed that information services did not cease even after the beginning of the pandemic period. Specialists provide the families with the necessary information about social assistance by using technical means (phone and computer). The research revealed that specialists use technical means to address benefit issues, to inform the recipient of services about the health condition of relatives, and when it is necessary to renew information in the process of providing family support (Figure 2). Participants of the research stated: *“Applicants are informed about benefits by phone” (G)*, *“Communication with the client’s relatives and the provision of information about the client’s health condition takes place by email or phone by SMS messages when information about the client’s health condition is provided (deterioration or improvement)” (L)*, *“Phone calls with parents of children to discuss events when help is needed” (T)*.

The research discovered that specialists also provided the information service during the pandemic period by using the conferencing, chat software (Zoom, Skype, Facebook Messenger, Viber, WhatsApp). Specialists used the mentioned software to provide information to parents. Participants of the research noted that they exchanged information in a shared parent group: *“The necessary information and important issues were passed on to the parents using a shared parent group created on the Facebook platform. General information was provided there for everybody to see” (D)*. In addition, by using the mentioned platforms social workers exchanged information with the children’s relatives during the treatment of the child: *“In order to gather necessary information and agree on the missing documents, coordinate consultations, communication with the patient and one’s family is carried out by video calls. Especially when families are self-isolating due to the Covid-19 disease and cannot enter the facility. Video calls are made with the help of Messenger, Viber apps, during conversations children have the opportunity to see their relatives” (E)*. Specialists pointed out that with the help of digital programs they made decisions concerning support,

benefits, use of e-diary at school, connection to remote lessons: “Various family-friendly and convenient devices are used (Zoom, Messenger, Viber, WhatsApp). Emotional support, information are provided. Various documents are sent, help is provided to children with their homework, and at the same time applications for benefits/allowances are completed in the SPIS system. It is taught how to use children’s e-diary or to connect to remote lessons, thus there are two computers on my table, one is used to talk to parents, the other – to show how to make something, to make it more visual” (N); “Applicants who apply for benefits are served remotely over the phone, by using Zoom or Skype” (G).

In addition, the research showed that during the pandemic period recipients of services were provided with timely **information services** by means of communication and collaboration technologies and digital means. Clients were provided with information about the provision of social support to families, feeding of children, activities in the day centre on the social network Facebook and by sending reminders using the FB Messenger application. According to the research participants: “Necessary information about the social support to the family, when food is to be delivered, what activities will be carried out for the children of the day care centre, etc. is provided by FB Messenger” (P). Participants indicated that informing of the children’s relatives about the activities in the day centre is also provided by Viber: “Information and visual materials were shared using Viber with the group of children attending the children’s day centre even before activities were restricted, and now when activities are no longer restricted, it’s a good thing” (S). Social workers employed in community care homes for children noted that during the pandemic period communication and collaboration with the child’s biological parents did not cease. The research revealed that provision of information to parents about the child is carried out by means of FB Messenger and Viber applications: “Communication with biological parents of the child is carried out through Messenger, Viber apps, information is provided to them” (V), parents are also provided with information about the child’s health, well-being, child development: “Communication with the children’s relatives through FB Messenger, Viber on the relevant issues concerning the children’s health, well-being, child development, etc.” (Z), “Information is provided, communication with the patient and one’s family is carried out by means of a video call, Messenger, Viber apps, in order to gather necessary information and agree upon the missing documents, coordinate consultations. Especially when families are self-isolating due to the Covid-19 disease and cannot enter the facility” (Q).

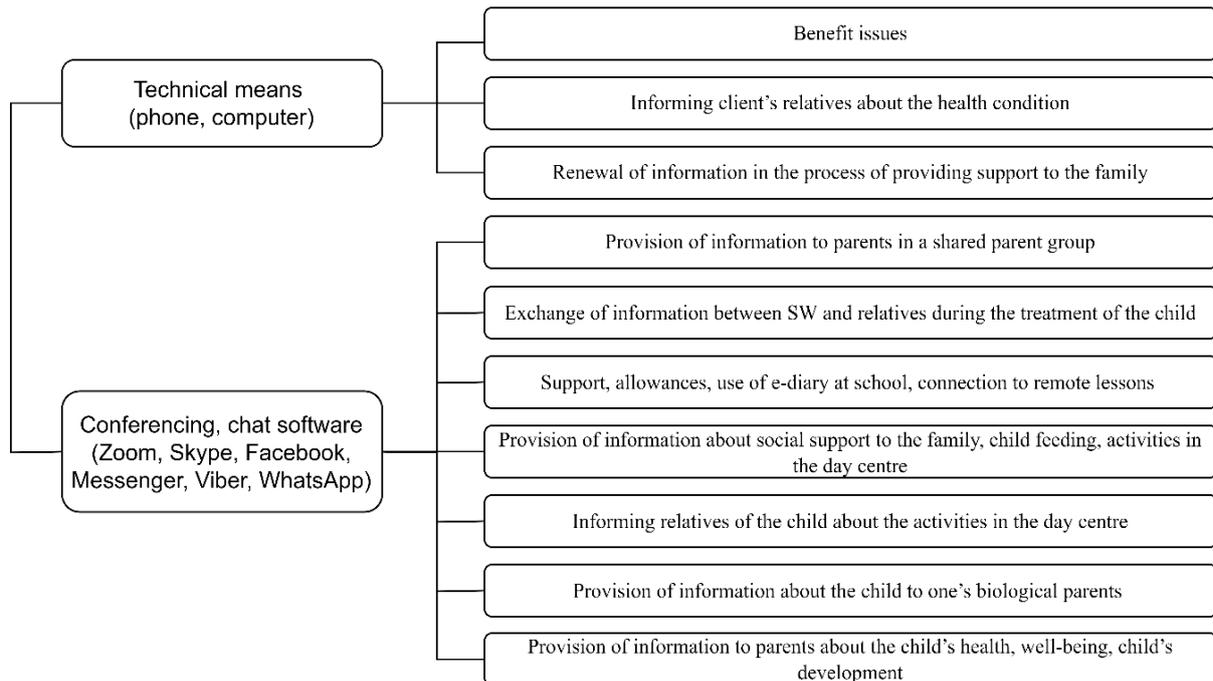


Figure 2 Provision of information services to the family during the pandemic period (created by authors)

In summary, during the pandemic period families were continuously provided with information services. Social workers informed families about the benefit issues over the phone and computer, clarified necessary information during the process of family assistance. Specialists provided information to parents in the shared parent group by using conferencing, chat software (Zoom, Skype, Facebook Messenger, Viber, WhatsApp), social workers and relatives exchanges information related to the child's treatment, health, well-being, development, informed recipients of services about benefits, support, use of e-diary at school, connection to remote lessons, provided information about social support to the family, feeding of children, activities in the day care centre. On the basis of the research participants' experiences, it can be stated that ICT helped to provide timely and high-quality information services.

The research found that recipients of services were consulted during the pandemic period. **Counselling** is help, during which an individual's (family) problem is being analysed together with that person and effective ways of solving it are being searched for (On the Approval of the Catalogue of Social Services, 2006). The research revealed that counselling employs a handy technical tool used by every 21st century-person, i.e. a phone. Research participants noted: "*During phone consultations, clients maintain a good mood and well-being*" (F); "*To reduce stress, calm down both the child and parents, encourage...*" (C) (Figure 3). Therefore, during the pandemic period counselling was also used to maintain good emotional health and well-being of the family members.

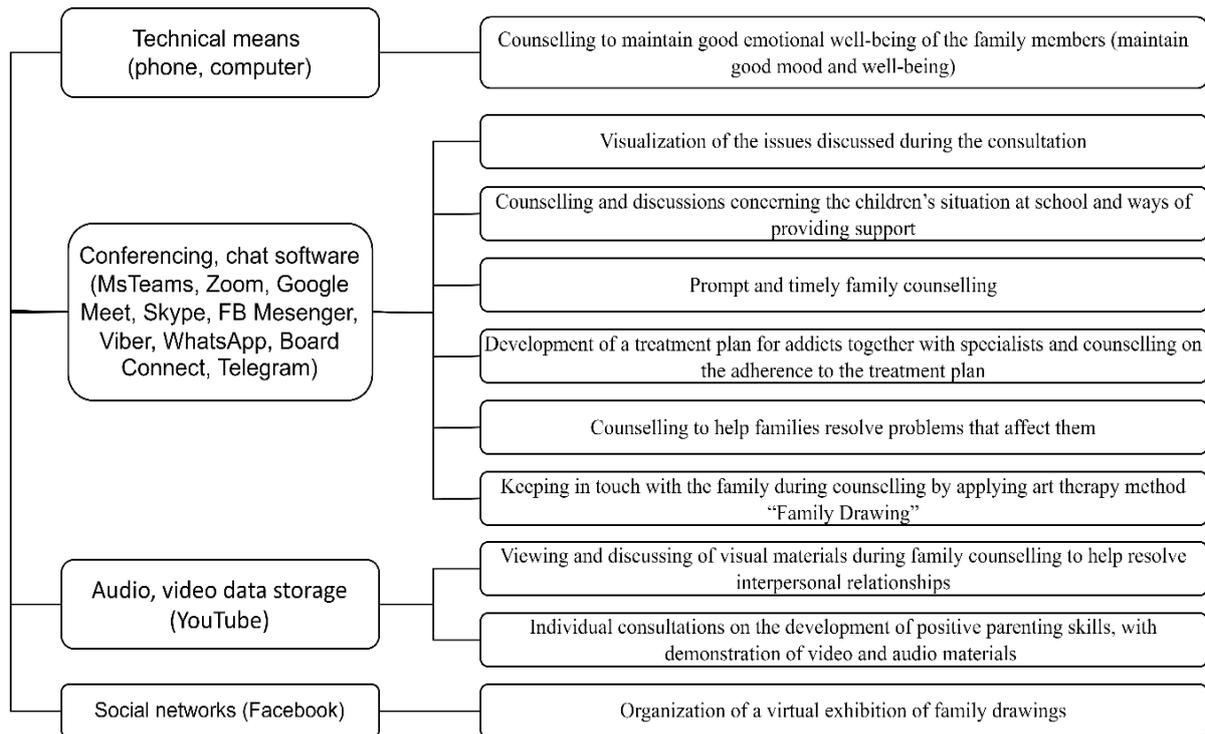


Figure 3 Provision of counselling services to families during the pandemic period
(created by authors)

The research showed that during consultations specialists visualise the issues discussed with the help of conferencing, chat software (MS Teams, Zoom, Google Meet, Skype, FB Messenger, Viber, WhatsApp, Board Connect, Telegram). According to participants of the research: *“At first, due to lack of knowledge about means of distance communication, clients were consulted using the Facebook Messenger app. Later, we switched to the Microsoft Teams app and used the Board Connect app in order to visualize the discussed issues”* (B).

The analysis of social workers’ experiences revealed that there were a lot of consultations and discussions during the pandemic period about the situation of children at school and ways of helping them. Research participants pointed out: *“We teamed up with the student’s teachers on the MS Teams platform to discuss situations or ways of helping. During joint meetings of class teacher we discussed attendance or other issues, coordinated remote events and other activities”* (C).

Participants of the research indicated that recipients of services were constantly consulted during the pandemic period: *“It is possible to consult clients more often with the help of apps (Skype, Google Meet, Zoom, etc.)”* (I); *“Counselling of recipients of services on issues relevant to them is held using the Messenger app”*. The research showed that the following have been used: *“We used all possible apps that were comprehensible to us: MS Teams, Zoom, Viber, WhatsApp, Telegram apps”* (F). The provided illustrative statements prove that family counselling was prompt and timely even during the pandemic period.

The analysis of research data showed that during the pandemic period by means of communication and collaboration tools counselling services were also provided to addicts. They were consulted on the development of the treatment plan together with specialists and it was discussed what kind of plan it should be, how to get the recipients of services to follow the established treatment plan. Research participants indicated: *“For addicts, the consultation of a specialist and the development of a treatment plan were carried out through the Zoom app... we consulted with the specialists on how to achieve that the client adheres to the established plan...”* (M).

The research revealed that counselling was provided to help families solve issues relevant to them. According to the research participants: *“Consultations were provided through FB Messenger, Zoom on the problematic situation faced by the family to find various effective ways to solve that problematic situation; for example, not attending classes, running away from home”* (P). Moreover, specialists helped recipients of services to keep in touch with the family during consultations using the method of art therapy. As noted by the participants: *“The “Family Drawing” was applied to maintain connection with the family, during the consultation the family members were offered to carry out a personal work – a joint drawing of a family. During the process of drawing the family, the observation took place by means of the Viber app”* (S).

The research showed that during family counselling specialists also used viewing and discussion of video materials to help resolve interpersonal conflicts and improve interpersonal relationships. Social workers, who took part in the research, indicated: *“The screen, where video materials on the YouTube were shown, was also shared.”* (B). Therefore, specialists when providing counselling services to families during the pandemic period worked really creatively and used the audio, video data storage YouTube.

On the basis of experiences of social workers, individual consultations on the development of positive parenting skills with demonstration of video and audio materials by means of various communication and collaboration means were also provided during the pandemic period. Participants of the research noted: *“Individual consultations on the development of positive parenting skills were carried out. The YouTube platform is used for the transmission of video and audio materials during consultations”* (O). The research showed that specialists also used the social network Facebook for the organization of the virtual exhibition of family drawings: *“Drawn family pictures were photographed and published on “Facebook” – an exhibition of paintings was organized”* (S).

In summary, counselling services were provided to families during the pandemic period; families were helped to resolve issues that affect them and find effective solutions to their problems. The counselling took place over the phone to support the emotional well-being of the family members. Conferencing, chat software (MS Teams, Zoom, Google Meet, Skype, FB Messenger, Viber,

WhatsApp, Board Connect, Telegram) were used for a prompt and timely family counselling, during which issues related to the teaching and learning of children, ways of providing assistance were discussed, and adult family members were consulted on issues of addictions and treatment. During general family consultations, art therapy methods were used to maintain family relationships, while the drawn family pictures became the works of a virtual exhibition displayed on the social network Facebook. The video and audio data storage YouTube was used during consultations to show and discuss video materials this way helping to resolve interpersonal family relationships and demonstrate videos and audio materials during trainings in the development of positive parenting skills.

The research showed that during the pandemic period technical means (computer, Internet connection, email) helped specialists to provide **mediation and representation** services to families. Mediation and representation is the provision of assistance to a person (family) in solving various personal (family) issues (legal, health, economic, household), handling documents, paying taxes, registering with specialists, organizing economic work, etc., mediating between persons (family) and their environments (other institutions, specialists, individuals) (On the approval of the Catalogue of Social Services, 2006). It should be noted that during the pandemic period mediation was conducted when documents were electronically processed for institutions providing public services (for benefits): *“We processed documents remotely. Teamwork takes place remotely when preparing documents, descriptors” (D). (Figure 4).*

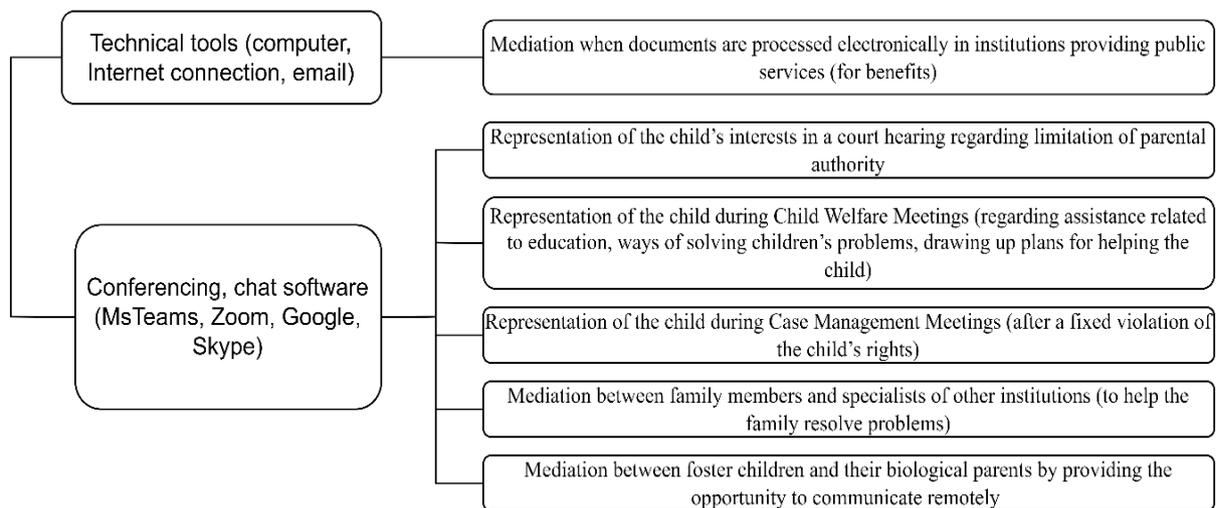


Figure 4 Provision of mediation and representation services to families during the pandemic period (created by authors)

Participants of the research mentioned: *“It is not necessary for the client to come to the institution if the documents can be submitted online. Clients learn to be more independent. During consultations, mediation, clients learn to use the Internet, relevant websites (Sodra, Employment Service). They generate emails,*

send relevant documents to the institutions” (F); “Through mediation, the social worker helps the recipient of services to submit the application electronically, collect necessary documents. The worker receives the documents during a family visit or the recipient of services sends them by email. Then the social worker sends them to the Benefits Department by email” (H).

The research revealed that representation of the child’s interests in a court hearing regarding the limitation of parenting authority takes place by means of conferencing, chat software (MS Teams, Zoom, Google Skype). Research participants pointed out: *“Video conferencing using the Zoom, MS Teams apps helps to properly represent the child’s interest outside the courtroom” (A).* Moreover, social workers mentioned the importance of the representation of the child during Child Welfare Meetings (regarding assistance related to education, ways of solving children’s problems, drawing up plans for helping the child). According to the participants: *“Meetings of the Child Welfare Commission were held on the MS Teams platform, during which problematic situations, forms of assistance, further actions and learning opportunities were discussed with the student, one’s carers, the class teacher and members of the Child Welfare Commission” (C); “Meetings on the Zoom platform with the members of the Child Welfare Commission and other specialists, with parents and social workers regarding ways of solving children’s problems, and a plan for helping the child was drawn up” (V).*

It should be noted that distance meetings have recently become a common practice that saves a lot of time for the specialist and family members. The following is evidenced by the statements of the research participants: *“Case management and court hearings were held and currently take place remotely, live in exceptional cases, and even now when there is no quarantine, we conduct hearings via Zoom, Skype” (G).* The research showed that representation of the child during Case Management Meetings after a fixed violation of the child’s rights is also carried out remotely on the Zoom platform. Research participants indicate: *“Meetings are organized after a fixed violation of the child’s rights or are scheduled after a certain time indicated in the plan. The measures in the plan are designed to help the family resolve problems and develop necessary skills. Meetings take place on the Zoom platform” (K).*

Specialists also use various apps to mediate between the family members and specialists of other institutions to help the family solve problems that affect them: *“With the help of apps (Skype, Google Meet, Zoom, etc.) it is possible to mediate more often between different persons, representatives of institutions (schools, elderships), share documents, photos, records” (I); “Social worker and the family participate in the meetings. In many cases, the teacher and representatives of other institutions are also present. Zoom, Skype apps are used” (I); “Mediation with specialists of the Employment Service is carried out during remote*

consultations through the Zoom app, thus enabling clients to participate in the labour market” (M).

The research showed that mediation between foster children and their biological parents provides them with an opportunity to communicate remotely: *“Communication with biological parents takes place through the Zoom app” (M).*

To summarize, during the pandemic period families were provided with mediation and representation services to solve various legal, health problems of the family members, process documents, register with specialists, mediate between the family and other institutions, specialists, help families solve problems. Computer, Internet connection and emails have helped with the electronic processing of documents in institutions providing public services. Social workers and child rights protection specialists used conferencing and chat software (MS Teams, Zoom, Google, Skype) to represent children’s interests during Child Welfare hearings, court hearings, mediation between foster children and their biological parents by providing an opportunity for them to maintain relationships by communicating remotely.

The research revealed that the **provision of catering services** during the pandemic period was also not interrupted. Catering is assistance to persons (families) who are unable to provide food for themselves due to a lack of independence or income (On the Approval of the Catalogue of Social Services, 2006). Catering can be organized by delivering hot food or food products to homes, by providing free meals in canteens, community facilities or other eating places, by providing food assistance. Research participants indicated: *“Every week, we reminded parents about the time of picking up the free meal or agreed on where and when to bring the meal to the family by calling them or sending SMS messages” (C).* Therefore, technical means (SMS messages by phone) served to ensure that the delivery of food to the family was completed on time during the pandemic period.

It was established that **other social services** were also provided during the pandemic period. According to the Catalogue of Social Services (2006), other social services are those that are organized by taking into account the specific needs of the municipality’s population, i.e.: purchase of food products, accompanying to various institutions, etc. However, in order for these services to be provided, the family’s home and living conditions must be inspected for determining the necessary social support to the family. Therefore, specialists used conferencing, chat software, Google Meet, and phones. Research participants claimed: *“The family needed social support, which required the Home and Living Conditions Inspection Act. Since the family was self-isolating, no one could enter the house. The family send photos to the social worker for her to assess the living conditions: Google Meet app was used to film inside the house. The social worker prepared the home inspection act, the family received social support. Such inspections of family conditions, “visitation” of the family are further applied if*

there are suspicions of sick persons in the family” (I).

In summary, during the pandemic period services were provided to families at home: catering was organized by notifying (calling or texting) the family of food deliveries to their home. The home and living conditions were inspected and the necessary social support for the family was decided upon with the help of the chat program Google Meet.

Conclusions

The analysis of experiences of social workers, who provided general social services to families during the pandemic period, revealed that social workers used various technical and digital means to provide general social services to families during the pandemic period. The research showed that in order to communicate and collaborate with recipients of services social workers use technical and digital means that require Internet connection, as they communicate via emails or use other Internet apps, and those that do not need Internet connection or a computer, i.e. specialists communicate with family members by calling or texting them. Social workers use the following conferencing, chat software to provide services: MS Teams, Zoom, Google Meet, Skype, Facebook Messenger, Viber, WhatsApp, Board Connect, Telegram, social network Facebook, audio, video data storage YouTube.

The research found that during the pandemic period with the help of technical and digital means social workers provided families with information, counselling, mediation, representation, organization of catering, home and living conditions inspection services on a continuous basis. Through a variety of technical and digital communication and collaboration means providers of services have been in touch with the families, provided information and counselling on a range of issues relevant to the recipients of services.

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CASE STUDY: ELEARNING IN COMMUNITY OF PRACTICE FOR MANAGING BY PROJECT

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Abstract. *New Internet technologies have expanded the possibilities of interaction, overcoming geographical restrictions. The training within communities of practices that have their own identity, determined by both the specific competencies of its participants and the common domain (field of activity, mission, values, topic), paves the way gradually in different sectors and at different levels. The research aims at generalizing the experience in organization and implementation of e-learning on Management of Projects in Community of Practice: Sustainable Development for further use and formation of virtual environments for professional training, exchange of experience, and distribution of innovations.*

This article summarizes the typical components of a community of practice as the basis of professional educational systems creation and knowledge management method. The paper considers the essence and prerequisites of successful e-learning. It reveals peculiarities of the virtual learning environment of the "Local Development Project Management" electronic course, which combines all the learning activities and course goals, creates the effect of social presence and co-creation. The main points of the course design should draw attention to its topics, adjust each of its elements to the needs of participants in cognition and learning, motivation for actions, cooperation, and interaction. Methods used include analysis and synthesis, induction and deduction, logical generalization, and comparison.

Keywords: *community of practice, e-learning, electronic course, virtual learning environment.*

Introduction

Through the advancement of the Internet, platforms for access and exchange of educational content, the dissemination of various means of electronic communication and mobile devices, e-learning (eLearning) is becoming a priority in creating a learning environment in the workplace.

As its purpose is to make education available 24 hours a day and seven days a week, e-learning requires shifting the focus from "teaching what is contained in the curriculum" to "teaching what potential participants need in the workplace" (Katernyak, 2017). Its main advantage is that there is no need to attend specialized educational institutions for learning. You can study wherever there is the internet, at your own pace, at a convenient time for yourself.

Successful e-learning depends on each participant's understanding of the need for learning, own learning ability, and readiness to cooperate in a virtual learning environment (VLE). The learning objectives should be clear and understandable to its potential participants, related to the sphere of their professional interests and the challenges they face today. "The organizers of e-learning should make it: activity-driven – allow each participant to achieve targeted learning goals effectively and efficiently, comfortable, flexible, emotionally positive" (Katernyak, 2017).

Researchers agree that active social relations and interactions make new knowledge, and the role of the teacher lies in encouraging these processes (Hung & Nichani, 2001). People create "meaning" from educational experience by learning with others, and building knowledge based on a participant's previous experience is well suited to e-learning as "learning among participants" (Koochang et al., 2009) or joint learning. The learning environment in the workplace, which enables accumulating advanced knowledge and experience through e-learning in the community of practice (CoP), creates conditions for everyone to demonstrate their readiness to apply and test new knowledge through appropriate learning activities.

People who participate in the processes of knowledge dissemination, knowledge exchange, collective learning in the common field of activity form CoPs (Wenger, 2018). Such communities have their own identity determined by both the individual competencies of their members and the common domain, contribute to the correct awareness and deeper understanding of existing personal knowledge, the development of collective knowledge, the establishment of dialogue and partnership, the dissemination of best practices and the finding of the best solutions (Wenger-Trayner & Wenger-Trayner, 2015; Wenger et al., 2010). The CoP acts as a "live" curriculum in a specific context, provided by both participants with experience and newcomers; the practice is dynamic and involves training for everyone. The art of knowledge management in such VLE within the framework of a competence development strategy means the ability to run processes of constructing meaning through collaboration and co-creation (Katernyak & Loboda, 2016; Garnets et al., 2016).

The "Community of Practice: Sustainable Development" (<https://udl.despro.org.ua/>) – a virtual association of regional and local development professionals, since 2012 has become a platform for discussing the most relevant issues of territory development, provided participants with access to consulting with experts of various levels, created conditions for the joint generation of new ideas in the field of local development problem solving, contributed to the acquisition of new competencies by community participants through participation in e-learning (Garnets et al., 2016; Kulya et al., 2021). It led to the formation of a critical mass of participants united by the general theme of the community capable of using e-learning tools.

The e-course "Local Development Project Management" (as a promoter of the management culture through projects in local government) became the most popular among the participants of the Community. About 200 people successfully passed the course each time of its implementation during 2012–2020 (ten times in the all-Ukrainian and four – in the regional format).

The research aim is a generalization of experience in organization and realization of e-learning of the management of projects in Community of Practice: Sustainable Development for further use for forming of virtual environments for professional training, exchange of experience, and distribution of innovations.

The research used general scientific and special methods, in particular: analysis and synthesis, induction and deduction, logical generalization, and comparison.

Theoretical Background

VLE is an integrated, organized, open system of information, technological, didactic resources, various forms of computer and telecommunication interaction of educational subjects (Skurativska & Popadiuk, 2017). It performs the main functions: learning (base of learning material); communication (virtual interactive dialogue of participants of the learning process); active and controlling (measures of demonstration and control of knowledge, abilities, skills, adjustments, forecasting of academic achievements, reflection as the self-analysis of learning results); managerial (organization and administration of the learning process).

Studying in the VLE is an active process of its participants. The e-learning model only creates the basis for the constructive efforts of those who learn from self-learning, considering them as active subjects of learning that can independently influence their educational development. The success and effectiveness of this process depend on its high-quality organization and content, high internal motivation, emotional uplift, and positive mood of participants.

The existence of the VLE outside the communication of participants, tutors, facilitators, administrators, distance learning course developers, experts is impossible (Skurativska & Popadiuk, 2017). The activity of the participant is the unit of study progress record in the VLE. This concerns perception of learning information and all productive actions with it – reviewing main and additional learning materials, performing tasks, tests to self-check the assimilation of information, making comments, and peer assessment of the works of other participants of the e-course, etc.

For the VLE projecting not only the content (types of activities and tools that help participants gain the experience necessary to achieve learning goals) but also its designing is crucial. For this purpose, we can successfully apply the "4A" motivation management approach: Attention, Actualization, Attraction, and Action, which enables, on the one hand, checking each information resource and

learning action aware of learning goals, and on the other hand, creating the effect of social presence and co-creation. The use of this approach in e-learning aims at ensuring the social and cognitive presence of participants, ranging from working on their electronic profiles and questionnaires, allowing identification of knowledge gaps, continuing self-assessment and positioning among other participants, drawing up individual learning trajectories to achieve learning goals, monitoring progress in learning, and assessing its final result (Katernyak, 2017; Katernyak & Loboda, 2016). These are the content and architecture of the "Local Development Project Management" e-course, each element of which to some extent actualizes the need for cognition and learning, attraction, actions, cooperation, and interaction.

Separate modules (sections) form the structure of the electronic course. They create the individual educational trajectory of the participant of learning. The participant's activity means to take a specific module, that is, to work up the material, complete tasks, give correct answers to test questions, prepare own presentation, contribute to the group work, etc.

Methodology, Solutions and Results

In 2020 (as in previous years), the "Local Development Project Management" e-course was for those who: sought an effective solution to meet the needs of the community; wanted to know what the "correct" project is, how to prepare it; had a desire to develop a competitive project proposal to attract resources and mobilize the community; was ready to exchange experience and cooperate with local government practices for sustainable development. It is worth noting that the proposed curriculum has become useful both for individuals experienced in project management and for persons without such experience.

1A (Attention) – Attention to the course and its holding.

The target audience of the e-course is the representatives of local government and executive authorities, deputies of local councils, community leaders, public sector activists from all over Ukraine (almost 600 participants registered on the e-course in 2020). Distance learning for them is most suitable to receive additional education or undergo retraining and advanced training. Such e-learning participants are goal-oriented, can better control the learning process, and plan their activities. Their cognitive motivation is closely related to their professional needs. They have a good idea of what kind of knowledge they may need, so they are looking for an efficient educational trajectory and are ready to spend time gaining professional knowledge and skills.

The "project management" as the subject of the course (the opportunity to get an answer to the question "how to prepare the "right" project" and develop a competitive project proposal to attract resources and mobilize the community), as well as a convenient form of learning, were the first factors that grabbed the

attention of most participants to the e-course "Local Development Project Management" and caused them motivational feedback (Fig. 1).

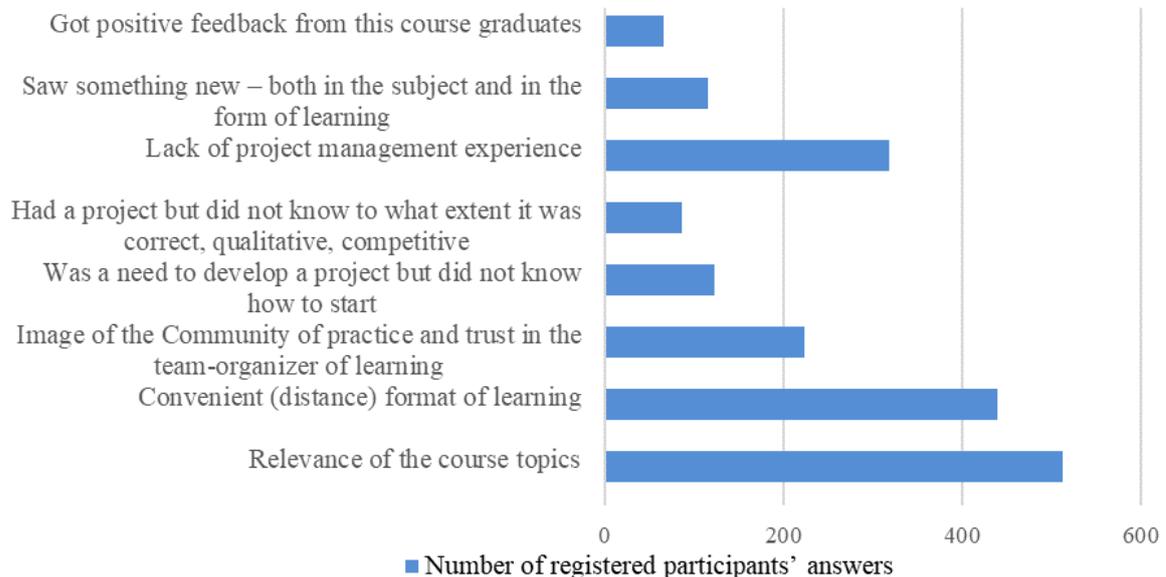


Figure 1 The main reasons that attracted the attention of participants to the "Local Development Project Management" e-course (2020) (entry survey results, by authors)

All activities of the introductory block are oriented to stimulate and strengthen motivation for the learning-cognitive activities of the e-course participants. After enrollment in the e-course and filling in the entry questionnaire, participants had the opportunity to get acquainted with the principles of studying, recommendations for efficient work in forums, information on the protection of intellectual property. There was particular attention to the topic of the course, a general idea of its content, tasks, types of work, details of the evaluation system, the significance and usefulness of both completing the course in general and performing each task or type of work. Each of the participants decided on the needs they would like to meet (Fig. 2).

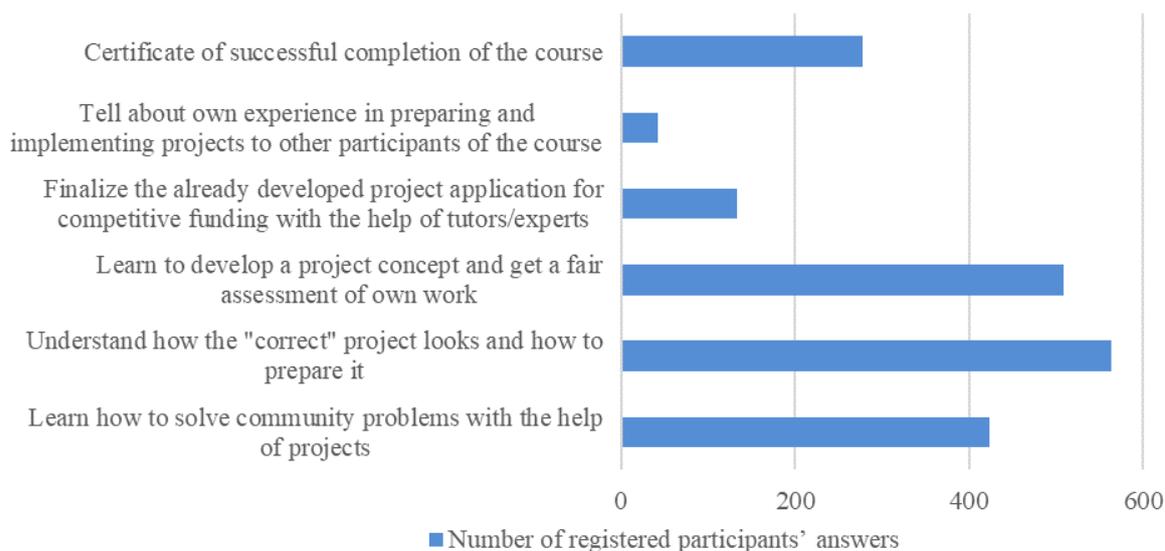


Figure 2 Basic needs of participants of the "Local Development Project Management" e-course (2020) (entry survey results, by authors)

The intensification of the attention achieves through a self-test which focuses on understanding the goals and methods of organization of learning, knowledge of the deadlines for main activities, and the awareness of the evaluation system in the course.

To ensure the "social and cognitive presence of each participant in the learning process and their "immersion" in learning, communication, creativity, cooperation" (Garnets et al., 2016; Katernyak, 2017), there exist entry instructions before learning and at the beginning of each module, visual instructions and available explanations of how to perform planned activities, short abstracts with outlined each module results.

At the start of each learning module, there is information about its goals and objectives. The forum "News" includes the information message about its beginning, with the obligatory mailing to the e-mail addresses where the participants registered. It posts messages about the start of all learning activities and the nearest deadlines for their implementation. To focus on time, participants use the "Calendar" block with the list of all events related to the learning process and the "Coming Soon" block, which contains information and reminders about the events planned in the course for the near future.

2A (Actualization) – Actualization of learning.

Actualization of learning by focusing on results and understanding of tasks determines the level of directing e-course participants' efforts towards learning activities to achieve learning goals efficiently. Encouragement to cognition, mobilization of resources, search for opportunities to realize knowledge in solving learning problems, objective and rapid evaluation of the results obtained, analysis of the learning process itself support actualization.

Whereas we may determine encouragement by specific future goals or course objectives, mobilization takes place at each moment of studying when the participant has to organize himself, demonstrate all abilities to find a solution, and solve the problem. Possession of information and ability to learn, thirst for purpose, and ability to see opportunities in challenges – all this determines the adjustment for development, which, with successes and mistakes in studying, retains motivation for learning (Katernyak, 2017).

The following blocks make the learning content of the electronic course:

- instructive (videos describing the content of each module with learning tasks, important information; brief descriptions, clear visual instructions, and explanations for all activities planned in the course);
- informative (abstract about the main results of each module, materials for studying (presentations available for downloading), a piggy bank (resource (database) for exchanging useful information, practical developments, manuals) with additional course resources formed by its participants in the learning process, a glossary, an example of a completed project concept template);
- communicative (communication in forums (places for communication, obtaining information, finding partners, exchanging experience) and in chats during learning, online consultations);
- control (tests for all modules of the course and final testing);
- tasks to complete in the workshop.

The active learning process begins with the processing of the first module. Each subsequent module (all modules have a typical structure and types of learning activities) is a logical continuation of the previous one, forming the sufficient knowledge of participants necessary to develop their own local development project concept.

All this, as well as the necessary level of complexity of learning materials, contributes to the achievement of learning goals, creates opportunities to meet cognitive, professional, and social needs of e-course participants.

3A (Attraction) – Engaging in interaction in the learning environment.

Various learning activities, meaningful presentations, the possibility of substantive communication in forums unite in the e-course people with common interests. The course is for convenient use on various devices, including mobile phones. It allows participants to reach it elsewhere, interact with colleagues in the learning environment, actively participate in the joint construction of knowledge and achievement of goals.

The course developers pay special attention to achieving trust among all participants in the learning process. When registering for the course, it is necessary to confirm that its participant shares the values declared in such a virtual environment. The absence of psychological and geographical barriers to communication, the interactive nature of interaction on the exchange of relevant

information and practices, the possibility of self-presentation and self-realization, the establishment of necessary contacts encouraged the social presence of each participant on the educational web platform (Fig. 3, Fig. 4).

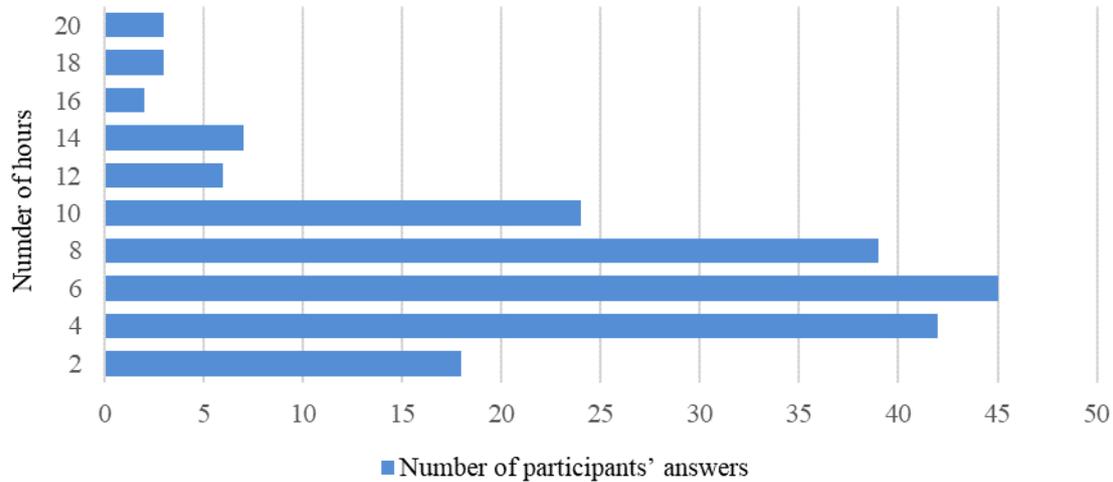


Figure 3 Average time spent learning by participants of the "Local Development Project Management" e-course (2020) (hours per week, by authors)

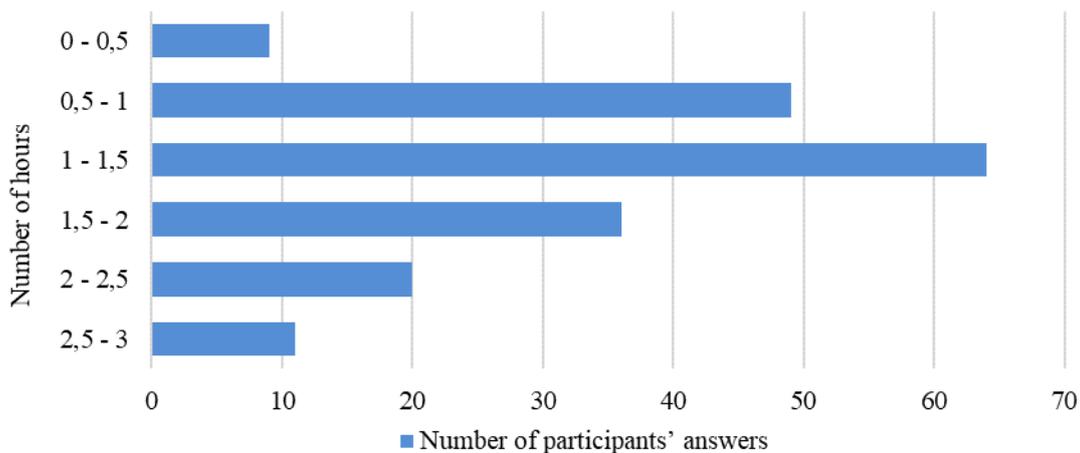


Figure 4 The average duration of stay of participants of the "Local Development Project Management" e-course (2020) on the educational web platform (hours per online session, by authors)

We observed an hour and a half immersion in the VLE among most course participants. To perform the tasks of each module, participants spent 4–10 hours.

Tutors maintain the electronic course. They actualize the needs of participants in cognitive, learning, and communicative activities, support, direct and involve participants in the learning process, contribute to the interaction of all subjects of study, using educational and information resources, technical means of communication, information transmission, and management of the learning environment. The tutor faces the tasks of optimizing the learning process; within

"trust" and "emotions" – making conditions for co-creation, which results in the generation of ideas, development of new competencies, formation of life experience, and impressions.

To ensure maximum presence and activeness of participants in the e-course, the tutor should create a microclimate that contributes to the flexible communication and learning of participants; create and maintain an atmosphere of trust based on the joint values of the participants, which promotes the exchange of views, cooperation, positioning in the team; ensure privacy, taking into account the feelings of participants, avoid harsh criticism (using hidden criticism); transfer mood and attitude through paralinguistic communicative means (Katernyak, 2017; Andrieiev et al., 2013).

At the beginning of learning, the tutor takes the initiative to conduct communication activities, ensures the exchange of information between all participants in the learning process, promptly and carefully responds to all barriers, needs, and questions of participants on the organization of learning, advises on the content of educational and information materials, on the workshop – filling in the project concept template and peer assessment.

Facilitators help tutors to strengthen communication between participants of learning, to establish interaction between them regardless of their previous experience. They maintain an atmosphere of community, cooperation, professional development on the learning platform, prevent violations of network etiquette by participants in discussions. Facilitators are graduates of previous electronic courses – active participants of the Community of Practice: Sustainable Development. They have a thorough knowledge and practical experience in local government.

The main success factors of the e-learning facilitator are as follows: ensuring the social presence of each participant in the virtual community, when every person can be involved, and the involvement of everyone appreciates properly; everyone can ask a question, everyone's answer will be "heard"; everyone has the right to speak out, and there are no fatal mistakes in learning; creating a favorable environment ("ecosystem") around each participant, which will stimulate the exchange of experience, cooperation, generation of new ideas, development of models, and finding ways to implement them (Katernyak, 2017).

E-course forums are the center for communication and interaction of learning participants, generation of new ideas, and creation of new knowledge. They promote the search for ideas and like-minded people, are a place of active communication and cooperation, conflict-free discussion of alternative views, stimulation of the motivation and initiative of participants to achieve learning goals, fulfill tasks, and acquire competencies.

Throughout the learning in the "Local Development Project Management" e-course, its participants can communicate on topical professional themes in the general forum, where everyone can add one topic for discussion, tell about

himself, share his experience in solving problems in the community, critical situations, own ideas, approaches, solutions, and the intention to change something in the life of the community to ensure sustainable development. Discussions of all topics by colleagues are open, and everyone can leave comments and share experiences. Detailed and constructive comments are of particular value for the participants of learning.

Participants can promptly receive answers to questions or clear explanations about technical difficulties in working (navigating) on the Community of Practice platform or in the electronic course ("Technical Forum"), consultation on the learning process, the content of educational and information materials, the workshop on filling in the template of the project concept, and in the process of peer assessment ("Thematic forum with a tutor").

A positive response to the learning process helps participants to focus, feel comfort and interact. During the learning, participants can express their feelings and emotions after completing tasks (taking tests, working on a project concept, working as a projects expert) (Fig. 5).

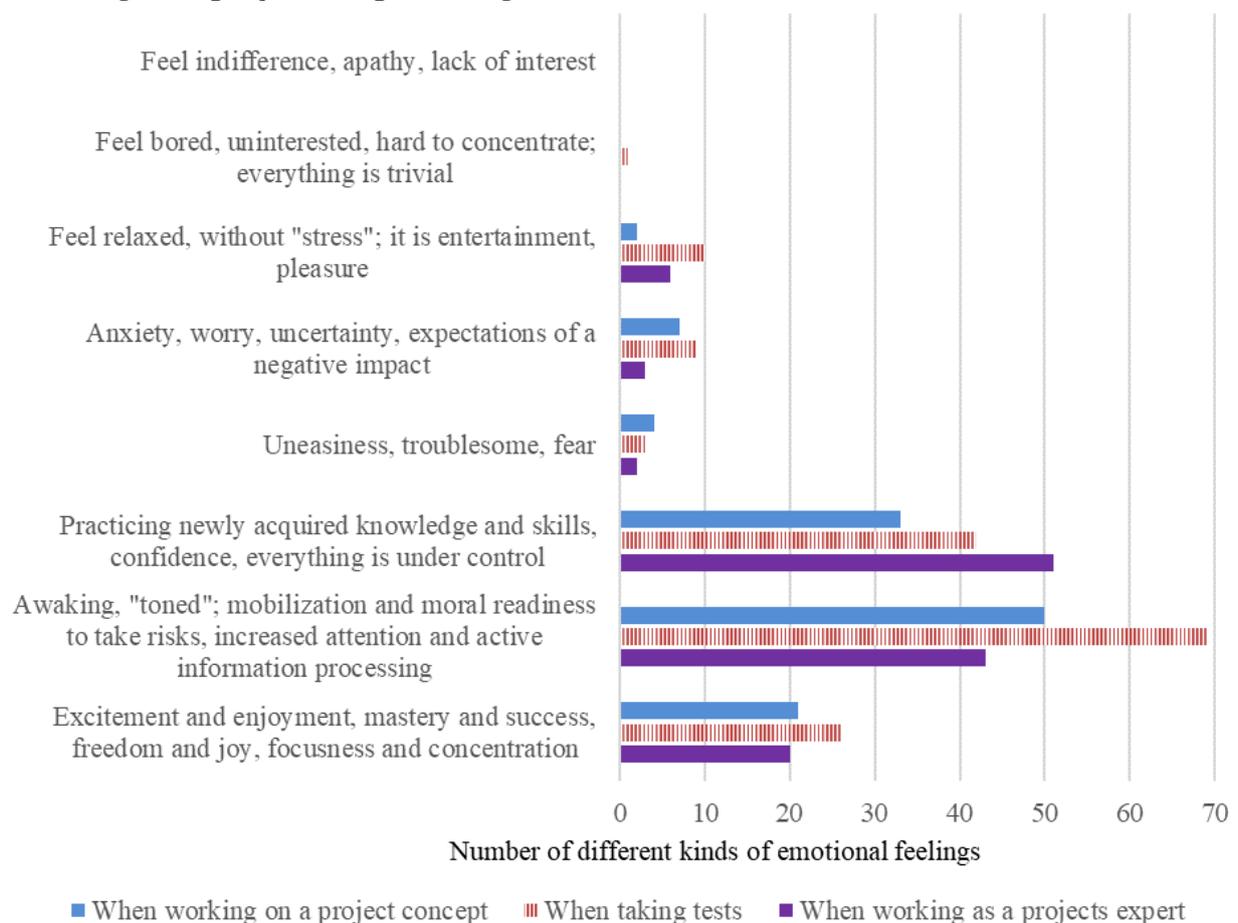


Figure 5 *The emotional state of participants of the "Local Development Project Management" e-course (2020) during the fulfillment of tasks (by authors)*

The proposed various topical types of learning activities, professional actions of tutors and facilitators contribute to the high learning and communicative activeness of participants throughout the course. The statistics graphs (Fig. 6, Fig.7) show how many hits there have been on various parts of the course website during one day.

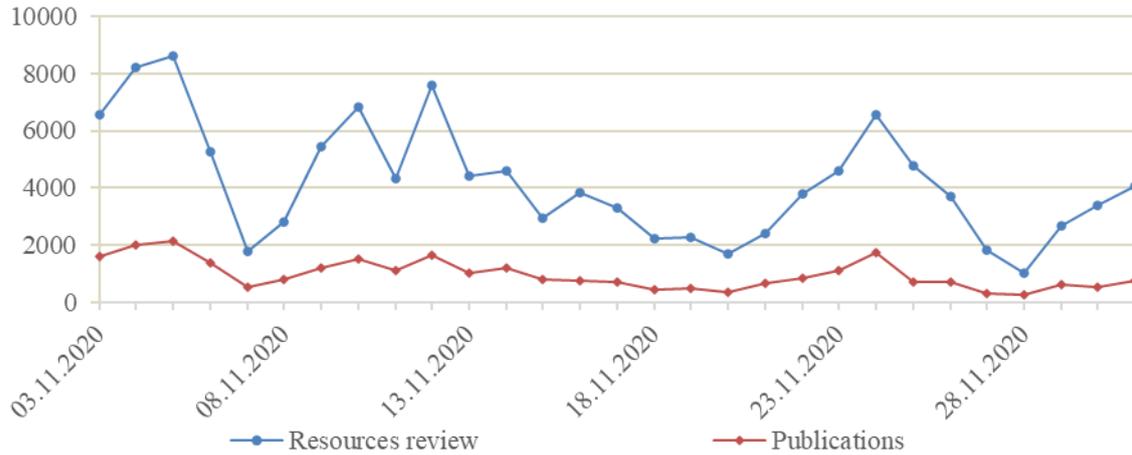


Figure 6 Participant activity of the "Local Development Project Management" e-course (2020) (resources review and publications)

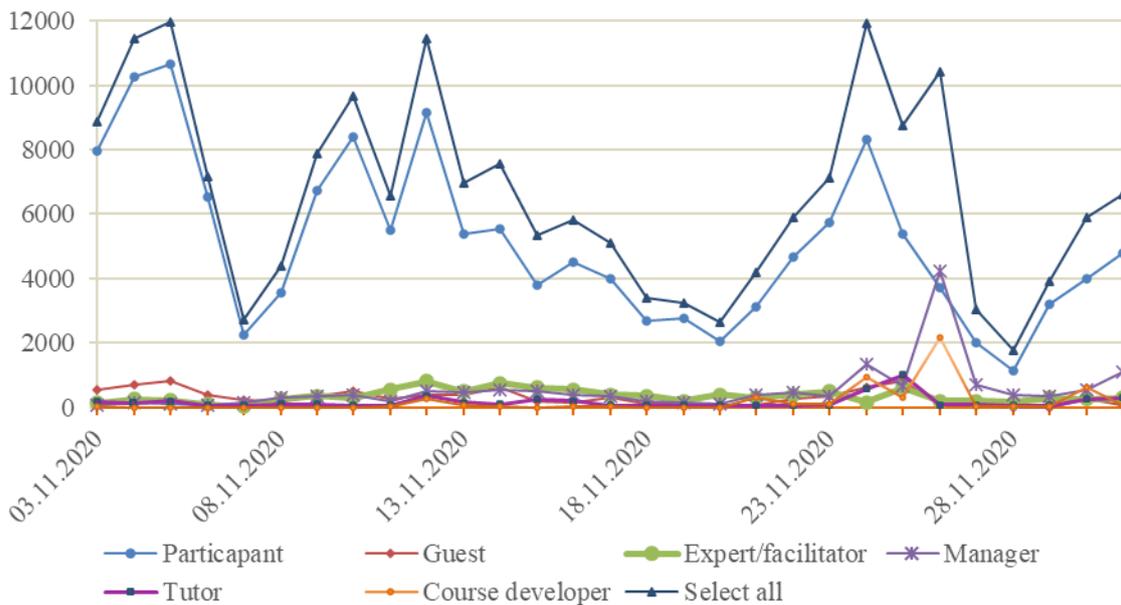


Figure 7 Fragment of the report on the overall activity in the "Local Development Project Management" e-course (2020) (by authors)

New knowledge and ideas generated by course participants in the process of learning, communication, and constructive interaction contribute to the

achievement of learning goals, promote the development of the community of practice.

4A (Action) – Practical actions on implementation of acquired knowledge.

All educational and information resources and activities in the electronic course create opportunities to meet various cognitive, professional, and social needs of the participants. To develop components of competence in the field of project management and apply knowledge gained in the learning process, in parallel with the processing of module materials of the course, participants should do the workshop: develop a concept of a local development project (learning), make concepts peer assessment, and exchange recommendations for their improvement.

To formulate the concept of their project, participants fill in all the components of the proposed template (project purpose, alternatives, goal, stakeholders, needs, and requirements of beneficiaries, project decisions, expected results, validation of project decisions, product and project specification, main activities (groups of work) according to the project, estimated duration, resources, budget, project risks, sustainability of results) and upload it for peer assessment.

The participants, who, according to the set requirements, have prepared and uploaded the concept of their local development project for peer assessment, continue to work in the workshop as experts. On assessing three project concepts of their colleagues following defined clear criteria, experts write detailed reviews with recommendations on how to improve them. The preliminary trial evaluation of the proposed example of a completed template for the concept of a local development project, which provides the opportunity to get acquainted with the assessment and tutor's reviews, enables participants' confidence in the expert role.

Peer assessment is a significant stage of practical actions for the implementation of acquired knowledge, as expert work not only allows formulating specific valuable tips on finalizing the concepts of colleagues but also seeing opportunities to improve own concept.

The curriculum of the course also provides an opportunity to improve or demonstrate the ability of public presentation of your project concept at the final online conference. Many course participants use this chance to attract the attention of stakeholders to the project and get feedback on their work.

Conclusions

The synergetic effect of two modern knowledge management tools (e-learning and community of practice) confirms the correctness of the choice of learning strategy – affordable and flexible practical learning.

E-learning provides high quality of the learning process, enables a harmonious combination of learning, professional activity, and the daily life of each participant. Studying in the CoP contributes to the correct awareness and deeper understanding of the existing individual and development of collective knowledge, the establishment of dialogue and partnerships, the acquisition and dissemination of best practices, the finding of efficient solutions, and their validation. It allows launching the non-standard, creative, and innovative thinking through the correct setting of tasks and selecting such learning activities that are an impulse for generating ideas. As a result of learning, participants develop competencies, gain experience and get new impressions.

The success of the electronic course in the CoP depends on a number of the following factors:

- the e-course goals meet the expectations of participants and the community as a whole;
- learning activity is the construction of new relevant knowledge and its application, the opportunity to get acquainted with the best practice. The learning tasks correspond to the level of competence of the community as a whole and the ability of each participant of the course;
- the social and cognitive presence of participants, where everyone can engage in a variety of learning activities, and the participation is fairly evaluated; can ask questions and get an answer, express opinions and share own experience; everyone's cognitive presence promotes cooperation, creativity, and generation of ideas;
- demonstration of the competencies acquired as a result of learning, awareness of the level of individual knowledge within the existing and newly created practice.

The electronic course design in the CoP and its content should attract and hold attention to the course, actualize the need for cognition and learning, involvement and interaction, cooperation and co-creation, actions and reflection.

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POSSIBILITIES OF A COLLEGIAL SUPPORT GROUP FOR IMPROVING THE PROFESSIONAL COMPETENCES OF TEACHERS DURING REMOTE WORK

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Abstract. *In educational institutions, collegial support groups as the form of pedagogical work have long been known and have been incorporated into the system of the organization of methodological work. These are mainly administratively formed long-term activity groups. This study focuses on the less studied so far freely formed short-term activity groups in an educational establishment. The analysis of the activities of the above-mentioned groups as a whole highlight their capabilities in remote working conditions. The study is based on literature analysis and pooling and analysis of structured interview data. The structured interview was designed to find out whether and how teachers come together in groups during remote work, to solve problems that have arisen during the work and what results this work has given. The study concluded that the remote activities of the collegial support group are successful, provided that the educational institution already has a sufficiently long tradition of organizing these groups.*

Keywords: *collegial support group, teachers, professional improvement*

Introduction

Over the last 10-15 years, collegial support groups have been given increased attention as a form of teacher training, because traditional forms of teacher training have become less effective as the pedagogical process and the requirements for managing and organising this process are evolving and changing. There are different types of collegial support groups aimed at improving teaching and learning, and the features of these groups in the main characteristics are consistent with each other. The advantages of the collegial support group, compared to the traditional professional development of teachers, are stated as follows: “Instead of scripted, one-size-fits-all professional development, these educators held conversations, shared practice, and negotiated ways to challenge one another becoming better teachers” (Hales, 2017).

A study analysis of recent years shows that the majority of researchers have focused on the type of collegial support groups focused on long-term functioning, namely, the duration of the activity of one group within 1-3 years. These types of groups are “designed to maintain a tight focus on individual teacher instructional improvement” (Keedy, Gordon, Winter, & Newton, 2001). The functioning of such groups is, of course, significant, but they are topical when there are no major shocks in the pedagogical process. On the other hand, if changes are to be introduced rapidly and solutions are to be found, long-term mutual monitoring of activities and consultation and finding solutions are not possible.

Short-term activity groups have been studied relatively less. D.Allen (Allen, 1998) classifies short-term groups as: training groups and groups of critical friends. The researcher has provided a general description of short-term collegial support groups, including their impact on the development of the institution. The activities of the training groups and the impact on the culture of the school organisation can be identified in a schematic manner (Fig. 1). On the other hand, as the basis of the activities of a group of critical friends, the researcher pointed out supervision, during which the group members share their positive and negative experiences and listen to comments and suggestions from other members of the group.



Figure 1 The structure of short-term group activities (according to D.Allen)

Existing studies have focused on the activities of collegial support groups on-site. However, the current situation is characterised by changes in the educational process, when teachers are forced to work remotely and/or in hybrid form (at the same time, both on-site and remotely). The question arises: is it possible for collegial support groups to operate in such a situation?, what is characteristic for this situation?

In this study, the authors focused on collegial support groups, with short-term activity (1-3 months) during remote work to understand: 1. Under what conditions can collegial support groups operate in remote mode?; 2. What goals can be achieved when working remotely?

Methods and Techniques

In order to find answers to the questions raised, a study was carried out during which, in the first place, the theoretical guidelines for the activities of the collegial support group were analysed, then, on the basis of the conclusions gained during the theoretical study of the formation and activities of a collegial support group, a structured interview for teachers was established. The survey was conducted in the form of a telephone interview. It allowed the structured interview to be supplemented with elements of the free interview in order to clarify certain views expressed by respondents. In the survey were involved educators from 3 educational institutions. The experience of the freely formed short-term action groups in the 2 selected schools has been for several years, in turn, 1 school did not have experience of such groups. A total of 55 teachers from general education schools were surveyed. With some of them an additional discussion was held after the interview. Because the survey showed a small number of respondents, all data is collected and displayed in absolute figures.

The term *collegial support group* was used neither during interviews nor during discussion, as it became clear in the pre-interviews that this term, which is used in scientific literature, was not recognised by teachers in Latvia. They know the broader concept of “support group” and it relates to different areas of social support (e.g. support groups for people with addictions, victims of violence, etc.).

Exposition

In Latvian educational institutions, the collegial support group has long been known as the form of pedagogical work and has been included in the structure of the methodical work organisation: methodological commissions and pedagogical boards. But they are long-term activity groups. Short-term collegial support groups

are less common, but there are educational institutions where such groups have also become common (Kāposta, 2014).

The task of the group is to help the individual solve the problems at work so that he can try new ideas and choose the appropriate solution during his work (Keedy, Gordon, Winter, & Newton, 2001).

All the studies analyzed (Allen, Attard, Hales, Kāposta, Solis, Gordon) show identical guidelines for the functioning of collegial support groups, which we will see below.

In the course of the group's work, the following steps are consequently observed:

1. Identifying the problem. The members of the Group shall discuss their experience and clearly and accurately define the problem and issues to which answers and solutions will be sought in the course of the work.
2. Studying the problem. Each member of the group shall choose or receive a specific question, which shall be undertaken to study in theory. (It should be followed that all issues are covered.) The individual problem is studied between sessions 1 and 2. During the 2nd session, the participants shall present each other with their research results, then they shall be discussed and associated with the experience of the participants.
3. Finding solutions. On the basis of an examination of the problem, potential solutions to the problem are identified and discussed. Each member of the group shall choose one of the possible solutions to check it in practice. In the next session, participants share experience on how they have been successful in implementing the solution: the results, what was a success, what was a failure. The experience of all participants is discussed, solutions are compared with each other. As a result, you can identify one of the most optimal options for the problem, or you can get a number of options to choose from according to the specific situation.

In addition, all authors note that the work going on continuously, the members of the group work dually: in a session – in a group and in between sessions – on an individual basis.

Key principles the learning in a group is based on:

- Learning with others and with the help of others. In particular, learning needs to have a clear learning goal and that goal is being pursued through other members of the group. If there is no clearly identified learning goal, a participant tends to act uninterested and, often, even ceases.
- The problem must be topical and sufficiently significant for all members of the group. If the solution to the problem is obvious, the problem for

most of the members of the group becomes uninteresting and untimely. That, in turn, means they won't get involved in the work.

- All members of the group are equal and co-responsible for all the work and its results. (All members of the group, regardless of the nature and extent of the work done, acquire the same right to author and use of the results.)
- To comply with the pre-defined operational and cooperation conditions during all the time of problem solving.

If all the above stated conditions are met, the result of the work of the collegial support group will be the following:

1. One or more alternative solutions to the problem has been obtained,
2. The methodology for solving problems is being acquired or improved,
3. Each member of the group is better acquainted with himself and his learning process as well as with group members.

However, in each separate case, of course, the results are more specific, and each member of the group has achieved his own individual objectives, because of which he has involved in the group's work.

In order for the group work to be effective, before starting to solve the problem it is necessary to:

- update the basic principles and agree on the conditions of action and cooperation. (This is usually the case for an agreement between each other on the terms of relations and communication.)
- define the role of each member in the group.
- agree on the frequency and duration of meeting sessions. That is, when and how long the group meeting will be held.

In the empirical part of the study, first of all, it was important to find out whether teachers formed collegial support groups during remote work. As shown in Figure 2, not all teachers surveyed engaged in larger or smaller groups during remote work in order to address the problems encountered during work. 21 respondents replied that during remote work they had not been involved in cooperation with colleagues to find a solution to arising problems during remote work. These respondents were asked why they had not been involved in cooperation with their colleagues (see Fig. 3 for a summary of answers).

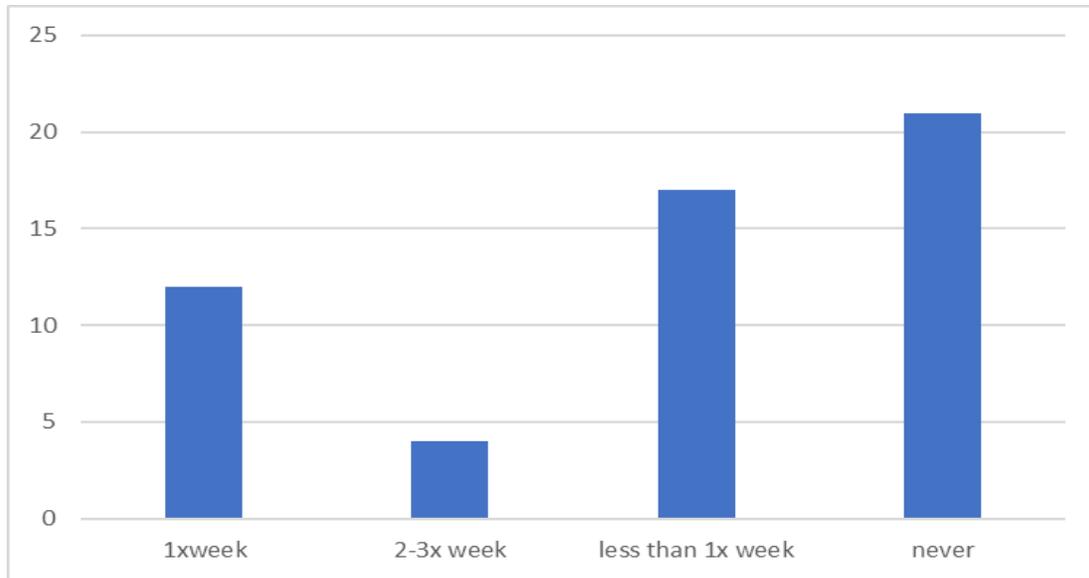


Figure 2 Frequency of group member meetings (created by authors)

An analysis of the reasons for not participating in the group (Figure 3) showed that teachers first indicated the excessive amount of time and work to be performed during remote work, but other reasons raised doubts as to whether this was the main reason. 16 out of 21 respondents indicated that their cooperation with colleagues was delayed by insecurity and fears of showing colleagues their ignorance and/or lack of competence on any issue. Such fears usually arise in those working groups where management has created conditions where employees compete with each other for recognition, where each tries to demonstrate itself as the best, most knowledgeable, most skillful, etc. This position, in turn, does not allow colleagues to be approached when the teacher is unable to cope with any problem. 8 respondents also identified other reasons where, in a different way, the fact that it was not normal in the educational establishment to spontaneously create such groups, in which to deal with topical issues together, all activities with problem-solving options (including identifying problems) were the work of the administration. In particular, teachers are not trying to improve their pedagogical process, but they expect for it either to be done or be organised by the management of the institution.

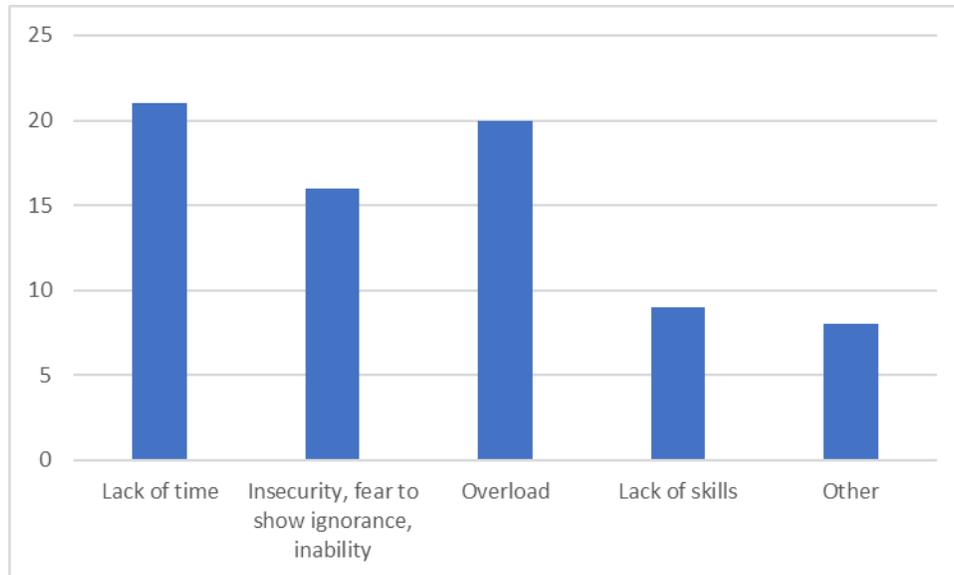


Figure 3 Reasons for not participating in support groups (created by authors)

Respondents who acknowledged that during remote work they had tried to interact with their colleagues in order to address the difficulties and problems encountered in unaccustomed working arrangements have made use of different IT resources for this purpose. Figure 4 shows what resources were used. Part of the communication was not in video format, but in correspondence. They have generally been brief statements, or an agreement on the timing of a regular or unscheduled appointment.

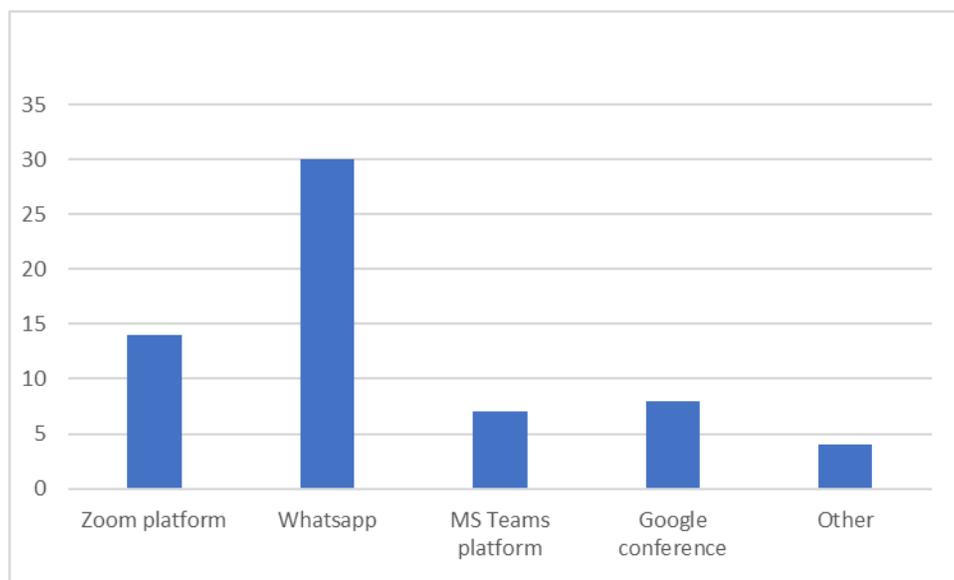


Figure 4 Meeting and communication platforms (created by authors)

The size of the groups (see Fig. 5) has been different for both the micro-groups (2-3 members) and the groups in which more than 5 members are present. But, quite a lot of respondents have pointed out that the number of members of the group has been variable during its activity time, namely, that part of their colleagues start to work, but after time, they quit the activities, there have also been cases of joining the group when it has already started. Most frequently, this has occurred in the resolution phase 2 and 3 (see page 3).

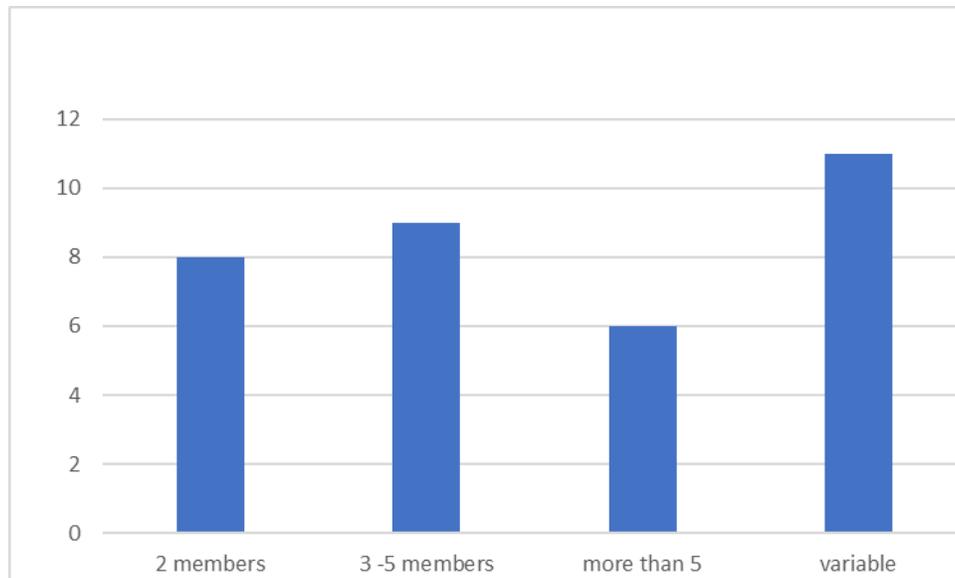


Figure 5 Number of participants in a group (created by authors)

In order for the collegial support group to be effective, one of the essential conditions is that each member of the group must have a clearly identified goal. Respondents could name 3 goals. (Not everyone used this opportunity.) Figure 6 shows that, initially, almost all members of the groups were willing to gain the support of colleagues, not to feel alone and abandoned in a difficult professional situation where, without the unusual, complicated working situation, there was also a need to overcome the long-term stress created by pandemic and lockdown. But also specific problems that occurred during the unaccustomed work needed to be identified and addressed. As we know, it is easier to find solutions collectively, particularly if there is already such a problem-solving experience.

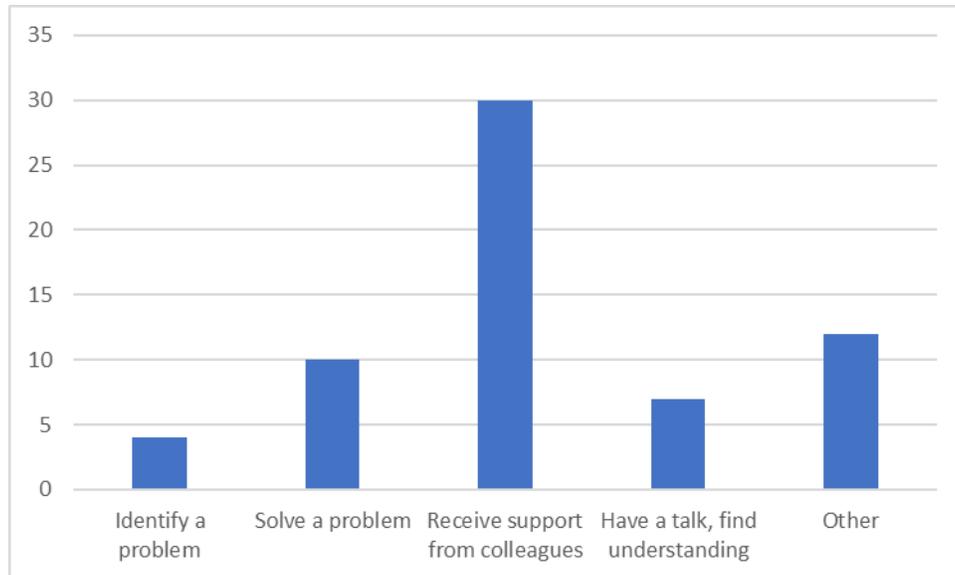


Figure 6 Goals of group members (created by authors)

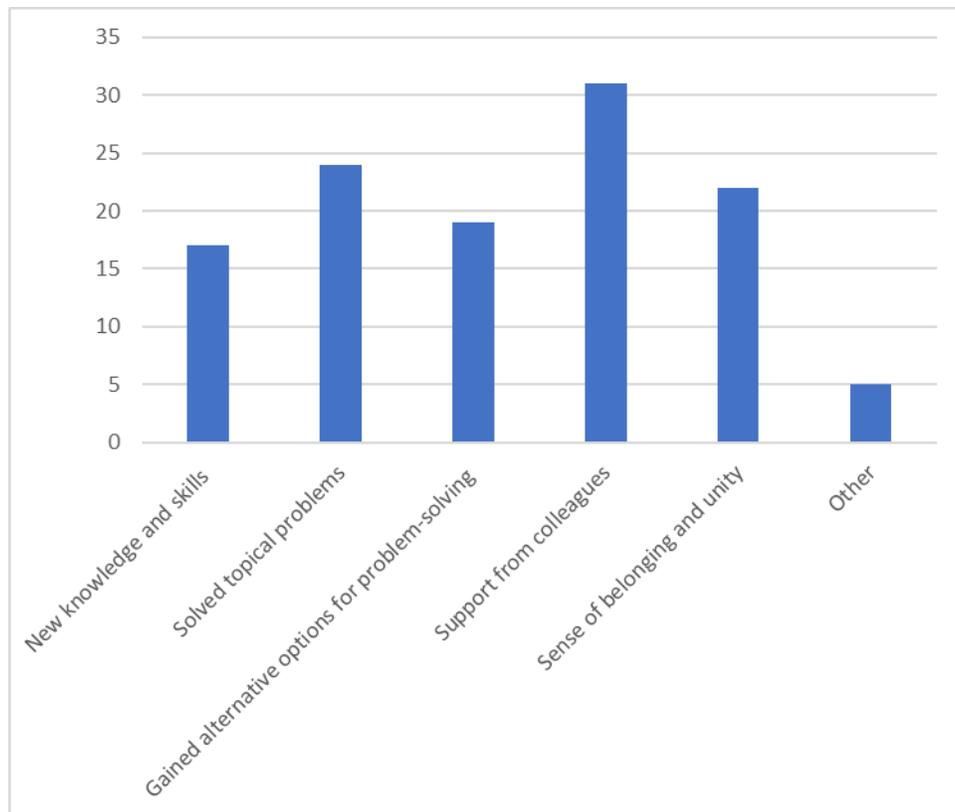


Figure 7 Work results achieved (created by authors)

According to various studies on the activities of collegial support groups (Allen, Attard, Hales, Keedy, Gordon, Winter, Newton), their results generally exceed the individual goal of each member. As a result of the group's work: one or more alternative solutions to the problem are being obtained; the methodology for solving problems is being acquired or improved; each member of the group is better acquainted with himself and his learning process and with his group members. These are the generally recognised results of the collegial support group. P.Halls indicates the following further results: professional development of participants through colleagues; tackling the challenges in cooperation; teaching and learning expertise; reflections and action. Respondents to this study also confirm the conclusions reached in previous studies relating to the results of collegial support groups, but during remote work, the support of colleagues and a sense of belonging and unity that is undeniably needed, since although the teacher works alone with his students, the objective of the teaching process can only be achieved collectively, so the teacher is a collective not an individual profession.

It can therefore be stated that the collegial support group can also operate remotely successfully. However, there are still enough questions that require further research.

Conclusions

1. The remote activities of the collegial support group are successful, provided that the educational institution already has a sufficiently long tradition of organizing these groups. If the search and resolution of solutions to the various topical challenges have been not only an administration's but also a teacher's initiative.
2. The main reason why collegial support groups are being formed during remote work is the desire of teachers to feel the support of colleagues and not to lose a sense of belonging to a collective and a particular educational institution.
3. Each member of the group must have a clear personal goal and a desire to support his or her colleagues. If there is no clear goal, it is likely that a member will untimely leave the group.
4. The remote work of collegial support groups is made difficult by the excessive amount of work of teachers, leading to time scarcity and overload.

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SUPERVIZORU PAŠPALĪDZĪBAS STRATĒGIJU PAŠNOVĒRTĒJUMS

The Self-Assessment of Supervisors' Self-Care Strategies

Dace Lāce

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Abstract. During the COVID-19 pandemic, the availability of resources has decreased and the risk of burnout on employees increased. Supervision is one of the resources, available for employees to learn self-care. It was necessary to find out how supervisors themselves assessed self-care strategies. The aim of this study was to explore the self-assessment of Latvian supervisors' self-care strategies. The following research questions were raised: 1) What are the indicators of the importance and attainability of supervisors' self-care strategies? 2) What are the difference indicators of the importance and attainability of supervisors' self-care strategies? In this study importance is an assessment of how significant and necessary a certain value is, attainability is an assessment of how attainable a certain value is. Based on the Self-Care Strategies Questionnaire, an online survey was conducted between May and October of 2021. The respondents assessed the importance and attainability of their self-care activities using a four-point Likert scale. 66 supervisors participated in the survey. For data analysis the descriptive statistics and Wilcoxon signed-rank test were used. The results showed statistically significant differences between the self-assessment of importance and attainability in all strategies. The importance was rated higher than attainability. Planning of time, balance of personal and professional life, being alone and in silence, professional development, reading were the self-care strategies more often assessed higher and more often carried out by supervisors.

Keywords: attainability, COVID-19 pandemic, importance, self-care, self-care strategy, supervision, supervisors.

Ievads

Introduction

Covid-19 pandēmijas izplatība, kam sekoja valstī izsludinātā ārkārtējā situācija, aktivitāšu un darbības ierobežojumi, sabiedrībā veicināja dažādas problēmas – paaugstinātu slodzi, psiholoģisko spiedienu ģimenēs, nepietiekamu valsts atbalstu (Krūmiņš et al., 2021). Latvijas sabiedrība piedzīvoja dzīvi mājāsēdē un attālinātu darbu. Pieaugot ierobežojumiem un samazinoties resursu pieejamībai, mainījās cilvēku ierastie paradumi un aktivitātes. Daļā sabiedrības aktualizējās veselības problēmas, pieauga vientulības, depresijas izjūtas,

pārmērīga alkohola lietošana, pašnāvnieciskas domas (Rancāns et al., 2021; World Health Organization, 2020).

Šī situācija aktualizēja nepieciešamību rūpēties par savu psiholoģisko labizjūtu, proti, pašpalīdzību (*self-care, self-help, self-care practices, self-help practices*). Pašpalīdzība tiek definēta kā iesaistīšanās aktivitātēs savas veselības un labizjūtas uzturēšanai un uzlabošanai, īpaši stresa periodos (Self-care, n.d.). Vairākos pētījumos (Matarese et al., 2018; Wong & White, 2021) pašpalīdzība tiek aprakstīta kā daudzdimensionāls process, kas ietver psihiskās, fiziskās, sociālās un garīgās jomas aktivitātes, ko indivīds praktizē savas labizjūtas pilnveidei. Pētījumos (Bundzena-Ervika et al., 2021; Crawford, 2020; Rancāns et al., 2021) norādīts, ka pašpalīdzības prakse sekmē veselības uzlabošanos, veicinot psiholoģisku noturību (*resilience*), un mazina izdegšanas (*burnout*) risku. Pašpalīdzības stratēģiju izmantošanas būtība ir praktizēt tās saskaņā ar individuālo vajadzību (Dryden, 2021; Mārtinsone et al., 2021; Wang et al., 2020).

Viens no pašpalīdzības veidiem ir sociālais atbalsts gan personīgajā, gan profesionālajā dzīvē, piemēram mijiedarbībā ar ģimeni, domu biedriem un supervīzijā (Rupert & Kent, 2007). Arī Latvijā veiktajā pētījumā supervīzija iekļauta kā viena no pašpalīdzības aktivitātēm psiholoģiskā un profesionālā atbalsta saņemšanai (Mārtinsone, Perepjolkina, & Ruža, 2021; Mārtinsone, Perepjolkina, & Ruža, in press). Supervīzija ir mērķtiecīgi organizēts konsultatīvs un izglītojošs atbalsts speciālistiem par jautājumiem, kas saistīti ar profesionālo darbību (Mārtinsone & Zakriževska-Belogrudova, 2020). Vairākās profesijās supervīzija ir darba obligāta sastāvdaļa (Psihologu noteikumi, 2018; Noteikumi par profesionāla sociālā darba attīstību pašvaldībās, 2019), bet, pieaugot vajadzībai pēc psihoemocionāla atbalsta nodarbinātajiem (Arbidāne et al., 2020), 2021. gadā Ministru kabinets Latvijā veicināja supervīzijas pieejamību izglītības iestāžu pedagogiem (Par finanšu līdzekļu piešķiršanu no valsts budžeta programmas, 2021).

Supervizoru profesionālā darbība saistīta ar dažādu profesiju klientiem (supervīzējamiem), kuri nereti darbā var piedzīvot paaugstinātu psihoemocionālu spriedzi un risina to supervīzijas procesā. Ņemot vērā, ka supervīzijā tiek realizēta arī izglītojošā funkcija (Apine, 2017), supervīzijas procesā ir iespējams veicināt klienta pašpalīdzības prasmju pilnveidi. Izglītojošās funkcijas īstenošanas priekšnoteikums ir supervizora kompetence.

Supervizora kompetencei nepieciešamās zināšanas, prasmes un attieksmes nosaka profesijas standarts (Profesionālās izglītības un nodarbinātības trīspusējās sadarbības apakšpadome, 2019), taču saistībā ar pandēmijas ieviestajām sociālās dzīves izmaiņām aktualizētā pašpalīdzības prasme nav supervizoriem obligāti nepieciešamo kompetenču sarakstā. Profesijas ētikas pamatnostādnes (Association of National Organisation for Supervision in Europe, 2012) ietver vairākus punktus par atbildību pret klientu. Tādējādi pašpalīdzības praktizēšana iegūst aktualitāti supervizora profesijā, līdzīgi kā citās palīdzošajās profesijās

(Ziede & Norcross, 2020). Lai iespējams plānot nākotnē nepieciešamo profesionālās pilnveides daļu pašpalīdzības jomā, svarīgi noskaidrot, kāda ir supervizoru pašpalīdzības aktivitāšu pieredze.

Šajā pētījumā pašpalīdzība tiek aplūkota kā resurss, kas ir vērtība, pamatojoties uz krievu psiholoģes Jeļenas Fantalovas teoriju par vērtības nozīmīguma un īstenojamības attiecībām (Fantalova, 2001, 2015). Nozīmīgums (*cennost'*) tiek saprasts kā kādas vērtības svarīguma, nozīmīguma pašnovērtējums. Īstenojamība (*dostupnost'*) tiek saprasta kā kādas vērtības sasniedzamības, pieejamības pašnovērtējums. Atbilstoši J. Fantalovas teorijai, vērtības nozīmīguma un īstenojamības attiecības ietekmē cilvēka motivāciju un uzvedību. Ja vērtības nozīmīguma pašnovērtējums ir augstāks par īstenojamības pašnovērtējumu, veidojas iekšējais konflikts. Ja īstenojamības pašnovērtējums ir augstāks par nozīmīgumu, veidojas motivācijas trūkums (vakuums). Ja nozīmīguma un īstenojamības pašnovērtējumi ir līdzīgi, iegūstams harmonisks stāvoklis (Fantalova, 2001, 2015).

J. Fantalovas teorija palīdz skaidrot attiecības starp supervizoru pašnovērtēto pašpalīdzības aktivitāšu nozīmīgumu un īstenojamību. Situācijā, ja supervizori pašpalīdzības aktivitāti uzskata par palīdzošu, bet to nerealizē, varētu rasties iekšējā konflikta stāvokļa risks. Motivācijas trūkuma (vakuuma) stāvoklis iespējams, ja pašpalīdzības aktivitāte tiek īstenota, bet supervizori nesaskata tās palīdzējo efektu. Harmonisks stāvoklis definējams, ja pašpalīdzības aktivitāte novērtēta kā nozīmīga un tiek praktizēta.

Pētījuma veikšanai tika izmantots validēts pašpalīdzības izpētes mērinstruments – Pašpalīdzības stratēģiju (turpmāk tekstā – PPS) aptauja (Mārtinsone, Perepjolkina un Ruža, in press). PPS aptaujas pantu novērtējums pamatots Jeļenas Fantalovas (Fantalova, 2001, 2015) teorijā par vērtības nozīmīguma un īstenojamības attiecībām.

Ņemot vērā, ka supervizoru pašpalīdzības stratēģijas Latvijā līdz šim nav pētītas, pētījuma mērķis bija noskaidrot, kāds ir supervizoru pašpalīdzības stratēģiju pašnovērtējums.

Atbilstoši pētījuma mērķim tika formulēti pētnieciskie jautājumi.

1. Kādi ir supervizoru pašnovērtētie pašpalīdzības stratēģiju nozīmīguma un īstenojamības rādītāji?
2. Kādas ir atšķirības starp supervizoru pašnovērtētiem pašpalīdzības stratēģiju nozīmīguma un īstenojamības rādītājiem?

Metodoloģija *Methodology*

Instrumentārijs.

Sociāli demogrāfiskā aptauja ietvēra jautājumus par respondenta vecumu, dzimumu, supervizora darba pieredzi un slodzi.

Pašpalīdzības stratēģiju (PPS) aptauja (Mārtinsone, Perepjolkina, & Ruža, in press), kas sastāv no 14 pašpalīdzības stratēģiju skalām: *veselības uzvedība, iedvesmas smelšanās dabā, izklaide, rekreācijas pasākumi, sociālais atbalsts, garīgas reliģiskas prakses, garīgas nereliģiskas prakses, rūpes par savu labizjūtu, būšana vienatnē un klusumā, psiholoģiskā un profesionālā atbalsta saņemšana, personīgās un profesionālās dzīves balanss, kolēģu atbalsts, profesionālā attīstība, laika plānošana*, divas aktivitātes neietilpst skalās: *radošo aktivitāšu veikšana (zīmēšana, gleznošana, dziedāšana, mūzikas instrumenta spēlēšana, fotografēšana, rokdarbi), lasīšana*.

PPS aptauju veido divas daļas, katra no tām satur 63 aktivitāšu uzskaitījumu. Pirmajā daļā respondentam jānovērtē pašpalīdzības aktivitāšu nozīmīgums četrpunktu Likerta skalā, kur 1 – nemaz nepalīdz / netiek izmantots; 2 – nedaudz palīdz; 3 – daļēji palīdz; 4 – palīdz. Aptaujas otrajā daļā jānovērtē pašpalīdzības aktivitāšu īstenojamība četrpunktu Likerta skalā, cik daudz laika respondents veltīja aktivitātei, kur 1 – nemaz neveltu laiku / nekad; 2 – nedaudz veltu laiku; 3 – veltu gana daudz laika / bieži; 4 – veltu tik daudz laika, cik nepieciešams / ļoti bieži / regulāri. PPS aptaujā nav pareizo un nepareizo atbilžu.

Dalībnieki. Tika aptaujāti supervizori, kuri reģistrējušies biedrībā “Latvijas supervizoru apvienība” (LSA). Pētījumā piedalījās 66 respondenti. Pētījuma respondentu vidū bija 6 jeb 9 % vīriešu un 60 jeb 91 % sieviešu¹. Vecumā no 47 līdz 62 gadiem bija 30 respondenti jeb 46 %, 18 respondenti jeb 27 % bija vecumā no 40 līdz 46 gadiem, 16 respondenti jeb 24 % bija vecumā no 28 līdz 39 gadiem, un divi respondenti jeb 3 % – vecumā no 63 līdz 72 gadiem.

Rezultāti par darba pieredzi un slodzi, praktizējot supervizora profesijā, tika iegūti no 56 respondentiem, un tie rāda, ka 49 % supervizora profesijā strādā līdz 2 gadiem, 19 % respondentu profesijā strādā 3–4 gadus, 12 % strādā 5–6 gadus, 2 % strādā 7–8 gadus, 18 % profesijā strādā ilgāk par 9 gadiem. Savukārt dati par darba slodzi supervizora profesijā liecina, ka trīs respondenti jeb 5 % strādā pilnu slodzi, 8 respondenti jeb 14 % – ½ slodzi, 10 respondenti jeb 18 % strādā ¼ slodzes, bet 36 respondenti jeb 63% supervizora profesijā strādā neregulāri.

Procedūra. Pētījums tika īstenots no 2021. gada 1. maija līdz 18. oktobrim. Interneta aptauju vietnē *visidati.lv* tika ievietota elektroniski izveidota PPS aptauja. PPS aptaujas pieejas saite elektroniski tika nosūtīta e-pastos visiem LSA reģistrētajiem supervizoriem. Lai veicinātu respondentu dalību, pētnieces² nosūtīja atkārtotu aicinājumu, kā arī uzrunāja supervizorus telefoniski, izmantojot biedrības mājas lapā publiski pieejamo kontaktinformāciju saziņai.

¹ LSA reģistrēto supervizoru dzimumu sadalījums laikā, kad notika aptauja, bija 14 jeb 7,8 % – vīrieši un 165 jeb 92,2 % – sievietes.

² Aptauja tika izplatīta sadarbībā ar pētnieci Tatjanu Bergmani, kura veica pētījumu par supervizoru digitālās kompetences nozīmīgumu un īstenojamību.

Respondenti tika informēti, ka dalība pētījumā ir brīvprātīga, aptauja ir anonīma, dati tiks analizēti kopumā un, pētījumam noslēdzoties, respondenti saņems aptaujas rezultātu apkopojumu.

Rezultāti Results

Aptaujas skalu empīriskā sadalījuma atbilstība normālsadalījumam tika pārbaudīta, izmantojot Kolmogorova – Smirnova testu. Tā kā tika konstatēts, ka sniegto atbilžu sadalījums neatbilst normālsadalījumam, tālākajā datu analizē tika izmantota neparametriskās statistikas metode – Vilkoksona zīmju rangu tests (*T*).

Datu apstrāde un analīze tika veikta *MS Excel* un *IBM SPSS Statistics 27* datorprogrammās.

Atbildot uz pirmo pētījuma jautājumu, proti, kādi ir supervizoru pašpalīdzības stratēģiju nozīmīguma un īstenojamības rādītāji, tika analizētas nozīmīguma un īstenojamības skalu mediānas (*Mdn*) un starpkvartīļu amplitūdas (*IQR*) (sk. 1. tabulā).

1. tabula. Supervizoru pašpalīdzības stratēģiju nozīmīguma un īstenojamības atšķirības rādītāju rezultāti (autoru veidots)

Table 1 Results of difference indicators of the importance and attainability of supervisors' self-care strategies (created by authors)

Pašpalīdzības aktivitāšu skalas / aktivitātes	Nozīmīgums	Īstenojamība	<i>T</i>
	<i>Mdn (IQR)</i>	<i>Mdn (IQR)</i>	
Veselības uzvedība	3,65 (3,50; 4,00)	2,83 (2,50; 3,33)	-6,883***
Iedvesmas smelšanās dabā	3,00 (2,60; 3,60)	2,40 (2,00; 3,00)	-6,489***
Izklaide	2,00 (1,66; 2,66)	1,66 (1,33; 2,00)	-5,470***
Rekreācijas pasākumi	3,50 (3,00; 4,00)	2,40 (1,80; 2,80)	-6,728***
Sociālais atbalsts	3,75 (3,00; 4,00)	2,75 (2,25; 3,25)	-6,201***
Garīgās reliģiskās prakses	2,37 (1,75; 3,25)	1,75 (1,18; 2,50)	-6,362***
Garīgās nereliģiskās prakses	2,75 (2,00; 3,31)	2,00 (1,75; 2,50)	-6,225***
Rūpes par savu labizjūtu	3,20 (2,60; 3,60)	2,60 (2,00; 2,85)	-5,946***
Būšana vienatnē un klusumā	4,00 (3,37; 4,00)	3,00 (2,00; 4,00)	-5,185***
Psiholoģiskā un profesionālā atbalsta saņemšana	3,25 (2,50; 3,75)	2,25 (1,75; 2,50)	-6,752***
Personīgās un profesionālās dzīves balanss	3,80 (3,40; 4,00)	3,00 (2,40; 3,40)	-6,603***

Kolēģu atbalsts	3,20 (2,60; 3,60)	2,50 (2,00; 3,00)	-5,840***
Profesionālā attīstība	3,80 (3,20; 4,00)	3,00 (2,60; 3,40)	-5,907***
Laika plānošana	3,50 (2,75; 4,00)	3,00 (2,25; 3,25)	-4,707***
Radošu aktivitāšu veikšana	4,00 (2,75; 4,00)	2,00 (2,00; 3,00)	-5,777***
Lasīšana	4,00 (3,00; 4,00)	3,00 (2,00; 4,00)	-4,871***
Kopējie rādītāji	3,21 (2,96; 3,45)	2,51 (2,28; 2,78)	-7,044***

Piezīmes. $N=66$. *** $p < 0,001$. Apzīmējumi: T – Vilksona kritērijs.

13 no 14 pašpalīdzības skalām un divos pantos, kas neietilpst skalās, nozīmīgums novērtēts robežās no “daļēji palīdz” līdz “palīdz” ($Mdn = 3,00-4,00$). Īstenojamības rādītāji šajās skalās novērtēti zemāk – no “nedaudz veltu laiku” līdz “veltu gana daudz laika / bieži” ($Mdn = 2,00-3,00$).

Trijās skalās nozīmīgums novērtēts ar maksimālo punktu skaitu. Salīdzinot šajās skalās nozīmīguma un īstenojamības rādītājus, var konstatēt, ka *būšanu vienatnē un klusumā* supervizori atzīmē kā palīdzošu ($Mdn = 4,00$; $IQR = 3,37$; $4,00$) un velta tai gana daudz laika ($Mdn = 3,00$; $IQR = 2,00$; $4,00$). Līdzīgi, arī *lasīšanu* supervizori novērtējuši kā palīdzošu ($Mdn = 4,00$; $IQR = 3,00$; $4,00$) un velta tai gana daudz laika ($Mdn = 3,00$; $IQR = 2,00$; $4,00$). *Radošo aktivitāšu veikšanu* supervizori novērtējuši kā palīdzošu ($Mdn = 4,00$; $IQR = 2,75$; $4,00$), taču ar “nedaudz veltu laiku” – kā mazāk īstenotu ($Mdn = 2,00$; $IQR = 2,00$; $3,00$).

Nevienai skalai nav sasniegts maksimālais īstenojamības novērtējums. Augstākos novērtējumus ($Mdn = 3,00$) uzrāda piecas skalas – *būšana vienatnē un klusumā*, *personīgās un profesionālās dzīves balanss*, *profesionālā attīstība*, *laika plānošana*, *lasīšana*.

Supervizori piecas pašpalīdzības stratēģijas vērtējuši kā nozīmīgas un visbiežāk īstenotas – *laika plānošanu*, *personīgās un profesionālās dzīves balansu*, *lasīšanu*, *būšanu vienatnē un klusumā*, *profesionālo attīstību*.

Kā vismazāk nozīmīgās un vismazāk īstenotās stratēģijas supervizori atzīmējuši *izklaidi* un *garīgās reliģiskās prakses*.

Atbildot uz otro pētījuma jautājumu, proti, kādi ir supervizoru pašpalīdzības stratēģiju nozīmīguma un īstenojamības atšķirības rādītāji, tika izmantots Vilksona zīmju rangu tests (T) (sk. 1. tabulā). Tika konstatētas statistiski nozīmīgas atšķirības ($p < 0,001$) starp supervizoru pašnovērtēto pašpalīdzības stratēģiju nozīmīguma un īstenojamības rādītājiem. Mediānu analīze parādīja, ka visās skalās un ārpuskalu pantos augstāki rādītāji ir nozīmīgumam. Kopējie rādītāji liecina par tendenci, ka nozīmīgums pašnovērtēts augstāk ($Mdn = 3,21$; $IQR = 2,96$; $3,45$) kā īstenojamība ($Mdn = 2,51$; $IQR = 2,28$; $2,78$).

Diskusija Discussion

Pētījums veikts laikā, kad Covid-19 raisītā krīze paaugstināja dažādus riskus nodarbinātajiem (Krūmiņš et al., 2021) un valsts veicināja supervīziju kā pieejamu atbalsta pasākumu (Ministru kabinets, 2021). Supervizora profesionālā darbība saistīta ar pakalpojuma sniegšanu dažādu jomu speciālistiem, tostarp profesionāļu grupām, kurās ir potenciāli augsts izdegšanas risks (Bundzena-Ervika et al., 2021), tāpēc supervizoriem kā palīdzības sniedzējiem svarīgi apzināties pašpalīdzības aktivitātes, kas ir viņiem palīdzošas, un tās īstenot (Ziede & Norcross, 2020), lai nepieciešamības gadījumā varētu mācīt tās saviem klientiem.

No pētījuma rezultātiem izriet, ka supervizoriem nozīmīgās un visbiežāk īstenotās pašpalīdzības aktivitātes, kas, pēc J. Fantalovas teorijas, liecina par “harmonisko stāvokli” (Fantalova, 2001, 2015), ir *laika plānošana, personīgās un profesionālās dzīves balanss, lasīšana, būšana vienatnē un klusumā, profesionālā attīstība*. Stratēģija *laika plānošana* kā palīdzošā norādīta arī citā pētījumā Latvijas populācijā (Bundzena-Ervika et al., 2021). Pamatojoties uz šiem rezultātiem var secināt, ka būtiski veicināt supervizoru spēju realizēt pašpalīdzības stratēģijas saskaņā ar katra individuālajām vajadzībām.

Iespējamu iekšējā konflikta risku (Fantalova, 2001, 2015) atklāj nozīmīguma un īstenojamības rādītāji *radošo aktivitāšu veikšanai*, kuru supervizori pašnovērtējuši kā ļoti palīdzošu, bet velta tai tikai nedaudz laika. Savukārt vismazāk nozīmīga un maz īstenota stratēģija ir *garīgās reliģiskās prakses*, līdzīgi kā iepriekš Latvijā veiktā pētījumā (Bundzena-Ervika et al., 2021).

Salīdzinot pašpalīdzības skalu nozīmīguma un īstenojamības rādītājus, nevienā skalā netika konstatēti augstāki īstenojamības rādītāji, proti, supervizori nerealizē tādas pašpalīdzības aktivitātes, kurām nesaskata jēgu un nozīmi.

Iemesli, kas kavē supervizoriem realizēt pašpalīdzību tādā apjomā, kādā tā šajā pētījumā norādīta kā nozīmīga, būtu noskaidrojami turpmākos pētījumos.

Izvērtējot pētījuma rezultātus, jāņem vērā ierobežojumi, kas saistīti ar aptaujas metodi, apjomu, kā arī supervizoru pieredzi profesijā. Elektroniskā aptauja, iespējams, sasniedza tikai to supervizoru daļu, kuri aktīvi darbojas supervizora profesijā. Aptaujas apjoma dēļ tās veikšanai bija nepieciešams atvēlēt laiku līdz 25 minūtēm. Lielākā daļa respondentu bija ar supervizora darba pieredzi līdz četriem gadiem. Tomēr iegūtie rezultāti indikatīvi veido kopējo tendenci.

Sabiedrībā aktualizētā vajadzība rūpēties par psihoemocionālo veselību, veicinot psiholoģisko noturību un izdegšanas profilaksi (Crawford, 2020; Rancāns et al., 2021) supervīziju iekļauj nodarbinātajiem pieejamā pašpalīdzības aktivitātē. Tas ir pamats supervizoriem reaģēt uz nodarbināto vajadzībām, iekļaujot supervīzijā pašpalīdzības prasmju mācīšanu. Nākotnes perspektīvā

būtiski plānot nepieciešamos resursus supervizora profesijas attīstībai un pakalpojuma pilnveidei saistībā ar pašpalīdzības prasmju apguvi un īstenošanu.

Pētījumā izmantoto PPS aptauju ieteicams lietot supervizoriem primāri sevis pašnovērtēšanai, pašrefleksijai un pašpalīdzības aktivitāšu nozīmīguma un īstenošanas apzinātai balansēšanai, periodiski pašnovērtējot ilgtermiņa ieguvumus.

Turpmākos pētījumos ieteicams analizēt, kā sadarbībā ar klientiem supervīzijas procesā tiek realizēta pašpalīdzības prasmes mācīšana vai pilnveidošana un supervizējamo iespējamo ieguvumu novērtēšana.

Secinājumi *Conclusions*

Kopumā secināms, ka pētījuma mērķis – noskaidrot, kāds ir supervizoru pašpalīdzības stratēģiju pašnovērtējums, – ir sasniegts. Tika izpētītas supervizoru pašpalīdzības stratēģijas pēc to nozīmīguma un īstenojamības, kā arī noskaidrotas pašpalīdzības stratēģiju nozīmīguma un īstenojamības rādītāju atšķirības.

Atbildot uz pētījuma jautājumiem par supervizoru pašpalīdzības stratēģiju nozīmīguma un īstenojamības rādītājiem, kā arī rādītājos konstatētajām atšķirībām, var secināt, ka supervizori visu pašpalīdzības stratēģiju nozīmīgumu pašnovērtējuši augstāk nekā to īstenošanu. Rezultāti ļauj secināt, ka ikdienā supervizori pašpalīdzības aktivitātes realizē retāk un mazāk, nekā novērtē to nozīmīgumu un palīdzozo dabu.

Pētījuma rezultāti kopumā ļauj identificēt tendenci, ka supervizori apzinās sev palīdzošās stratēģijas, jo sniedz augstu nozīmīguma pašnovērtējumu konkrētām pašpalīdzības aktivitātēm, norādot tās kā palīdzošas. Savukārt īstenojamības pašnovērtējums, kas atklāj aktivitāšu realizēšanas tendences ikdienā, iespējams, liecina, ka supervizoriem ir nepieciešama atbalstoša mācīšanās, lai nākotnē spētu realizēt pašpalīdzību atbilstoši savai vajadzībai. Pašpalīdzības praktizēšana ikdienā supervizoriem ir būtiska kā palīdzošās profesijas pārstāvjiem, pirmkārt, lai rūpētos par savu psiholoģisko noturību, bet plašākā skatījumā, raugoties no pakalpojuma saņēmēja skatu punkta, – lai nākotnē supervizori varētu palīdzēt pašpalīdzības praktizēšanu pilnveidot saviem klientiem.

Iemesli, kāpēc supervizori pašpalīdzības aktivitātes praktizē mazāk, nekā atzīst to nozīmīgumu, var tikt pētīti turpmākos pētījumos, rodot specifiskākus ieteikumus profesijas attīstībai.

Summary

During the last two years availability of various resources has decreased due to the restrictions imposed by the Covid-19 situation. Self-care as a resource was

known even before the pandemic, however right now the self-care activities have been actualized for people to be able to improve self-awareness in both personal and professional life. It forces the society and employers to search for other solutions to provide support for employees.

One of the possibilities to get support and practice self-care is supervision. For certain professions in Latvia supervision is a mandatory part of work and starting from the year 2021 the state is increasing the availability to financially supported supervision to the school pedagogues.

Supervisors were selected as the target group of this research based on the topicality of the need for available resources for employees in broad professional groups. There has been no prior research conducted regarding the supervisors' self-care strategies which are important for supervisors as helping professionals.

The aim of this study was to explore the self-assessment of the Latvian supervisors' self-care strategies, namely, to identify the self-assessment of importance and attainability of self-care strategies for supervisors and explore the differences between the self-assessment indicators.

The theoretical framework of the research is based on an idea borrowed from the Russian psychologist Jelena Fantalova's value conflict theory. In the research self-care was viewed as a resource that is a value, additionally exploring the differences between the importance of self-care (to what extent it helps) and attainability (how much time is spent on it).

The study used the Self-Care Strategies Questionnaire which included 63 self-care activities. Supervisors assessed the importance and attainability of self-care activities on a four-point Likert scale. The descriptive statistics and Wilcoxon signed-rank test were used for data analysis.

The results of the survey of supervisors' self-care strategies revealed statistically significant differences in all self-care scales. The median indicators of the importance were scored higher in all scales. Interpreting the results according to E. Fantalova's theory about importance and attainability of the value that affects behaviour of a person, it was concluded that the practice of self-care strategies among supervisors indicated a risk of the inner conflict possibility.

This research showed that supervisors as professionals who purposefully organize and provide support to their clients and professionals in various fields must acknowledge the self-care activities in their own lives, learn to knowingly practice them and when necessary to teach self-care activities to their clients.

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BOOSTING LIFELONG LEARNING FOR GENERAL SECONDARY SCHOOLTEACHERS: DIGITAL COMPETENCE DEVELOPMENT AMID BLENDED LEARNING

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Abstract. *The research is targeted at examining general secondary schoolteachers' strategies for assessing, self-assessing and improving their digital competence. The authors also define the scope of the most effective strategies for developing schoolteachers' digital competence amid blended learning caused by the Covid-19 pandemic. The main aim of research is to clarify the most effective ways of improving schoolteachers' digital competence amid blended learning caused by the Covid-19 pandemic. The research activities have been organized and realized taking into account the undisputable fact that digital competence is the key one for lifelong learning. The research methodology for generalizing theoretical material and empirical data collecting implies combining theoretical (analysis and synthesis) and empirical (a web-based questionnaire, individual interviews, conversations with respondents and analysis of reflexive texts) methods of investigation. The research sample consists of 1284 general secondary schoolteachers from different regions of Ukraine. The authors examine information obtained by using the mentioned combination of empirical methods of investigation. As a result of research some certain strategies for developing schoolteachers' digital competence are found out, described and recommended for being implied into both the system of general secondary school education and the system of general secondary schoolteachers' postgraduate education. It is also proved that the process of developing general secondary schoolteachers' digital competence amid blended learning organized effectively is the basis for boosting their further lifelong learning.*

Keywords: *blended learning, Covid-19 pandemic, digital competence, general secondary schoolteachers, lifelong learning tasks.*

Introduction

The Covid-19 pandemic has completely changed teachers' and students' perceptions of educational process in general and organizing effective delivery of

instruction by means of various digital technologies in particular. And to deliver quality education remotely or to develop digital educational materials teachers have to be great at digital technologies. In this regard, we fully share the idea put forward by Sysoieva (2021). The researcher believes that due to the outbreak of coronavirus disease “the attention of scientists and practitioners today is focused on the problems of digitalization of education, the educational process, the organization of professional training in the digital environment” (Sysoieva, 2021, p. 15).

Recent two years show that to deliver quality education amid remote and blended learning caused by the Covid-19 pandemic, present-day teachers have to constantly update their professional expertise, lifelong learning skills and competences. To be competitive at the labor market and to be able to meet the challenges of the millennium and the digital society we live in, teachers as any other specialists have to possess “the right set of skills and competences ...” (2018, p. 1). Thus, according to the Council Recommendations of 22 May 2018 on key competences for lifelong learning (2018), people who work in different spheres should be able to enjoy the right for developing a broad range of key competences for lifelong learning. It means that the development of these competences should last throughout their lives. Thus, along with literacy competence, multilingual competence, mathematical competence and competence in science, technology and engineering, personal, social and learning to learn competence, citizenship competence, entrepreneurship competence, cultural awareness and expression competence, a significant role is given to digital competence.

Even before the Covid-19 pandemic many scientists raised the questions concerning the need to develop digital competence among university lecturers and general secondary schoolteachers (Dzhurylo & Shparyk, 2019; Lund, Furberg, Bakken, & Engelién, 2014; Malykhin, Aristova, Kovalchuk, Opaliuk, & Yarmolchuk, 2020; Røkenes, & Krumsvik, 2014). Their explanations were rather logical. Digital era makes new demands to education and teachers. To be on the same page with present-day students teachers have to know how to use Internet, educational software, game-based learning platforms and open educational resources to enrich their lessons and sparkle students’ cognitive interest taking into account their individual abilities and needs. In their research some scholars explain that applying various digital technologies in the teaching process teachers are able to change both their roles and the roles of their students, to diversify classes using online resources and, what is more important, to deliver instruction in a completely different way (Maksimović & Dimić, 2016).

After the first shift to distance teaching and learning in March 2020, various papers started to appear in the scientific press concerning university lecturers’ and schoolteachers’ readiness to deliver instruction remotely, opinions on their digital skills, challenges they had to face with and lessons they learned from this

experience (Garzón-Artacho, Sola-Martínez, Romero-Rodríguez, & Gómez-García, 2021; Portillo, Garay, Tejada, & Bilbao, 2020). But nevertheless, the scientific press lacks large-scale studies aimed at demonstrating the progress made by general secondary schoolteachers in developing their professional competences including digital one. In this regard the problem on Ukrainian general secondary schoolteachers' digital competence development amid blended learning needs to be addressed.

Methodology

Along with theoretical methods of investigation including analysis and synthesis of relevant papers, reports and regulatory documents, the researchers used empirical ones which included a web-based questionnaire, individual interviews, conversations with respondents and analysis of reflexive texts. The whole research, which lasted for 4 months, was conducted in two stages and was aimed at reaching a large target audience. The first stage which included individual interviews and conversations with general secondary schoolteachers via telephone calls and face-to-face meeting and analysis of reflexive texts written by general secondary schoolteachers and sent back via email started in September 2021. It lasted till the end of October 2021. During the second stage researchers conducted a web-based survey. It started in November 2021 immediately after the new Covid-19 wave in Ukraine and lasted till the end of December 2021.

During the first stage, the researchers recruited participants by means of convenience sampling techniques. Since the researchers had been conducting research and cooperating with several general secondary schools in Kyiv and other cities in Ukraine (regarded in this research as experimental cites), they were able to reach 673 respondents personally and 598 of them gave their consent to answer the questions that interested researchers. During the second stage, the participants were recruited by means of voluntary response sampling technique. Taking into account the fact that the researchers had been taking part in round-table discussions, seminars, conferences and qualification upgrading programmes in different cities and towns all over Ukraine, they established and maintained contacts with representatives of different general secondary schools, colleges and lycées. So, during the second stage they were sent a link with a request to take part in a web-based survey and to share it among their colleagues. As a result, we received 686 completed questionnaires. Altogether the research sample comprised 1284 general secondary schoolteachers from different regions of Ukraine. The advantage of this research was that its participants represented all levels of school education (namely, primary school (48%), middle school (29%) and high school (23%).

In this study the researchers wanted to get answers to the following questions:

Before the outbreak of the Covid-19 pandemic

(1) Could you call yourself digitally competent and how good you were at finding necessary educational information on the Internet?

(2) How good were you at preparing presentations using various digital tools? Please, list software programs you used.

(3) How good were you at storing, sharing and retrieving educational information, educational material, presentations (in different formats)?

(4) How good were you at using various digital technologies for interacting with colleagues, parents and schoolchildren?

(5) How good were you at using digital tools and technologies for constructing and creating (co-constructing and co-creating) data, resources and knowledge?

(6) How good were you at recognizing where your digital competence needed to be improved and what the most appropriate ways were to improve it before?

After nearly two years into the pandemic

(1) Can you call yourself digitally competent and how good are you at finding educational information on the Internet?

(2) How good are you at preparing presentations using various digital tools? Please, list software programs you use.

(3) How good are you at storing, sharing and retrieving educational information, educational material (in different formats), links to online resources?

(4) How good are you at using various digital technologies for interacting with colleagues, parents and schoolchildren?

(5) How good are you at using digital tools and technologies for constructing and creating (co-constructing and co-creating) data, resources and knowledge?

(6) How good are you at recognizing where your digital competence needs to be improved and what the most appropriate ways are to improve it?

The authors examine information they obtained by using the mentioned combination of empirical methods of investigation.

Research Results

Finding educational information on the Internet before the outbreak of the Covid-19 pandemic and after nearly two years into the pandemic

Answering this question the majority of general secondary schoolteachers (71%) noted that before the introduction of social distancing measures caused by the Covid-19 pandemic thought that the level of digital competence was rather high and they definitely could call themselves digitally competent. But after the school closures and the shift to the distance learning they understood that their

digital knowledge and skills were not enough. The results obtained clearly demonstrate that before the outbreak of the Covid-19 pandemic the majority of respondents (47%) experienced some difficulties and had to spend much time to find relevant educational information on the Internet. Some respondents (18%) were able to find all the necessary educational information they wanted to use during their classes without anyone’s help. 24% of respondents replied that they asked their teenage children to help them. 11% of respondents noted that they helped their colleagues to find educational information they needed and often explained and showed how to search for it.

The results concerning general secondary schoolteachers’ digital ability to find the relevant educational information of the Internet are given in Figure 1.

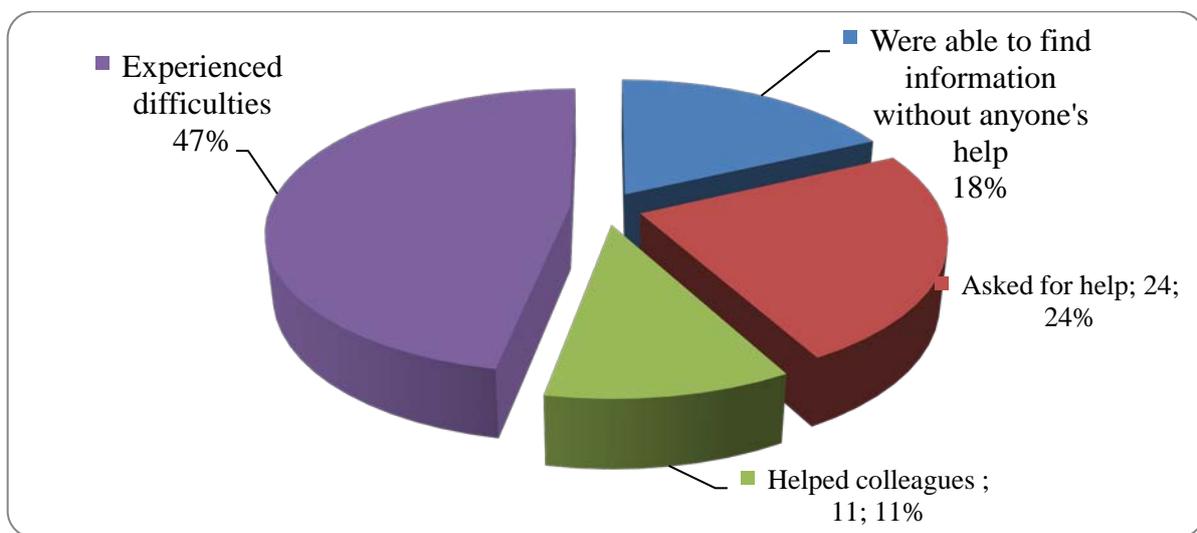


Figure 1 General Secondary Schoolteachers’ Digital Ability to Find Relevant Educational Information on the Internet Before the Outbreak of the Covid-19 pandemic (created by authors)

After nearly two years into the pandemic the situation changed greatly (Figure 2).

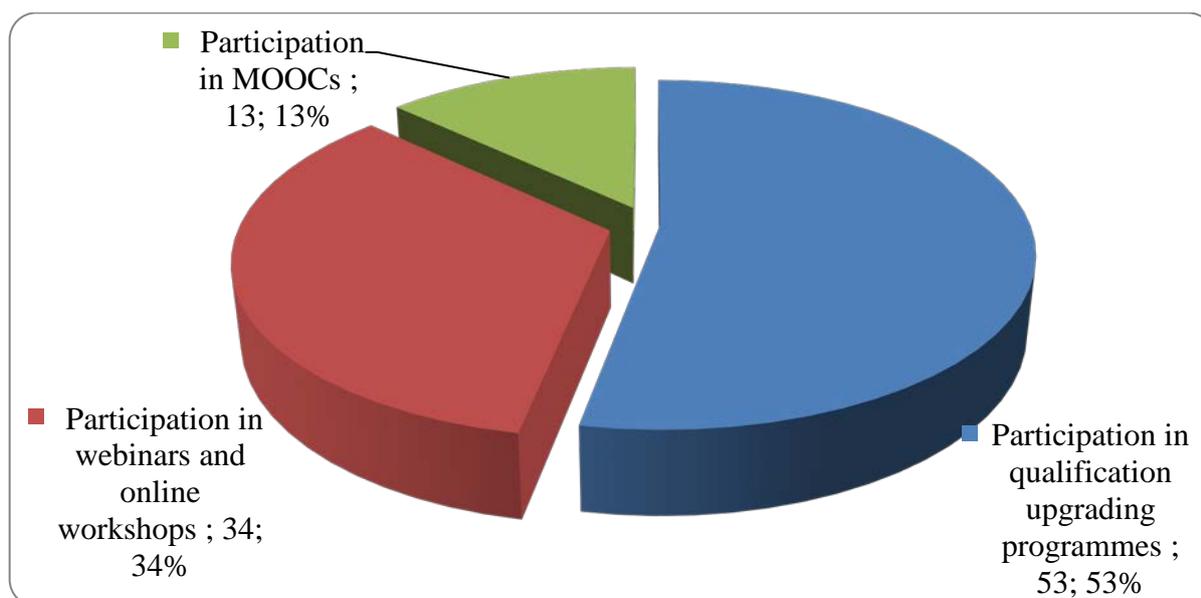


Figure 2 Steps Aimed at Improving their Digital Competence Taken by General Secondary Schoolteachers (created by authors)

Figure 2 shows that all respondents took steps to develop their digital competence (including digital ability to find relevant educational information on the Internet). This time 53% of respondents mentioned that they experienced no difficulties and were able to find educational information which they could use during their classes. Moreover, they stated that they were able to share this information with schoolchildren. According to their replies, after the school closures caused by the Covid-19 pandemic in March 2020, they decided to take part in qualification upgrading programmes organized by various educational institutions in order to improve their digital competence. 34% of respondents attended webinars and online workshops to get some basic knowledge on how to use digital technologies. And 13% of respondents pointed out that they participated in MOOCs (Massive Open Online Courses) because they provided their participants with various learning opportunities for professional development.

Preparing presentations using various digital tools before the outbreak of the Covid-19 pandemic and after nearly two years into the pandemic

In general, before the outbreak of the Covid-19 pandemic the majority of general secondary schoolteachers (83%) did not prepare any presentations and used visual aids available in the classroom (illustrations, tables, flashcards etc.). Only 17% of general secondary schoolteachers tried to enrich their classes preparing presentations. The most popular digital tool for preparing presentations was Microsoft PowerPoint. Figure 3 demonstrates the results concerning general secondary schoolteachers' need to prepare presentations using various digital tools before the outbreak of the Covid-19 pandemic.

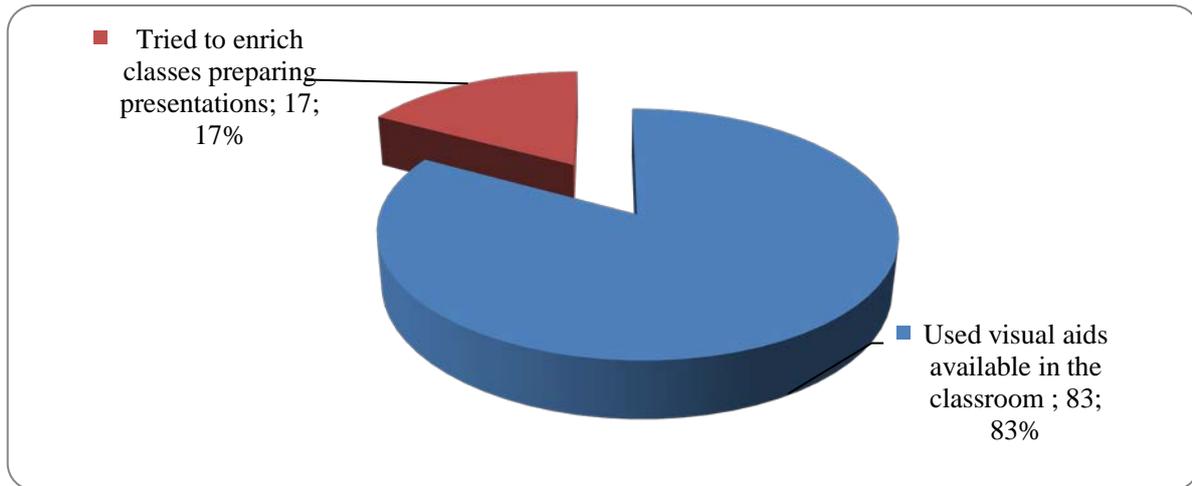


Figure 3 General Secondary Schoolteachers' Need to Prepare Presentations Using Various Digital Tools before the Outbreak of the Covid-19 pandemic (created by authors)

After nearly two years into the pandemic and the need to deliver instruction online, 62% of respondents stated that they should prepare presentations to visualize their lessons. The list of digital tools for creating presentation included Microsoft PowerPoint, Prezi and Canva.

Storing, sharing and retrieving educational information, educational material (in different formats) and links to online resources before the outbreak of the Covid-19 pandemic and after nearly two years into the pandemic

The majority of respondents (57%) mentioned that before the outbreak of the Covid-19 pandemic they did not have to store, share or retrieve educational information and educational material (in different formats), let alone links to online resources. 43% of respondents pointed out that their ability to store, share and retrieve educational information and links to various online resources was rather high. These respondents noted that they were the members of professional learning networks for teachers (PLNs) and they often shared interesting information (links, lesson plans etc.) with their colleagues online. And due to the massive shift to distance learning the situation changed dramatically. All respondents (100%) noted that to deliver instruction remotely and provide schoolchildren with all the necessary information they had to learn quickly how to store, share and retrieve information even at a basic level.

Using various digital technologies for interacting with colleagues, parents and schoolchildren before the outbreak of the Covid-19 pandemic and after nearly two years into the pandemic

Before the outbreak of the Covid-19 pandemic the majority of general secondary schoolteachers (89%) used emails and various messaging apps (for instance, Viber and WhatsApp) for communicating with schoolchildren and their parents, there was no need to use videoconferencing services for communicating

with them. Digital technologies like email services and messaging apps were mostly used for providing schoolchildren and their parents with some organizational information regarding teachers-parents meetings, extracurricular activities. 11% of respondents found it difficult to answer this question. After the first lockdown and the need to deliver instruction remotely, all respondents mentioned (100%) that they started using various digital technologies for interacting with colleagues, parents and schoolchildren. The digital technologies they pointed out included videoconferencing services (namely, Zoom, Webex, Google Meet), messaging apps (namely, Viber, WhatsApp, Telegram, etc.) and email services.

Using digital tools and technologies for constructing and creating (co-constructing and co-creating) data, resources and knowledge before the outbreak of the Covid-19 pandemic and after nearly two years into the pandemic

Analysing the results obtained during our research we found out that only 26% of respondents used digital tools and technologies for constructing and creating data, resources and knowledge before the introduction of the first lockdown caused by the spread of coronavirus. Answering these questions 74% of respondents explained that there had been no need to do it before the Covid-19 pandemic. After nearly two years into the pandemic more respondents (46%) stated that they were able to use various tools and technologies for constructing and creating data, resources and knowledge. 29% of respondents pointed out that they hoped to learn how to do it and were planning to continue participating in webinars, online and face-to-face masterclasses and training to improve their digital competence. They also added that their colleagues shared data, resources and knowledge they created with them. 25% of respondents found it difficult to answer the question about their ability to use digital tools and technologies for constructing and creating data, resources and knowledge after nearly two years into the pandemic. They noted that although they participated in various training they did not have the opportunity to create anything themselves.

Conclusions

The main aim of this research is to clarify the most effective ways of improving schoolteachers' digital competence amid blended learning caused by the Covid-19 pandemic. To reach this aim the research methodology for generalizing theoretical material and empirical data collecting implies combining theoretical (analysis and synthesis) and empirical (a web-based questionnaire, individual interviews, conversations with respondents and analysis of reflexive texts) methods of investigation. The research activities have been organized and realized taking into account the undisputable fact that digital competence is the key one for lifelong learning. Trying to examine general secondary

schoolteachers' strategies for assessing, self-assessing and improving their digital competence, the researchers define, describe and recommend the scope of the most effective strategies and ways for developing schoolteachers' digital competence amid blended learning caused by the Covid-19 pandemic. The research results also clearly demonstrate that the process of developing general secondary schoolteachers' digital competence amid blended learning organized effectively is the basis for boosting their further lifelong learning.

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MĀKSLAS TERAPEITU PAŠPALĪDZĪBAS STRATĒGIJU SPECIFIKA

Specifics of Arts Therapists' Self-Care Strategies

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Abstract. *Covid-19 pandemic poses significant increase in hazards to professionals' health and well-being in the helping professions. Thus, their ability to provide compassionate and effective care to the population is at risk. Self-care is one of available resources that can strengthen mental health and promote psychological resilience in the face of the Covid-19 pandemic. The study aimed to explore arts therapists' self-care strategies and their specifics compared with those of other psychological help providers and functional specialists. Based on Self-Care Strategies Questionnaire, a survey was conducted between March 2021 and January 2022. Following two instructions, respondents assessed 63 self-care activities by their importance and attainability. All items were rated on a 4-point Likert scale. The sample of 289 respondents comprised 73 arts therapists, 159 other psychological help providers and 57 other functional specialists. Although the assessment of arts therapists' self-care strategies revealed a high degree of heterogeneity, in all of strategies importance was scored significantly higher compared with attainability. Six out of 14 self-care strategies and one separate activity revealed statistically significant differences between arts therapists' and other functional specialists' self-care strategies. There was no significant difference indicated between arts therapists' and psychological help providers' self-care strategies.*

Keywords: *arts therapist, attainability, Covid-19 pandemic, functional specialist, importance, psychological help provider, self-care.*

Ievads

Introduction

Covid-19 pandēmijas ietekmē ievērojami paaugstinās riski profesionāļu veselībai un labizjūtai palīdzošajās profesijās. Kā norāda Pasaules Veselības Organizācija (World Health Organization Regional Office for Europe [WHO], 2021), apdraudēta ir ne vien profesionāļu psihiskā veselība un labizjūta, bet arī spēja sniegt līdzjūtīgu un efektīvu aprūpi iedzīvotājiem, kā arī pakalpojumu pieejamība, ja samazinātos profesionāļu darba spējas. Pandēmijas radītās sekas var ietekmēt dzīves kvalitāti vēl ilgi pēc pandēmijas beigām, ja netiks pievērsta

uzmanība psihiskajai veselībai, tādējādi nepieciešami ilgtermiņa risinājumi valsts, kopienas un organizāciju līmenī profesionāļu atbalstam palīdzošajās profesijās, veicinot psihisko veselību un labizjūtu (WHO, 2021). Viena no tā pašā traumatiskā notikuma, respektīvi, pandēmijas, uztvere var būt ļoti atšķirīga dažādās iedzīvotāju grupās un dažādiem indivīdiem, jo to būtiski ietekmē individuāli psiholoģiski un sociāli faktori, tāpēc svarīgi izstrādāt situācijas specifiskai atbilstošas individuālās stratēģijas, kas stiprinātu psiholoģisko noturību, stresa pārvarēšanas un problēmrisināšanas spēju, lai tādējādi mazinātu pandēmijas negatīvo ietekmi (Sampogna, Pompili, & Fiorillo, 2022).

Viens no pieejamiem resursiem, kas var stiprināt psihisko veselību un veicināt psiholoģisko noturību Covid-19 pandēmijas situācijā, ir pašpalīdzība (Rancāns u.c., 2021). Pandēmijas laikā veiktajos pētījumos akcentēta nepieciešamība rosināt pašpalīdzības praktizēšanu profesionāļiem palīdzošajās profesijās, tādējādi mazinot pandēmijas radīto apdraudējumu psihiskajai veselībai (piem., Bundzena-Ervika, Mārtinsons, Perepjolkina, Ruža, Koļesņikova, & Rancāns, 2021) un veicinot subjektīvo labizjūtu (Jue & Ha, 2022).

Pašpalīdzības aktualitāti Latvijā apliecina pētnieku darbs pie vairākiem pašpalīdzības izpētes mērinstrumentiem (Mārtinsons, Perepjolkina, & Ruža, in press; Perepjolkina, Koļesņikova, Ruža, Bundzena-Ervika, & Mārtinsons, 2021), citi pašpalīdzības pētījumi (piem., Paičs, Mārtinsons, & Ļubenko, 2019; Paičs, Regzdiņa-Pelēķe, Mārtinsons, & Perepjolkina, 2021) un izstrādnes (Mārtinsons, 2021), kā arī pašpalīdzības izpēte plašāku pētījumu ietvaros (Bundzena-Ervika et al., 2021; Rancāns et al., 2021), tomēr palīdzošo profesiju pārstāvju, tostarp mākslas terapeitu, pašpalīdzība līdz šim maz pētīta. Citviet pasaulē veiktie pētījumi apskata mākslas terapeitu un profesijā studējošo pašpalīdzību gan kā kopumu (piem., Moore & Wilhelm, 2019), gan pievēršas atsevišķām stratēģijām (piem., Gavron & Orkibi, 2021; Jue & Ha, 2022). Nenoteiktības un pārmaiņu situācija veselības aprūpē, psiholoģiskā un profesionālā atbalsta pakalpojumu jomā un sabiedrībā kopumā aktualizē nepieciešamību pēc jaunām zināšanām par mākslas terapeitu pašpalīdzību, lai izprastu, kādu nozīmi profesionāļi piešķir pašpalīdzībai un cik lielā mērā to praktizē Covid-19 pandēmijas situācijā, un rastu teorētisku pamatojumu iespējamajiem risinājumiem profesionāļu atbalstam.

Pašpalīdzību definē kā iesaistīšanos aktivitātēs savas veselības un labizjūtas uzturēšanai un uzlabošanai, īpaši stresa periodos (Self-care, n.d.), tomēr nepastāv vienota izpratne par jēdziena saturu (El-osta et al., 2019), un pētījumos izstrādātas atšķirīgas pašpalīdzības stratēģiju klasifikācijas (piem., pēdējā desmitgadē konstruēti astoņi mērinstrumenti profesionālās pašpalīdzības izpētei (Jiang, Topps, & Suzuki, 2021).

Pašpalīdzības stratēģiju (PPS) aptauja (Mārtinsons et al., in press) ir mērinstruments, kas primāri paredzēts psiholoģiskās palīdzības sniedzējiem, taču izmantojams arī vispārējā pieaugušo populācijā. Aptauja saturiski ir veidota,

balstoties uz dažādiem avotiem – zinātnisko literatūru, iepriekš izstrādātām aptaujām, publicētām intervijām ar psiholoģiskās palīdzības sniedzējiem, un tādējādi sniedz daudzpusīgu skatījumu uz pašpalīdzību. Aptaujas skalas atbilst stratēģijām, kuras var attiecināt uz personīgo dzīvi (piem., garīgās reliģiskās un nereliģiskās prakses, veselības uzvedība, rekreācijas pasākumi), profesionālo dzīvi (profesionālā attīstība, kolēģu atbalsts) vai abām jomām (piem., personīgās un profesionālās dzīves balanss, laika plānošana). Psiholoģiskās palīdzības sniedzējiem specifiska aktivitāte ir supervīziju / pārraudzības apmeklēšana, kas iekļauta psiholoģiskā un profesionālā atbalsta saņemšanas stratēģijā, lai gan, jāatzīmē, tiek praktizēta arī citās profesijās (Lāce & Mārtinsone, in press; Liepiņa & Mārtinsone, in press).

Pašpalīdzības aktivitātes (PPA) var atšķirties cita no citas pēc to nozīmīguma un īstenojamības (jēdzieni aizgūti no J.Fantalovas (Fantalo, 2015) teorētiskajām atziņām). Pašpalīdzības kontekstā nozīmīgumu var definēt kā kādas PPS / PPA svarīguma un nepieciešamības novērtējumu (vai pašnovērtējumu), bet īstenojamību – kā kādas PPS/PPA sasniedzamības novērtējumu (pašnovērtējumu). Pēc J.Fantalovas, nozīmīguma un īstenojamības attiecības var raksturot savstarpējs līdzsvars un viena vai otra pārsvars (Fantalo, 2015), un šīs attiecības uzskatāmi izpaužas nozīmīguma un īstenojamības atšķirībās (ideja par nozīmīguma un īstenojamības atšķirību izpēti aizgūta no supervizoru kompetenču pētījumiem (Angena & Mārtinsone, 2020; Kāpiņa & Mārtinsone, 2020)). PPS aptaujas autori piedāvā PPS nozīmīgumu un īstenojamību pētīt arī to savstarpējā mijiedarbībā (Mārtinsone et al., in press), kas nosacīti varētu atspoguļot noteiktas PPS efektivitāti.

Pētot pašpalīdzību mākslas terapeitiem (MT), svarīgi ņemt vērā profesijas specifiku. MT Latvijas kontekstā ir ārstniecības personas (Ārstniecības likums, 45.¹pants), kaut arī savu profesionālo darbību var veikt gan veselības aprūpes, gan sociālās aprūpes un izglītības vidē (Mārtinsone, 2011), un tiek definēti kā funkcionālie speciālisti (FS), kuri ir ieguvuši maģistra grādu veselības aprūpē un mākslas terapeita profesionālo kvalifikāciju ar specializāciju vienā no mākslas veidiem (vizuāli plastiskā māksla, dejas un kustība, mūzika, drāma) un darbojas atbilstoši savai kompetencei ārstniecībā (Mākslas terapeita profesijas standarts, 2008). Tātad MT ir FS profesija, tomēr vienlaikus MT pieskaitāmi arī psiholoģiskās palīdzības sniedzējiem (PS), jo multiprofesionālajā komandā veic psiholoģiskā atbalsta funkciju.

PS tiek definēti kā speciālisti, kuri ir ieguvuši atbilstošu izglītību un ir kompetenti izmantot zinātniski pamatotas metodes un tehnikas psiholoģiskās palīdzības sniegšanai dažādās situācijās un darbības vidēs individuāli vai grupā ar mērķi sekmēt psiholoģisko labklājību, risināt un pārvarēt daudzveidīgas grūtības (Mārtinsone & Zakriževska-Belogrudova, 2021). Pamatojoties uz dokumentu analīzi, identificēts, ka Latvijā PS ietver septiņu profesiju pārstāvjus – psihologus, ārstus psihoterapeitus, psihoterapijas speciālistus, psihiatrus, psihiatrijas māsas,

mākslas terapeitus un sociālos darbiniekus (Bortaščenoks, Purvlīce, Mārtinsons, Rancāns, Mihailov, & Ķīvīte-Urtāne, 2019).

FS savukārt tiek definēti kā ārstniecības personas, kuras ieguvušas otrā līmeņa profesionālo augstāko medicīnisko izglītību un darbojas atbilstoši savai kompetencei ārstniecībā: pārzina cilvēka funkcionālo ierobežojumu novērtēšanu un rehabilitācijas principus, veic ārstēšanu, izmantojot atbilstošu diagnostiku, novērtēšanu un medicīniskās tehnoloģijas, un dod atzinumus, veic profesionālās izglītības darbu. FS ietver septiņu profesiju pārstāvjus – fizioterapeitus, ergoterapeitus, tehniskos ortopēdus, audiologopēdus, uztura speciālistus, mākslas terapeitus un optometristus (Ārstniecības likums, 45.¹pants).

MT pacientu un klientu fiziskās vai psihiskās veselības, sociālo problēmu risināšanai vai prevencei, kā arī personības izaugsmei izmanto uz mākslas ekspresiju balstītas intervences un refleksiju (Mārtinsons & Duhovska, 2021). Mākslas terapijas intervenču saistība ar radošo procesu un tā rezultātu (Mārtinsons & Duhovska, 2021), kas atšķir MT profesionālo darbību gan no citiem FS, gan citiem PS, iespējams, varētu ietekmēt pašpalīdzības atšķirības, piemēram, MT dodot priekšroku radošām aktivitātēm. Savukārt MT piederība PS profesijām (Bortaščenoks et al., 2019) potenciāli varētu būt par iemeslu MT pašpalīdzības atšķirībām, salīdzinot ar citiem FS, piemēram, biežākai psiholoģiskā un profesionālā atbalsta saņemšanai.

Pētījuma mērķis bija izpētīt MT PPS un to specifiku salīdzinājumā ar citiem PS un FS, atbildot uz trim pētījuma jautājumiem: (1) kā MT novērtē PPS pēc to nozīmīguma un īstenojamības salīdzinājumā ar citiem PS un FS; (2) kādi ir MT PPS nozīmīguma un īstenojamības atšķirības rādītāji un to specifika salīdzinājumā ar citiem PS un FS; (3) kāda ir MT PPS nozīmīguma, īstenojamības un to mijiedarbības rādītāju specifika salīdzinājumā ar citiem PS un FS.

Metodoloģija *Methodology*

Instrumentārijs. Respondentu anketēšanā tika izmantots mērinstruments pašpalīdzības izpētei, kas validēts vispārējā iedzīvotāju populācijā, – Pašpalīdzības stratēģiju (PPS) aptauja (Mārtinsons et al., in press), kā arī sociāldemogrāfiskā aptauja.

PPS aptauja ietver 63 pašpalīdzības aktivitātes (PPA), 61 no tām strukturēta skalās. Aptaujas struktūra – 14 PPS skalas (profesionālā attīstība, kolēģu atbalsts, garīgās reliģiskās prakses, personīgās un profesionālās dzīves balanss, garīgās nereliģiskās prakses, veselības uzvedība, rekreācijas pasākumi, sociālais atbalsts, rūpes par savu labizjūtu, laika plānošana, iedvesmas smelšanās dabā, psiholoģiskā un profesionālā atbalsta saņemšana, būšana vienatnē un klusumā un izklaide) un divas atsevišķas PPA (lasīšana un radošu aktivitāšu veikšana (zīmēšana / gleznošana, dziedāšana, mūzikas instrumenta spēlēšana, fotografēšana, rokdarbu

radīšana)) – izveidota, pamatojoties uz izzinošo un apstiprinošo faktoranalīzi un nosakot psihometriskos rādītājus. Visas skalas, izņemot vienu, parāda augstu iekšējo saskaņotību (skalu nozīmīguma, īstenojamības un to mijiedarbības rādītājiem attiecīgi $\alpha = [0,75; 0,87]; [0,71; 0,89]; [0,74; 0,91]$), salīdzinoši zema iekšējā saskaņotība ir tikai izklaides skalai (attiecīgi $\alpha = 0,48; 0,40; 0,41$).

PPS aptaujā respondenti sniedz visu 63 ietverto PPA pašnovērtējumu atbilstoši divām instrukcijām, proti, novērtē PPA nozīmīgumu (“Cik lielā mērā Jūs piekrītat, ka nosauktā aktivitāte / darbība palīdz sekmēt Jūsu veselību un labizjūtu personīgajā un / vai profesionālajā dzīvē?”) un to īstenojamību (“Cik daudz laika (pēc savām iespējām / vēlmēm / vajadzībām) Jūs veltāt nosauktajai aktivitātei / darbībai pēdējo divu mēnešu laikā?”), izmantojot Likerta skalu (nozīmības rādītāji tiek novērtēti skalā no vienas (“nemaz nepalīdz / netiek izmantots”) līdz četrām ballēm (“palīdz”), īstenojamības rādītāji – skalā no vienas (“nemaz neveltu laiku / nekad”) līdz četrām ballēm (“veltu tik daudz laika, cik nepieciešams / ļoti bieži / regulāri”). Tālākā apstrādē atbilžu rezultāti, kas iegūti atbilstoši nozīmīguma vai īstenojamības instrukcijai, tiek apvienoti skalās, kas atbilst 14 PPS, bet, reizinot katras PPA nozīmīguma un īstenojamības rādītājus un rezultātus apvienojot skalās, tiek aprēķināti PPS nozīmīguma un īstenojamības mijiedarbības rezultāti, kas atspoguļo PPS integrētā skatījumā un var būt robežās no vienas līdz 16 ballēm.

Sociāldemogrāfiskā aptauja ietvēra jautājumus par respondentu dzimumu, vecumu, dzīvesvietu, darba pieredzi (darba stāžu gados) un sadarbības pieredzi multiprofesionālā komandā.

Dalībnieki. Pētījuma izlasē tika iekļauti respondenti, kuri bija norādījuši, ka pārstāv kādu no PS vai FS profesijām, kā arī studējošie, kuri iegūst kvalifikāciju kādā no PS profesijām. Tika izslēgti respondenti, kuri bija norādījuši, ka aptaujas aizpildīšanas brīdī dzīvo ārvalstīs, vai bija snieguši ziņas, ka ir ieguvuši kvalifikāciju kādā no PS vai FS profesijām, bet nepraktizē.

Pētījuma izlasē ($N = 289$) tika pārstāvēti visu četru specializāciju mākslas terapeiti ($n = 73$ (25 %)), citu profesiju PS ($n = 159$ (55 %)), tostarp – psihoterapijas speciālisti (7 %), psihiatri (1 %), ārsti psihoterapeiti (2 %), psihologi (21 %), māsas (1 %), sociālie darbinieki (7 %) un PS, kuri savu profesiju nebija norādījuši, (16 %)), kā arī citu profesiju FS ($n = 57$ (20 %)), tostarp – fizioterapeiti (8 %), ergoterapeiti (6 %), tehniskie ortopēdi (2 %) un audiologopēdi (2 %), uztura speciālisti (2 %).

278 (96 %) pētījuma dalībnieki bija sievietes, 11 (4 %) – vīrieši. Respondentu vecums bija no 19 līdz 71 gadam ($M = 42,06$; $SD = 11,38$). Lielākā daļa respondentu bija norādījuši, ka dzīvo galvaspilsētā vai tās apkārtnē (59 %), mazāk respondentu bija norādījuši, ka dzīvo citās Latvijas valstspilsētās (15 %) un citās pilsētās vai lauku teritorijās (26 %). Pēc darba pieredzes, vairāk aptaujā piedalījušies respondenti ar lielu (16 un vairāk gadu) un vidēji lielu (4–15 gadu) darba pieredzi (attiecīgi 49 % un 37 %), mazāk piedalījušies studējošie bez darba

pieredzes (5 %) un respondenti ar nelielu darba pieredzi (līdz trim gadiem, 9 %). 165 (57 %) respondenti bija norādījuši, ka pilnībā vai daļēji veic savu darbu multiprofesionālā komandā.

Procedūra. Anketēšana tika veikta tiešsaistē laikā no 2021. gada marta līdz 2022. gada janvārim, izvietojot aptauju vietnē <https://visidati.lv>. Uzaicinājums piedalīties aptaujā tika izplatīts sociālajos medijos, izsūtīts dažādām organizācijām un privātpersonām e-pasta komunikācijā, kā arī izplatīts sadarbībā ar funkcionālo speciālistu profesionālajām asociācijām šo organizāciju biedriem. Piedaloties aptaujā, respondenti sniedza informāciju par piekrišanu par konfidencialitāti, anonimitāti un datu drošību atbilstoši pētījuma ētikas prasībām.

Rezultāti

Results

Lai pārbaudītu PPS aptaujas skalu empīriskā sadalījuma atbilstību normālsadalījumam, tika veikts Šapiro – Vilka tests. Tā kā tika konstatēts, ka pētījuma izlasē nozīmīguma, īstenojamības un mijiedarbības rādītāju rezultātu sadalījums neatbilst normālsadalījumam ($p < 0,001$, izņemot kopējos rādītājus un atsevišķas skalas, piem., veselības uzvedību), tālākajā datu analīzē tika izmantotas neparametriskās statistikas metodes (sk. 1. tabulā).

1.tabula. MT, citu PS un citu FS pašpalīdzības stratēģiju nozīmīguma, īstenojamības, to atšķirības un mijiedarbības rādītāju rezultāti (autoru veidots)

Table 1 Results of importance, attainability, their difference and interaction indicators of MTs', other PSs' and other FSs' self-care strategies (created by the authors)

Skala / aktivitāte	Profesiju gr. / krit.	Nozīmīgums <i>Mdn (IQR) / U</i>	Īstenojamība <i>Mdn (IQR) / U</i>	Mijiedarbība <i>Mdn (IQR) / U</i>	<i>T</i>
Profesionālā attīstība	MT	3,40 (2,80; 3,80)	2,80 (2,00; 3,20)	8,80 (5,70; 12,00)	-5,484***
	PS	3,20 (2,60; 3,80)	2,80 (2,40; 3,40)	9,00 (6,40; 12,00)	-5,733***
	FS	3,00 (2,60; 3,80)	2,60 (1,80; 3,00)	7,80 (4,80; 11,20)	-5,229***
	<i>U (MT/PS)</i>	5314,00	5219,00	5595,00	
	<i>U (MT/FS)</i>	1785,00	1768,00	1768,50	
Kolēģu atbalsts	MT	3,00 (2,40; 3,60)	2,40 (2,00; 2,80)	6,80 (5,20; 9,90)	-6,248***
	PS	3,00 (2,40; 3,60)	2,20 (2,00; 3,00)	7,20 (4,80; 10,00)	-7,413***
	FS	2,80 (2,00; 3,40)	2,20 (2,00; 2,60)	6,60 (4,00; 9,20)	-5,381***
	<i>U (MT/PS)</i>	5571,00	5655,50	5719,50	
	<i>U (MT/FS)</i>	1665,00	1907,00	1770,50	
Garīgās religiskās prakses	MT	2,00 (1,50; 3,25)	1,50 (1,00; 2,50)	4,25 (2,00; 7,25)	-5,833***
	PS	2,00 (1,50; 3,00)	1,50 (1,00; 2,25)	3,50 (2,00; 6,63)	-8,294***
	FS	1,50 (1,00; 2,50)	1,25 (1,00; 2,00)	1,75 (1,00; 5,50)	-4,216***
	<i>U (MT/PS)</i>	5664,00	5636,00	5715,50	
	<i>U (MT/FS)</i>	1531,00**	1596,00*	1497,50*	
Personīgās un prof. dzīves balanss	MT	3,80 (3,20; 4,00)	3,00 (2,50; 3,20)	10,60 (8,80; 12,80)	-6,463***
	PS	3,80 (3,20; 4,00)	2,80 (2,40; 3,40)	10,80 (8,00; 12,20)	-9,473***
	FS	3,60 (3,00; 3,80)	2,60 (2,40; 3,00)	9,00 (7,40; 11,20)	-6,216***
	<i>U (MT/PS)</i>	5760,50	5531,00	5488,50	
	<i>U (MT/FS)</i>	1677,50	1508,00**	1516,00**	

I.tabulas turpinājums

Skala / aktivitāte	Profesiju gr. / krit.	Nozīmīgums	Īstenojamība	Mijiedarbība	T
		<i>Mdn (IQR) / U</i>	<i>Mdn (IQR) / U</i>	<i>Mdn (IQR) / U</i>	
Garīgās nereliģiskās prakses	MT	2,75 (2,00; 3,50)	2,00 (1,75; 2,63)	6,00 (4,50; 9,38)	-6,774***
	PS	2,50 (1,75; 3,25)	2,00 (1,25; 2,38)	5,25 (2,88; 7,75)	-8,445***
	FS	2,25 (1,50; 3,25)	1,75 (1,25; 2,25)	4,25 (2,25; 7,00)	-5,329***
	U (MT/PS)	4945,50	4821,00*	4831,00*	
	U (MT/FS)	1487,00**	1471,50**	1434,50**	
Veselības uzvedība	MT	3,83 (3,33; 4,00)	2,67 (2,33; 3,00)	10,00 (8,67; 11,83)	-7,307***
	PS	3,33 (2,83; 3,67)	2,83 (2,33; 3,17)	10,33 (8,00; 12,00)	-10,369***
	FS	3,67 (3,33; 3,83)	2,50 (2,33; 3,00)	9,33 (8,00; 10,67)	-6,521***
	U (MT/PS)	5280,00	5316,00	5645,00	
	U (MT/FS)	1692,50	1867,00	1756,00	
Rekreācijas pasākumi	MT	3,60 (3,00; 3,80)	2,20 (1,40; 2,70)	7,80 (4,60; 10,20)	-7,095***
	PS	3,40 (3,00; 3,80)	2,20 (1,60; 2,60)	7,00 (4,80; 9,60)	-10,617***
	FS	3,40 (2,80; 3,80)	2,00 (1,60; 2,40)	6,60 (4,80; 8,80)	-6,367***
	U (MT/PS)	5182,50	5761,50	5549,50	
	U (MT/FS)	1851,50	1971,00	1927,50	
Sociālais atbalsts	MT	3,50 (3,00; 3,88)	2,75 (2,50; 3,25)	10,00 (7,63; 12,13)	-6,060***
	PS	3,50 (3,00; 4,00)	2,75 (2,50; 3,25)	10,00 (7,50; 12,00)	-8,915***
	FS	3,00 (3,50; 3,75)	2,75 (2,25; 3,00)	9,00 (7,25; 11,75)	-5,697***
	U (MT/PS)	5577,50	5756,50	5575,00	
	U (MT/FS)	1905,50	1775,00	1805,50	
Rūpes par savu labizjūtu	MT	3,20 (2,70; 3,80)	2,40 (2,10; 3,00)	8,20 (6,10; 11,50)	-6,239***
	PS	3,00 (2,40; 3,60)	2,40 (2,00; 3,00)	7,60 (5,20; 10,40)	-7,887***
	FS	2,80 (2,20; 3,40)	2,20 (1,80; 2,60)	6,40 (4,80; 8,40)	-5,802***
	U (MT/PS)	5149,00	5384,00	5198,50	
	U (MT/FS)	1586,50*	1513,50*	1496,00*	
Laika plānošana	MT	3,50 (3,25; 3,88)	3,00 (2,50; 3,25)	10,25 (8,00; 13,00)	-6,584***
	PS	3,25 (2,75; 4,00)	3,00 (2,25; 3,25)	10,00 (7,00; 12,00)	-7,106***
	FS	3,25 (2,75; 3,75)	3,00 (2,50; 3,00)	9,50 (8,25; 11,25)	-4,335***
	U (MT/PS)	5287,00	5680,50	5380,00	
	U (MT/FS)	1762,50	1939,00	1812,50	
Iedvesmas smelšanās dabā	MT	3,00 (2,40; 3,70)	2,20 (1,60; 2,70)	7,40 (4,60; 10,10)	-7,030***
	PS	3,00 (2,40; 3,40)	2,20 (1,80; 2,80)	7,20 (5,20; 9,80)	-9,425***
	FS	2,20 (1,80; 3,00)	1,60 (1,40; 2,00)	4,20 (2,60; 6,00)	-6,114***
	U (MT/PS)	5396,50	5419,00	5723,00	
	U (MT/FS)	1124,50***	1158,00***	1057,00***	
Psiholoģis- kā un prof. atbalsta saņemšana	MT	2,75 (2,25; 3,50)	2,00 (1,25; 2,50)	6,25 (3,00; 8,75)	-6,447***
	PS	2,75 (1,75; 3,25)	2,00 (1,25; 2,50)	5,50 (3,00; 8,38)	-8,873***
	FS	1,75 (1,00; 2,50)	1,25 (1,00; 1,50)	2,25 (1,00; 3,75)	-5,078***
	U (MT/PS)	5079,00	5756,00	5518,50	
	U (MT/FS)	933,00***	1042,50***	861,50***	
Būšana vienatnē un klusumā	MT	4,00 (3,00; 4,00)	3,00 (2,00; 3,25)	10,50 (6,25; 12,00)	-5,215***
	PS	4,00 (3,00; 4,00)	3,00 (2,00; 3,50)	9,00 (6,00; 14,00)	-7,508***
	FS	3,00 (2,50; 4,00)	2,50 (2,00; 3,00)	7,50 (5,00; 12,00)	-4,320***
	U (MT/PS)	5699,00	5635,50	5598,50	
	U (MT/FS)	1627,00*	1652,00*	1554,00*	
Izklaide	MT	2,00 (1,67; 2,50)	1,67 (1,33; 2,33)	4,67 (3,00; 6,00)	-4,693***
	PS	2,33 (1,67; 2,67)	2,00 (1,67; 2,33)	5,00 (3,00; 7,00)	-5,545***
	FS	2,00 (1,33; 2,33)	2,00 (1,33; 2,33)	4,33 (2,33; 5,33)	-0,975
	U (MT/PS)	5497,00	5053,50	5234,50	
	U (MT/FS)	1620,00*	2029,50	1809,00	

1.tabulas turpinājums

Skala / aktivitāte	Profesiju gr. / krit.	I. tabulas turpinājums			T
		Nozīmīgums <i>Mdn (IQR) / U</i>	Īstenojamība <i>Mdn (IQR) / U</i>	Mijiedarbība <i>Mdn (IQR) / U</i>	
Radošu aktivitāšu veikšana	MT	4,00 (3,00; 4,00)	3,00 (2,00; 3,00)	9,00 (7,00; 12,00)	-6,602***
	PS	4,00 (2,00; 4,00)	2,00 (2,00; 3,00)	8,00 (4,00; 12,00)	-7,958***
	FS	3,00 (2,00; 4,00)	2,00 (1,00; 2,00)	6,00 (2,00; 8,00)	-4,864***
	U (MT/PS)	4534,00**	5129,00	4679,50*	
	U (MT/FS)	1051,00***	1099,00***	948,50***	
Lasīšana	MT	4,00 (3,00; 4,00)	3,00 (2,00; 4,00)	9,00 (6,00; 16,00)	-4,831***
	PS	3,00 (3,00; 4,00)	3,00 (2,00; 4,00)	9,00 (6,00; 12,00)	-4,682***
	FS	3,00 (2,00; 4,00)	3,00 (2,00; 3,00)	8,00 (4,00; 12,00)	-2,287*
	U (MT/PS)	5581,50	5348,50	5611,00	
	U (MT/FS)	1557,50**	1785,50	1571,00*	
Kopējie rādītāji	MT	3,16 (2,84; 3,44)	2,48 (2,05; 2,79)	8,37 (6,56; 10,14)	-7,425***
	PS	3,08 (2,73; 3,37)	2,40 (2,16; 2,70)	8,02 (6,55; 9,79)	-10,750***
	FS	2,92 (2,40; 3,13)	2,18 (1,94; 2,44)	6,92 (5,30; 8,19)	-6,560***
	U (MT/PS)	5117,50	5793,00	5526,00	
	U (MT/FS)	1286,00***	1418,50**	1329,00***	

Piezīmes. N = 289, n (MT) = 73, n (PS) = 159, n (FS) = 57. * $p < 0,05$, ** $p < 0,01$, *** $p < 0,001$. Apzīmējumi: U – Manna – Vitnija kritērijs, T – Vilkoksona kritērijs (atšķirības rādītājs).

Lai atbildētu uz pirmo pētījuma jautājumu, proti, kā MT novērtē PPS pēc to nozīmīguma un īstenojamības salīdzinājumā ar citiem PS un FS, tika analizēti aprakstošās statistikas rezultāti – PPS / PPA nozīmīguma un īstenojamības rādītāju mediānas (*Mdn*) un starpkvartīļu amplitūdas (*IQR*) (sk. 1. tabulā).

MT visbiežāk kā nozīmīgas (palīdzošas) PPS / PPA bija novērtējuši personīgās un profesionālās dzīves balansu, veselības uzvedību, rekreācijas pasākumus, sociālo atbalstu, laika plānošanu, būšanu vienatnē un klusumā, radošu aktivitāšu veikšanu un lasīšanu (*Mdn*, *IQR* – robežās starp trim un četrām ballēm (“daļēji palīdz” un “palīdz”)) Likerta skalā), kā arī profesionālo attīstību, kolēģu atbalstu, rūpes par savu labizjūtu un iedvesmas smelšanos dabā (*Mdn* – starp “daļēji palīdz” un “palīdz”). Visretāk kā nozīmīgas bija novērtētas garīgās reliģiskās prakses un izklaide (*Mdn* – starp vienu un divām ballēm (“nemaz nepalīdz / netiek izmantots” un “nedaudz palīdz”)).

MT kā bieži īstenotas (t.i., bieži izmantotas pēdējo divu mēnešu laikā) PPS / PPA bija novērtējuši personīgās un profesionālās dzīves balansu, laika plānošanu, būšanu vienatnē un klusumā, radošu aktivitāšu veikšanu un lasīšanu (*Mdn* atbilst novērtējumam “veltu gana daudz laika / bieži”, *IQR* – robežās no divām līdz četrām ballēm (“nedaudz veltu laiku / reti” un “veltu tik daudz laika, cik nepieciešams / ļoti bieži / regulāri”)). Kā visretāk īstenotas MT bija novērtējuši garīgās reliģiskās un nereliģiskās prakses, psiholoģiskā un profesionālā atbalsta saņemšanu un izklaidi (*Mdn* – starp “nemaz neveltu laiku / nekad” un “nedaudz veltu laiku / reti”)).

PS visbiežāk kā nozīmīgas PPS / PPA bija novērtējuši personīgās un profesionālās dzīves balansu, rekreācijas pasākumus, sociālo atbalstu, būšanu vienatnē un klusumā, kā arī lasīšanu (*Mdn* un *IQR* – starp “daļēji palīdz” un “palīdz”). Tāpat PS bieži bija novērtējuši kā nozīmīgu profesionālo attīstību,

kolēģu atbalstu, veselības uzvedību, rūpes par savu labizjūtu, laika plānošanu, iedvesmas smelšanos dabā un radošu aktivitāšu veikšanu (*Mdn* atbilst novērtējumam “daļēji palīdz”, *IQR* – starp “nedaudz palīdz” un “palīdz”). Visretāk kā nozīmīgas bija novērtētas garīgās reliģiskās prakses (*Mdn* atbilst novērtējumam “nedaudz palīdz”).

PS kā bieži īstenotas PPS / PPA bija novērtējuši laika plānošanu, būšanu vienatnē un klusumā, un lasīšanu (*Mdn* atbilst novērtējumam “veltu gana daudz laika / bieži”, *IQR* – robežās starp “nedaudz veltu laiku / reti” un “veltu tik daudz laika, cik nepieciešams / ļoti bieži / regulāri”). Kā visretāk īstenotas bija novērtētas garīgās reliģiskās prakses, garīgās nereliģiskās prakses, psiholoģiskā un profesionālā atbalsta saņemšana un izklaide (*Mdn* – starp “nemaz neveltu laiku / nekad” un “nedaudz veltu laiku / reti”).

FS visbiežāk kā nozīmīgus bija novērtējuši personīgās un profesionālās dzīves balansu, veselības uzvedību un sociālo atbalstu (*Mdn* un *IQR* – starp “daļēji palīdz” un “palīdz”), kā arī profesionālo attīstību, rekreācijas pasākumus, laika plānošanu un būšanu vienatnē un klusumā, kā arī radošu aktivitāšu veikšanu un lasīšanu (*Mdn* – starp “daļēji palīdz” un “palīdz”, *IQR* – starp “nedaudz palīdz” un “palīdz”). Visretāk kā nozīmīgas novērtētas garīgās reliģiskās prakses un izklaide (*Mdn* – starp “nemaz nepalīdz / netiek izmantots” un “nedaudz palīdz”).

FS kā bieži īstenotas PPS / PPA bija novērtējuši laika plānošanu un lasīšanu (*Mdn* atbilst novērtējumam “veltu gana daudz laika / bieži”). Kā visretāk īstenotas FS bija novērtējuši garīgās reliģiskās un nereliģiskās prakses, rekreācijas pasākumus, iedvesmas smelšanos dabā, psiholoģiskā un profesionālā atbalsta saņemšanu, izklaidi un radošu aktivitāšu veikšanu (*Mdn* – starp “nemaz neveltu laiku / nekad” un “nedaudz veltu laiku / reti”).

Lai atbildētu uz otro pētījuma jautājumu, proti, kādi ir MT PPS nozīmīguma un īstenojamības atšķirības rādītāji un to specifika salīdzinājumā ar citiem PS un FS, tika analizēti Vilkoksona zīmju rangu testa (*T*) un aprakstošās statistikas rezultāti (sk. 1. tabulā).

Rezultāti parādīja statistiski nozīmīgas nozīmīguma un īstenojamības atšķirības visās PPS / PPA, kā arī kopējos rādītājos gan MT ($T = [-7,425; -4,693]$; $p < 0,001$) un citiem PS ($T = [-10,617; -4,682]$; $p < 0,001$), gan, izņemot vienu PPS, – arī citiem FS ($T = [-5,802; -4,216]$; $p < 0,001$, vienai aktivitātei – $p < 0,05$). Pēc mediānu rezultātiem, visos gadījumos tika konstatēti augstāki nozīmīguma rādītāji. Statistiski nozīmīgas atšķirības neuzrādīja vienīgi citu FS rezultāti izklaidei ($T = -0,975$, $p = 0,329$).

Lai atbildētu uz trešo pētījuma jautājumu, proti, kāda ir MT PPS nozīmīguma, īstenojamības un to mijiedarbības rādītāju specifika salīdzinājumā ar citiem PS un FS, tika analizēti Manna – Vitnija testa (*U*) un aprakstošās statistikas rezultāti (sk. 1. tabulā).

Salīdzinot MT un citu PS rezultātus, statistiski nozīmīgas atšķirības nozīmīguma un mijiedarbības rādītājos tika konstatētas radošu aktivitāšu

veikšanai (attiecīgi $U = 4534,00$, $p < 0,01$ un $U = 4679,50$, $p < 0,05$), bet garīgās nereliģiskās prakses uzrādīja atšķirības īstenojamības un mijiedarbības rādītājos (attiecīgi $U = 4821,00$, $p < 0,05$ un $U = 4831,00$, $p < 0,05$), visos gadījumos MT rezultāti bija augstāki.

Salīdzinot MT un citu FS rezultātus, vairākām PPS / PPA tika konstatētas statistiski nozīmīgas atšķirības tikai nozīmīguma rādītājos (izklaide ($U = 1620,00$; $p < 0,05$)), nozīmīguma un mijiedarbības rādītājos (lasīšana ($U = 1557,50$; $p < 0,01$ un $U = 1571,00$; $p < 0,05$)) vai īstenojamības un mijiedarbības rādītājos (personīgās un profesionālās dzīves balanss ($U = 1508,00$; $p < 0,01$ un $U = 1516,00$; $p < 0,01$)).

Statistiski nozīmīgas atšķirības visos trijos rādītājos tika konstatētas tādās PPS / PPA kā personīgās un profesionālās dzīves balanss, garīgās nereliģiskās prakses, iedvesmas smelšanās dabā, psiholoģiskā un profesionālā atbalsta saņemšana un radošu aktivitāšu veikšana (attiecīgi $U = [933,00; 1627,00]$, $p < 0,05$; $U = [1042,50; 1652,00]$, $p < 0,05$; $U = [861,50; 1554,00]$, $p < 0,05$), kā arī kopējos rādītājos ($U = 1286,00$, $p < 0,001$; $U = 1418,50$, $p < 0,01$; $U = 1329,00$, $p < 0,001$). Mediānu analīze parādīja, ka minētajās PPS / PPA, kā arī kopējos rādītājos MT rezultāti bija augstāki, salīdzinot ar FS.

Diskusija *Discussion*

Rezultāti liecina, ka MT piešķir nozīmīgumu daudz PPS / PPA (bieži kā nozīmīgas novērtētas desmit no 14 PPS un abas atsevišķās PPA), tomēr kā bieži īstenotas novērtē ievērojami mazāk PPS / PPA (tikai trīs no 14 PPS un abas atsevišķās PPA). Neatbilstoši PPS nozīmīguma pašnovērtējumam, respektīvi, zemāk, tiek novērtēta profesionālā attīstība, kolēģu atbalsts, veselības uzvedība, rekreācijas pasākumi, sociālais atbalsts, rūpes par savu labizjūtu un iedvesmas smelšanās dabā. Var secināt, ka īstenojamības aspektā PPS loks būtiski sašaurinās un pašpalīdzības kā resursa daudzveidība praksē netiek pilnvērtīgi izmantota.

Vienlaikus jāņem vērā iespējamā Covid-19 pandēmijas ietekme uz profesionāļu pašpalīdzību. Pētījumos novērota tendence, ka pandēmijas iespaidā, īpaši mājāsēdes apstākļos, pašpalīdzība tikusi samazināta un orientēta uz pamatvajadzību apmierināšanu (Martinez et al., 2021).

Pētījuma gaitā identificētās PPS, kuras MT novērtē kā nozīmīgas un arī bieži īsteno, – personīgās un profesionālās dzīves balanss, laika plānošana un būšana vienatnē un klusumā – lielā mērā sasaucas ar citu pētījumu rezultātiem. Novērots, ka stresa un izdegšanas risku mazināšanā palīdzošajās profesijās efektīvas var būt aktivitātes, kas saistītas ar personīgās un profesionālās dzīves balansu (piem., Dorociak, Rupert, Bryant, & Zahniser, 2017; Moore & Wilhelm, 2018) un laika plānošana (piem., Bundzena et al., 2021). Teorētiskie pētījumi apstiprina būšanas

vienatnē un klusumā terapeitisko ietekmi un nozīmi cilvēka izaugsmei (Naor & Mayselless, 2020; Valle, 2019).

Visretāk MT kā nozīmīgas novērtē garīgās reliģiskās prakses un izklaidi, savukārt visretāk praktizē garīgās reliģiskās un nereliģiskās prakses, izklaidi un, ko īpaši svarīgi akcentēt MT profesijas kontekstā, – psiholoģiskā un profesionālā atbalsta saņemšanu.

Latvijā veiktie pētījumi Covid-19 pandēmijas laikā liecina, ka iedzīvotāji reti praktizē garīgās prakses un meditāciju (Paičs et al., 2021), baznīcas un draudzes atbalstu, lūgšanas un citas reliģiskās prakses (Rancāns et al., 2021), tomēr, iespējams, Covid-19 pandēmijas laikā dievkalpojumu apmeklēšanu negatīvi ietekmējuši pulcēšanās ierobežojumi epidemioloģisko risku mazināšanai. Ņemot vērā pētījumā konstatēto saistību starp psiholoģiskās noturības, neatlaidības un emociju regulācijas prasmju vispārējiem rādītājiem un pozitīvu garīgās prakses ietekmes novērtējumu (Paičs et al., 2021), garīgās prakses, iespējams, būtu veicināma stratēģija. Pētījumi citviet pasaulē akcentē garīguma īpašu nozīmi tieši pandēmijas situācijā (Castaneda & Hernandez-Cervantes, 2020).

Izklaide PPS aptaujas kontekstā tiek izprasta samērā šauri un ietver trīs aktivitātes – filmu / seriālu / programmu skatīšanos, video spēļu spēlēšanu un galda spēļu spēlēšanu. Zemie izklaides nozīmīguma un īstenojamības rezultāti, kas iegūti šajā pētījumā, ievērojami atšķiras no iepriekš veikta pētījuma, kurā TV, seriālu, filmu u.tml. skatīšanās Latvijas vispārējā iedzīvotāju populācijā atzīmēta kā bieži izmantota un subjektīvi palīdzīga pandēmijas laikā, īpaši jauniešu, darbu zaudējušo un pensionāru grupā (Rancāns et al., 2021).

Neviennozīmīgi vērtējami rezultāti attiecībā uz psiholoģiskā un profesionālā atbalsta saņemšanu, PPS, kas ietver psiholoģiskās palīdzības pakalpojumu izmantošanu (psihoterapeits, psihologs, mākslas terapeits u.c.), piedalīšanos atbalsta grupās, supervīziju / pārraudzības apmeklēšanu un dienasgrāmatas rakstīšanu. Zema nozīmīguma piešķiršana un reta minētās PPS praktizēšana ir pretrunā ne vien ar MT kā psiholoģiskās palīdzības sniedzēja profesijas specifiku, bet arī ar normatīvajiem aktiem, kas nosaka obligātu prasību mākslas terapeitam veikt regulāru savas prakses supervīziju (Zaļu valsts aģentūra, n.d.). Zemie nozīmīguma rezultāti varētu liecināt par profesionāļu nepietiekamu izpratni par šīs PPS īpašo nozīmi palīdzošajās profesijās gan personīgajā, gan profesionālajā kontekstā, savukārt zemie īstenojamības rezultāti daļēji varētu izrietēt no nepietiekama nozīmīguma piešķiršanas šai stratēģijai, taču, iespējams, saistīti arī ar pakalpojumu pieejamības samazināšanos Covid-19 pandēmijas ietekmē. Jāatzīmē, ka līdzīgi rezultāti iegūti arī iepriekš veiktos pētījumos Covid-19 pandēmijas situācijā gan vispārējā iedzīvotāju populācijā (Rancāns et al., 2021), gan MT un citiem PS (Ozola, Mārtinsone, Perepjolkina, Lāce, & Liepiņa, 2021).

Var secināt, ka īpaša uzmanība pievēršama psiholoģiskā un profesionālā atbalsta saņemšanas aktualizēšanai gan mākslas terapeitu tālākizglītībā, gan profesijas apgūvē augstākajā izglītībā, praktizējošo profesionāļu un studējošo

izglītošanā akcentējot psiholoģiskā un profesionālā atbalsta aspektus. Pētījumi parāda, ka veselības aprūpē un psiholoģiskās palīdzības sniedzēju profesijās labizjūtas risku mazināšanā efektīvas var būt izglītojošas programmas (Hricova, Nezkusilova, & Raczova, 2020; Mache, Bernburg, Baresi, & Groneberg, 2016), mākslas terapeitiem – arī mākslā balstīta supervīzija (Gavron & Orkibi, 2021), turklāt proaktīva pašpalīdzība ir efektīvāka, salīdzinot ar reaktīvu (Rupert & Dorociak, 2019; Wong & White, 2021).

Analizējot kopējos PPS rādītājus un nosacīti interpretējot nozīmīguma un īstenojamības rādītāju rezultātus saskaņā ar Likerta skalu kā augstus (3–4 balles), vidēji augstus (2–3 balles) vai zemus (1–2 balles), var secināt, ka MT pašpalīdzības stratēģiju nozīmīguma rādītāji ir augsti, bet īstenojamības rādītāji – vidēji augsti. Līdzīgi, arī PS pašpalīdzības stratēģiju rādītāji ir attiecīgi augsti un vidēji augsti, savukārt FS abi rādītāji ir vidēji augsti.

Pētījuma rezultāti uzrāda statistiski nozīmīgas nozīmīguma un īstenojamības atšķirības visās mākslas terapeitu pašpalīdzības stratēģijās, atsevišķajās aktivitātēs un kopējos rādītājos. Augstāki nozīmīguma rādītāji, salīdzinot ar īstenojamības rādītājiem, iespējams, liecina par tendenci, ka MT nepietiekami bieži praktizē aktivitātes, kuras uzskata par palīdzošām. Vienlaikus jāatzīst, ka konstatētās atšķirības nav specifiska MT iezīme, jo līdzīga tendence pētījumā tika novērota arī citiem PS un FS un turklāt sasaucas ar pētījumu rezultātiem citās profesionāļu grupās, piem., supervizoriem (Lāce & Mārtinsons, in press) un pedagogiem (Liepiņa & Mārtinsons, in press).

Rezultāti parāda, ka MT un citi PS pašpalīdzības stratēģijas novērtē ļoti līdzīgi gan pēc to nozīmīguma, gan īstenojamības, kas sasaucas ar rezultātiem iepriekš veiktā pētījumā, kurā salīdzināts gan mākslas terapeitu, gan psihologu PPS pašnovērtējums salīdzinājumā ar citiem PS (Ozola et al., 2021). Savukārt starp MT un citiem FS PPS atšķirības ir ievērojami lielākas. Novēroto tendenču padziļināta izpēte, noskaidrojot to iemeslus, būtu tālāko pētījumu perspektīva.

Turpmākos pētījumos nepieciešams noskaidrot arī pašpalīdzības atšķirības dažādās vecuma grupās un dažādos profesionālās dzīves posmos. Kā liecina pētījumi (piem., Dorociak, Rupert, & Zahniser, 2017), profesionāļu pašpalīdzība palīdzošajās profesijās ievērojami atšķiras karjeras laikā.

Pašpalīdzības izpēte palīdzošajās profesijās var sniegt būtisku ieguldījumu, lai mazinātu gan Covid-19 pandēmijas negatīvo ietekmi uz profesionāļu psihisko veselību un labizjūtu, gan arī šīs ietekmes sekas – pakalpojumu kvalitātes pazemināšanās vai ierobežotas pieejamības risku un ar to saistīto apdraudējumu iedzīvotāju psihiskajai veselībai (WHO, 2021). Jau šobrīd iegūtie rezultāti, sasaucoties ar pētījumu rezultātiem citviet pasaulē, pamato nepieciešamību stiprināt mākslas terapeitu pašpalīdzības spēju un aktualizēt pašpalīdzības praktizēšanu, īpašu uzmanību pievēršot psiholoģiskā un profesionālā atbalsta saņemšanai. Domājams, ka stratēģijas, kuras tika biežāk novērtētas kā nozīmīgas un biežāk praktizētas, proti, personīgās un profesionālās dzīves balanss, laika

plānošana un būšana vienatnē un klusumā, potenciāli varētu būt salīdzinoši efektīvākas mākslas terapiju labizjūtas veicināšanā un tādējādi būtu aktualizējamas mākslas terapiju izglītības programmās, supervīzijā, izglītojošās vai terapeitiskās izstrādēs, tomēr vēl pētāma šo stratēģiju prognostiskā ietekme uz psiholoģisko noturību, stresa samazinājumu vai citiem faktoriem. Tāpat vēlama būtu iespējamo iemeslu izpēte attiecībā uz salīdzinoši zemajiem rādītājiem stratēģijās, kuras identificētas kā palīdzošas citos pētījumos.

Kā viena no pētījuma stiprajām pusēm akcentējama validēta mērinstrumenta, Pašpalīdzības stratēģiju aptaujas (Mārtinsone et al., in press), izmantošana respondentu anketēšanā. Mērinstrumenta atbilstība psihometrikas zinātnē pieņemtajiem kritērijiem pamato pētījuma rezultātu ticamību.

Vienlaikus jāņem vērā pētījuma ierobežojumi, kas saistīti ar izlasi, proti, neliels respondentu skaits profesiju grupās un no tā izrietošās ierobežotās iespējas veikt PPS atšķirību izpēti dažāda vecuma un darba pieredzes grupās.

Veiktais pētījums sniedz perspektīvu turpmākas pašpalīdzības izpētes virzieniem palīdzošajās profesijās, tostarp mākslas terapiju pašpalīdzības izpētei. Iegūtie rezultāti izmantojami topošo profesionāļu izglītībā un tālākizglītībā palīdzošajās profesijās.

Secinājumi **Conclusions**

Pētījuma mērķis – izpētīt mākslas terapiju pašpalīdzības stratēģijas un to specifiku salīdzinājumā ar citiem psiholoģiskās palīdzības sniedzējiem un funkcionālajiem speciālistiem – ir sasniegts.

Var secināt, ka mākslas terapiju pašpalīdzību novērtē kā nozīmīgu un lielu daļu pašpalīdzības stratēģiju un aktivitāšu praktizē. Mākslas terapiju piešķir augstu nozīmīgumu daudzveidīgām stratēģijām, kas iezīmē līdzīgu tendenci mākslas terapiju ar citiem psiholoģiskās palīdzības sniedzējiem, atšķirībā no citiem funkcionālajiem speciālistiem, kuri augstu nozīmīgumu piešķir nelielam skaitam pašpalīdzības stratēģiju.

Var secināt, ka ne visas stratēģijas, kuras mākslas terapiju novērtē kā nozīmīgas, tiek arī bieži īstenotas. Pētījums parāda, ka mākslas terapiju pašpalīdzības praktizēšana tikai daļēji atbilst tās nozīmīguma pašnovērtējumam, proti, daļa aktivitāšu tiek praktizētas ievērojami retāk. Vienlaikus jāatzīst, ka minētā tendence nav specifiska mākslas terapiju, bet novērojama arī citiem psiholoģiskās palīdzības sniedzējiem un funkcionālajiem speciālistiem.

Salīdzinājumā ar citiem funkcionālajiem speciālistiem mākslas terapiju biežāk novērtē kā nozīmīgas un biežāk praktizē vairākas pašpalīdzības stratēģijas un aktivitātes – garīgās reliģiskās un nereliģiskās prakses, rūpes par savu labizjūtu, iedvesmas smelšanos dabā, psiholoģiskā un profesionālā atbalsta saņemšanu, būšanu vienatnē un klusumā un radošu aktivitāšu veikšanu.

Mākslas terapeitiem un citiem psiholoģiskās palīdzības sniedzējiem būtiskas atšķirības pašpalīdzības nozīmīguma un īstenojamības pašnovērtējumā nav novērotas.

Pētījums parāda, ka mākslas terapeitu pašpalīdzības stratēģijas raksturo vairāk līdzīgu tendenču ar citiem psiholoģiskās palīdzības sniedzējiem nekā citiem funkcionālajiem speciālistiem. Identificēto tendenču padziļināta izpēte veicama turpmākos pētījumos.

Summary

With the increased hazards to the health and well-being of professionals in the helping professions as a result of the Covid-19 pandemic, self-care is one of the resources available to strengthen mental health and promote psychological resilience. The situation of uncertainty and change in health care, psychological and professional support services and society as a whole raises the need for theoretically grounded solutions to promote self-care in the helping professions including arts therapists.

The aim of the study was to explore arts therapists' self-care strategies and their specifics compared with those of other psychological help providers and functional specialists.

Self-care refers to taking the action to preserve or improve one's own health and well-being, in particular during periods of stress. Self-care activities may differ in terms of their importance and attainability.

The results of the study revealed that arts therapists value self-care as important and practice a high proportion of self-care activities and strategies. However, arts therapists' self-care practices only partially correspond to their self-assessed importance as most activities are practiced much less frequently. This trend is not specific to arts therapists but was also observed among other psychological help providers and functional specialists.

In general, arts therapists' self-care strategies share more similarities with other psychological help providers than with other functional specialists.

The study provides a perspective for further research on self-care in the helping professions including self-care among arts therapists. The results can be used in the education of future professionals and the professional development in the helping professions.

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A CROSS-SECTORAL APPROACH TO STEM EDUCATION: A MULTI-PERSPECTIVE DESIGN

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Abstract. *The complexity of the STEM education ecosystem at all the educational levels has been risen by the COVID-19 pandemic. The search for a sustainable ecosystem leads to the cross-sectoral approach to STEM education. A sustainable STEM education ecosystem is also characterized by the coherence between the STEM education levels. The research aims at creating a theoretical model of the multi-perspective design of STEM education within a cross-sectoral approach for identifying the implications for further research on the cross-sectoral STEM education. The qualitative research was carried out. Research data were collected through the analysis of published research works. Content analysis was used for the analysis of the collected data. The theoretical novelty of the cross-sectoral STEM education is indicated: the structure and phases of STEM Education implementation and multi-perspective design. The exploratory research allows widening the traditional boundaries of the STEM education (teacher-content-student) with the concepts of educational discipline, conceptual change, all language as the unity, the digitalised educational process, and the cross-sectoral approach. The research is novel in the implications for further research on the cross-sectoral STEM education.*

Keywords: *all language as the unity, conceptual change, cross-sectoral approach, digitalized educational process, educational contents, OST (out-of-school time) providers, STEM (Science, Technology, Engineering, Mathematics).*

Introduction

In the increasingly complex contemporary world, STEM (Science, Technology, Engineering, Mathematics) education is the driver for making Europe climate neutral for our greener future and protecting our natural habitat. Greener sustainable ecosystems aimed at the people well-being as proposed by the European Green Deal will be good for people, planet and economy (European Commission, 2019). It is worth noting that an ecosystem means “an interdependent group of actors (enterprises, people, things) sharing a common

environment to achieve a mutually beneficial purpose” (Gartner Inc., 2017) is meant. “No one will be left behind” (European Commission, 2019). The COVID-19 pandemic has risen the complexity of the STEM education ecosystem (Ahrens & Zasczerinska, 2020) at all the educational levels. It is important to emphasize that the design of a complex ecosystem is based on the multi-perspective analysis.

The search for a sustainable ecosystem leads to the cross-sectoral approach to STEM education. The previous research in STEM education focused on the cross-sectoral collaborations between a school and outside of school (Traphagen & Traill, 2014). Outside of school included afterschool and summer programs, science centers and museums, home with their families, and online (Traphagen & Traill, 2014).

Later, the STEM Learning Ecosystems on the basis of Community of Practice (CoP) were modelled (Allen, Lewis-Warner, & Noam, 2020). A Community of Practice promotes local collaborations among school districts, OST (out-of-school time) providers, businesses, cultural institutions, research organizations, and funders (Allen, Lewis-Warner, & Noam, 2020).

However, a sustainable STEM education ecosystem is also characterized by the coherence between the STEM education levels.

The question that enabled the research is: What is a multi-perspective design of STEM education based on a cross-sectoral approach?

The research aim is to create a theoretical model of the multi-perspective design of STEM education based on a cross-sectoral approach underpinning the elaboration of implications for further research on the cross-sectoral STEM education.

The present work tends to create a theoretical model of the multi-perspective design of STEM education based on the cross-sectoral approach. A model creation is “a qualitative process” (Krippendorff, 2004). Hence, this work is qualitative. Data were collected through the analysis of published research works.

The novelty of the research will be shown in the implications for further research on the cross-sectoral STEM education.

Conceptual Framework

By a conceptual framework, the unity of concepts that are used for a particular study is meant (Ahrens & Zaščerinska, 2014). A concept is defined as a verbal abstraction drawn from observation of a number of specific cases (Watt & van den Berg, 2002).

The research proceeds in accordance to the key concepts represented in a logical sequence: perspective → STEM → education → cross-sectoral approach → design.

Perspective embodies “certain fundamental assumptions” (Barry, 2002).

STEM refers to Science, Technology, Engineering and Mathematics (Zaščerinska, Andreeva, & Aleksejeva, 2015). They can also be defined as educational disciplines. Also, by STEM as educational disciplines, subject content is meant (Zaščerinska, 2011). Both the educational discipline and contents relate to the subject knowledge that develops (Zaščerinska, 2013) in the following sequence: Phase 1 the existing knowledge, Phase 2 the knowledge variety, Phase 3 the new knowledge.

STEM as educational disciplines are closely connected with the theory of Conceptual Change (Rustaman, 2020). The conceptual change is advanced in the following way: Phase 1 the existing concept is actualized, Phase 2 the quasi-concept is foregrounded, Phase 3 the new concept is arrived.

Both STEM perspectives, namely subject content and conceptual change, are closely inte-related with the language perspective (Zaščerinska, 2013). Language is considered as the unity of all language (mother tongue, foreign language, academic language, etc) (Zaščerinska, 2013). The language enhancement moves from the General English and Academic Native Language in Phase 1 through English for Academic Purposes in Phase 2 to Mother Tongue in Phase 3 (Zaščerinska, 2013).

Another aspect is that STEM often requires interdisciplinary knowledge, thereby adopting the methodology of interdisciplinary studies (Ahrens, Purvinis, Zaščerinska, & Andreeva, 2016).

STEM education is delivered through the educational process (Zaščerinska, Zaščerinskis, Andreeva, & Aleksejeva, 2013). The educational process sequentially evolves: it starts in Phase 1 with teaching, then it moves to Phase 2 to peer-learning, and, finally, it arrives at Phase 3 learning (Ahrens & Zaščerinska, 2010). Together with the development of the technological progress, the process of STEM education has been digitalized. The digitalisation of the process of STEM education proceeded (Aleksejeva, Zascerinskis, Abjalkiene, Gukovica, Zascerinska, & Ahrens, 2021)

- from the in-person only educational process
- through the blended one which combined both the in-person and digital educational processes
- further to the only online educational process catalysed by the COVID-19 pandemic, and
- to the hyflex (hybrid flexible) educational process which simultaneously mixes both the on-campus and off-campus educational processes.

The cross-sectoral approach to STEM education in this work implies different education sectors. These education sectors imply school, vocational, higher and adult education.

The term “design” is also synonymously understood as “model” in this research. The pedagogical meaning of model is “a pattern” (Belickis et al., 2000). A model in mathematics is “an interpretation of a theory” (Kühne, 2005). In engineering, business and computer sciences, a model describes a system (Banks, Carson, Nelson, & Nicol, 2004). This research considers the term “model” via the interdisciplinary analysis. The disciplines used for the formulation of the newly defined notion of the term “model” include pedagogy, mathematics, engineering, business and computer sciences. Thus, the model notion means “a pattern of individual’s or individuals’ interpretation of a phenomenon” (Ahrens, Purvinis, Zaščerinska, & Andreeva, 2015). Models can be expressed in different presented forms. Models can be verbal, graphic, computer, etc. A model can be characterized (Ahrens, Purvinis, Zaščerinska, & Andreeva, 2015). Figure 1 represents the structure of characteristics. The model characteristics are described by parameters (Ahrens, Purvinis, Zaščerinska, & Andreeva, 2015).

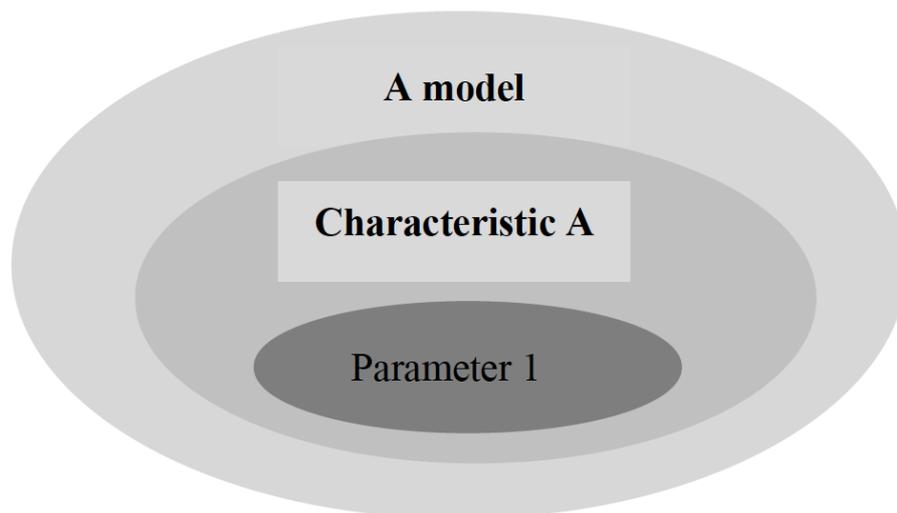


Figure 1 Model elements (Ahrens, Purvinis, Zaščerinska, & Andreeva, 2015)

Business Dictionary (2015) defines a parameter. In accordance with their definition, a parameter is “definable, measurable, and constant or variable characteristic, dimension, property, or value, selected from a set of data (or population) to understanding a situation (or in solving a problem)” (Business Dictionary, 2015).

Thus, the present conceptual framework represents a multi-perspective viewpoint on the cross-sectoral STEM education. The present conceptual framework is built on the concepts of

- educational discipline,
- conceptual change,
- educational content,
- subject knowledge,

- the unity of language,
- the digitalised educational process, and
- the cross-sectoral approach.

Research Methodology

Creation of a theoretical model refers to a qualitative process (Krippendorff, 2004). Thereby, this research is of a qualitative nature.

The present research is exploratory. It was carried out in November – December 2021. In this work, the exploratory relates to being open at the outset of the study (Ahrens, Zascerinska, Bhati, Zascerinskis, & Aleksejeva, 2021). The exploratory methodology was chosen due to a couple of reasons. First, the exploratory study is characterised by a high degree of flexibility (Ahrens, Foerster, Zaščerinska, & Wasser, 2020). Another reason was that the exploratory research lacks a formal structure (Ahrens, Foerster, Zaščerinska, & Wasser, 2020) that gives a freedom to researchers to build their own structure. Finally, the exploratory research aims “to identify the boundaries” of the STEM education (Ahrens, Foerster, Zaščerinska, & Wasser, 2020).

The methodological approach of this work is grounded on “the development of the system of the external and internal perspectives” (Ahrens, Zascerinska, & Aleksejeva, 2021). It should be pointed that many researchers use “the methodology of the external and internal perspectives”, for example Shields (2020). However, our approach shows not only the perspectives’ fission but also their fusion and synthesis. Our methodology, being the development of the system of the external and internal perspectives, is realized in three phases:

- Phase 1 starts with the external perspective,
- Phase 2 leads to the system of the external and internal perspective,
- Phase 3 brings to the internal perspective.

The research information and facts were collected from the published research works found via the google search.

The method for the analysis of the research data was content analysis. Content analysis refers to a qualitative research method. Content analysis or a set of methods to compress and categorize large amounts of textual information in order to classify, structure and systematize (Žogla & Lasmanis, 2009) was used in this work.

Content analysis was employed in accordance with (Žogla & Lasmanis, 2009)

- the formulated scientific aim of the research,
- the elaborated research question and the authors’ intention to verify this by analyzing the selected material;
- the determined amount of material to be collected and later analyzed;

- the identified techniques of information retrieval and analysis units the researchers were interested in.

A qualitative process is identified as “a methodology mostly used within the interpretive approach” (Thanh & Thanh, 2015). The methodological view on the research materials and facts under study is expressed in their interpretation from the point of view of pedagogical theory (Žogla & Lasmanis, 2009) in this paper. The research data are interpreted by the researcher(s) who is involved in the research implementation. This means “the researcher is the interpreter” (Ahrens, Purvinis, Zascerinska, Miceviciene, & Tautkus, 2018).

During the analysis of the content of the collected data, the researchers relied on (Žogla & Lasmanis, 2009)

- the specifics of the subject and object in research in pedagogy;
- theoretical knowledge of pedagogical methodology;
- the generalized program to the research and its procedure;
- the existing experience in the use of content analysis in the social and humanitarian sciences;
- the specifics of the investigated problem.

For the multi-perspective design of STEM education, the theoretical methods were applied. “Analysis of scientific literature, theoretical modelling, systematisation, synthesis, comparison, and generalisation” (Ahrens, Bhati, Zascerinska, Zascerinskis, Aleksejeva, & Abjalkiene, 2021) have been realised.

Research Results

The design of STEM education considers that the process, namely conceptual change, educational process, etc, is implemented in three phases (Zaščerinska, 2013).

Table 1 show the multi-perspective design of STEM education based on the cross-sectoral approach. The design is founded on the conceptual framework presented in this research.

Table 1 The multi-perspective design of STEM education (the authors)

Nr.	Perspective	The development of the system of the external and internal perspectives			Reference
		The external perspective	The system of the external and internal perspectives	The internal perspective	Zaščerinska, 2013
		Phase 1	Phase 2	Phase 3	
1.	STEM Subject content/ knowledge	Existing knowledge	Knowledge variety	New knowledge	Zaščerinska, 2011

2.	Conceptual change	Existing concept	Quasi-concept	New concept	Zaščerinska, 2013
3.	Language	General English and Academic Native Language	English for Academic Purposes	Mother Tongue	Zaščerinska, 2013
4.	The educational process	Teaching	Peer-learning	Learning	Zaščerinska, 2013
5.	The digitalised educational process and the language means	HOT (Here or There) - Hybrid virtual educational process in General English and/or Academic Native Language	COIL – Collaborative Online International Learning in English for Academic Purposes	Hyflex (hybrid flexible) learning in Mother Tongue	Aleksejeva, Zascerinskis, Abjalkiene, Gukovica, Zascerinska, & Ahrens, 2021
6.	The interdisciplinary studies	Two or more scientific disciplines explore the same issue or phenomenon	Two or more scientific disciplines present their synergetic view on the issue or phenomenon	Integrated disciplines	Ahrens, Purvinis, Zaščerinska, & Andreeva, 2016
7.	The cross-sectoral approach (school, vocational, higher and adult education)	STEM is separately delivered in two different educational institutions of two different educational levels	STEM is simultaneously instructed to the students of two different educational institutions of two different educational levels	Integrated STEM at two different educational institutions of two different educational levels	The authors

The multi-perspective design of STEM education is found to be (Ahrens, Zaščerinska, Lange, & Aleksejeva, 2021)

- a system process as its properties are linked,
- a complex process as its elements are intertwined,
- a linear process as it proceeds from one stage/phase to another,
- a cyclic process as it can be repeated,
- of social nature as it changes within and by the Community of Practice,
- of bi-modal nature as it includes both: the external and internal perspectives.

Conclusions

The theoretical novelty of this research is shown in Table 1. It the cross-sectoral STEM education within the system of external and internal perspectives. Another theoretical novelty is disclosed by the multi-perspective construction of the cross-sectoral STEM education as illustrated in Table 1. One more theoretical novelty is presented by identifying a certain sequence of the phases for acquiring the STEM content in the cross-sectoral STEM education based on the multi-perspective design.

The theoretical analysis allows establishing a regularity in the cross-sectoral STEM education:

- the structure of the cross-sectoral STEM education within the system of the external and internal perspectives has been defined as the combination of educational discipline, conceptual change, educational content, subject knowledge, the unity of language, the digitalised educational process, and the cross-sectoral approach,
- the mutual development of the system of external and internal perspectives and STEM knowledge and/or concept by teachers and students is provided in the jointly created academic environment based on a particular structure and implemented in a logical order as described in Table 1.

The exploratory research allows widening the traditional boundaries of the STEM education (teacher-content-student) with the concepts of educational discipline, conceptual change, the unity of language, the digitalised educational process, and the cross-sectoral approach.

Such implications for further research on the cross-sectoral STEM education have been formulated: the cross-sectoral STEM education

- has become a multi-perspective phenomenon,
- has shown its complex nature (linked and intertwined elements),
- has revealed its bi-modal structure as it includes both external and internal perspectives,
- requires the application of innovative paradigms and approaches for theoretical analysis,
- investigation could be based on novel principles of analysis such as the system of external and internal perspectives.

The presented analysis has some limitations. The inter-connections between the perspectives of the cross-sectoral STEM education revealed in Table 1 have been set. The implementation of the theoretical analysis only limits the theoretical modelling and interpretations as well. If other methods have been applied, then, different results could be attained.

Further work tends to focus on the expert evaluation of the proposed multi-perspective design of the cross-sectoral STEM education. Future work will

include the implementation of empirical studies to examine the efficiency of the proposed multi-perspective design of the cross-sectoral STEM education. A curriculum of the cross-sectoral STEM education is to be designed. A training programme for the cross-sectoral STEM education teachers is to be prepared and evaluated. STEM educational materials are to be developed and assessed. The comparative exploration of the cross-sectoral STEM education based on the multi-perspective design and implemented in different countries could greatly impact further development of cross-sectoral STEM education.

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WHY THE NUMBER OF ADULT LEARNERS IS NOT GROWING - ATTITUDES OF LITHUANIAN ADULTS TOWARDS LIFELONG LEARNING

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***Abstract.** This article analyzes the reasons that continue to encourage the way of a more active involvement of adults in lifelong learning in Lithuania. Lithuania is characterized by an educated society that wants to advance, but Lithuania's Lifelong Learning (LLL) Index is one of the lowest in the EU. According to LSD data in 2019, Lithuanian LLL indicator was only 7%. Lithuania's Progress Strategy Lithuania 2030 and the National Progress Program 2014-2020 mention LLL as one of the most important strategic goals to be implemented at all levels and to cover all social areas. The education strategy for 2013-2022 aims to “mobilize not only the educational community, but also all Lithuanian people to study purposefully in order to achieve personal and national success.” (p. 11). Recent research indicates that although the main challenges hindering the growth of the number of adults participating in lifelong learning in Lithuania are financial barriers and the belief that learning is too late, and learning motivation is low, yet positive attitudes of Lithuanian adults towards lifelong learning, provide general expectation of increasing motivation for adult learning and more active involvement of adults in lifelong learning.*

***Keywords:** adult education, Lifelong Learning.*

Introduction

The seed of changes in the economy and society affects the individual, changing one's lifestyle and requiring the individual to make new decisions and to show self-determination, which often reflects the individual's readiness and ability to adapt to new dynamic living conditions. In an ever-accelerating context of alterations, the imperative of lifelong learning is dictated by social assumptions such as global phenomena, increasing competition in the labor market, its international character, social inequality, growing knowledge and spread of information technology, increasing labor market demands for education, adaptability and competition. The dependence of population groups with different education and employment in the labor market background is not the same in various European countries, as well as it is diverse in Lithuania. The general trend is that people with lower education have a harder time finding a job than those with higher education, although once completed higher education, cannot protect against unemployment entirely. The changing labor market

situation and the impact of different levels of education on employment, the continuous improvement of competencies justify the imperative of lifelong learning.

Recent research shows that education is capable of enhancing modernization of a society, critical evaluation and implementation of innovations, and at the same time of maintaining universal values. Lithuania is characterized by an educated society that wants to advance, but Lithuania's Lifelong Learning Index is one of the lowest in the EU. According to LSD data in 2019, Lithuanian Lifelong Learning indicator was only 7%. Lithuania's Progress Strategy Lithuania 2030 and the National Progress Program 2014-2020 mention LLL as one of the most important strategic goals to be implemented at all levels and to cover all social areas. The education strategy for 2013-2022 aims to “mobilize not only the educational community, but also all Lithuanian people to study purposefully in order to achieve personal and national success. “(p. 11).

The aim of the article is to analyze the reasons that continue to satn din the way of a more active involvement of adults in lifelong learning in Lithuania.

The methodology of the study is based on document analysis, theoretical analysis of scientific literature, and secondary data analysis.

The Concept of Lifelong Learning

The EU's strategy for implementing lifelong learning emphasizes that lifelong learning means providing lifelong learning opportunities for all ages and making learning a continuous activity. The idea of lifelong learning starts with the integration of learning horizontally: in the family, in the community, while studying, working, spending one`s pastime, and vertically: from birth to an old age (Laal, 2012). The Lifelong Learning Memorandum (2000) defines lifelong learning as all lifelong learning activities designed to develop knowledge, skills and competences from a personal, civic, social and / or work-related perspective. G.M. Linkaitytė and L. Žilinskaitė (2008) see lifelong learning as a combination of two paradigms in which education and learning are involved. Education creates learning opportunities, and learning is the process by which active participants take advantage of the opportunities they create. The aim of lifelong learning is to provide another chance to update basic skills and provide more opportunities for higher education (European Commission, 2010). As noted in the Strategic Framework for European Cooperation in Education and Training (ET 2020), “learning from each other is an inspiring experience. The exchange of ideas, the exploration of mutual learning opportunities and the sharing of good practice are key to innovation in education (p. 2). According to M. Teresevičienė (2001), the very term “lifelong learning” draws attention to the time dimension - to learning periodically or continuously.

At the same time, it is critical to pay attention to the diversity of learning activities, the fact that learning is an activity and roles that can be exchanged at different times and places, that learning can and does take place in the family, leisure, community life and daily work. In addition to the definition *lifelong learning*, there is an increasing use of the new term *lifewide learning*, which is more focused on the dissemination of learning - lifelong learning in all areas. The comprehensive term may be analyzed from the perspective of the individual, arguing that learning can be purposeful, thoughtful, and guided externally (workplace requirements) or as a result of self-management (for career, for fun). Learning can also be incidental, ill-considered and then planned, but not the main goal (due to social need), and it can take place without any planning at all, for example due to an accidental event or a life experience related to a person's life routine. living, aging and learning from their experiences. According to researchers (Teresevičienė, 2001; Pires, 2009; Laal, 2012; Žemaitaitytė, 2017.), incidental learning can become a goal or lead to goal-based learning. Targeted learning, as a matter of fact, will always possess elements of incidental learning.

Thus, in summary, it can be stated that lifelong learning includes the opportunities for learning provided by institutions, organizations and society, as well as the development of the individual, the individual's efforts to improve one's knowledge, abilities and competencies.

So, what are the reasons that are in the way of a more active involvement of Lithuanian adults in lifelong learning?

Lithuania has made significant progress in the area of learning accessibility. Legal documents regulating the development of lifelong learning in Lithuania have been adopted, such as the Law on Non-formal Adult Education and Continuing Education (2014), which define legal guarantees for a person to exercise his / her innate right to lifelong learning; to acquire knowledge and skills necessary for professional activity, to discover new meanings of life and to create meaningful leisure time; to promote active membership of a democratic society. In 2014-2020 The National Progress Program highlights the need to pay more attention to the quality assurance system of non-formal education for working and socially excluded older people, linking funds to the needs of the learner. Lithuania in its 2030- strategic country growth document sets the goal to create an effective lifelong learning system that would effectively apply information communication and the possibilities of implementation of new technologies. However, according to the Department of Statistics, in 2020 the share of the adult learning population in Lithuania was 7.0%. At that time, the overall European Union average was 11.3%. According to this indicator, Lithuania ranks 23rd among 35 countries. The state education

strategy for 2013–2022 set a goal until the year 2022 to increase the share of adult learners to 12%. And, though, since 2014 in Lithuania, the growth of the indicator is recorded (it increased by 1.9 percentage points by 2019), the participation of adults in learning activities is still considered insufficient (Strata, 2020). So, what are the reasons for such a small percentage of Lithuanian adults participating in lifelong learning?

The question arises in numerous discussions, perhaps, the matter is that the data is incorrectly collected in Lithuania, and that the number of persons participating in education is not calculated in this system? Nevertheless, the research reveals the current situation of adult participation in lifelong learning in Lithuania.

Studies conducted ever since Lithuanian accession to the European Union have highlighted the main reasons for adult participation in lifelong learning: the lack of financial opportunities, of information and motivation to learn: "The state of non-formal adult education and the attitudes of the population and employers towards non-formal adult education" (Tamosiunas et al. , 2005), "The State of Adult Education Organization in Municipalities" (2006), "Applied Adult Education Survey" (2011), "Analysis of Non-Formal Adult Learning Concepts in the Context of Lifelong Learning" (Linkaityte et al., 2011). What the analysis has revealed is that the focus on adult education is often declarative in nature, with both state and sub-municipal documenting it as important, but with a more 'paper' focus that is not supported by real action. As a result, there has been no success in increasing the number of people participating in adult education. Unfortunately, the research carried out in recent years, although revealing a somewhat positive development, still leaves the main problematic issues unchanged.

In order to attract public attention of and to increase accessibility to adult education in the provinces and in the implementation of lifelong learning, in 2014 a new Law on Non-formal Adult Education and Continuing Education of the Republic of Lithuania was adopted (TAR 2014-07-22, No. 10429), whose article 8, part 2 instructed municipalities to draw up an action plan for non-formal and informal adult learning and to appoint coordinators for its implementation. A few years after the law was passed, a new study was conducted interviewing non-formal adult education coordinators in municipalities. Coordinators participated in the research as the individuals who are best informed of the situation of adult education in the regions and who implement the functions defined by law for municipalities: coordinate, plan and implement non-formal adult education and continuing education.

In 2018, the study "Review of the State of Non-formal Adult Education in Municipalities" (Steponavičius, 2018) highlighted that municipalities unfortunately continue to disregard non-formal adult education as important area. Only 10 percent of responders, municipal coordinators indicated that

non-formal and informal adult learning for was the main function of their work, 20 per cent of responders indicated that they had funding for these activities. The findings of the study revealed that in the event of the creation of a separate coordinator post and the allocation of funding, the coordinator has the opportunity to perform the functions assigned to him / her more thoroughly, especially in the areas of adult education planning and organization. This is definitely related to the aspect of activating adult education in the municipality. In order to collect more data of the experience of municipal coordinators and the situation and development perspectives of adult non-formal learning in municipalities, in 2020 a qualitative study “Implementation of Non-formal Adult Education in the Regions of the Country” was conducted (Petrauskiene & Zemaitaityte, 2020). The study revealed that the implementation of lifelong learning in the regions is difficult when the concept of implementation of non-formal adult education is not clear, when identifying educational needs is problematic and when seeking mass participation in non-formal adult education programs, ignoring the needs and context of implementation. The availability of non-formal adult education for different population groups in the regions varies, depending on the political decisions of the country, city and local municipalities regarding the financing and implementation of non-formal adult education programs. In some municipalities, funding for planned non-formal adult education activities is not provided, and the implementation of adult education is rather chaotic, fragmented and momentary, often with EU-funded non-formal adult education projects dropped by ministries. The study highlighted the relevance of training program quality assessment, but as noted by the study participants, in reality such survey is problematic to implement, especially in cases where the training program is implemented without funding guarantees or by mobilizing minimal funding resources through voluntary community efforts.

Strata agency study of 2020 on adult lifelong learning “Lifelong learning. Habits, attractiveness, barriers, perceptions of benefits” (Strata, 2020) revealed that more than half of all respondents (58%) had learning experience in the last three years, 42% of all respondents indicated that they had not studied in the last three years. The study involved 2,050 respondents (Strata, 2020). Analysis of the study data revealed differences in learning experiences by age groups- the youngest (15–19 years old) respondents with learning experience in the last three years were six times more (86%) than the oldest (70 years and older group) which was 13%. As early as in the age group of 30-49 years old’s, the share of learners has been declining, and since the age of 50 there has been a significant decrease in the number of learners. The fact that adults with higher education participate more actively in education (Tamosiunas et al, 2005; Zemaitaityte, 2017; Hubackova & Semradova, 2014; Pires, 2018) is also confirmed by this Strata study - 72% of respondents with higher education have been involved in studies in the last 3 years. The majority of respondents were satisfied with their

learning experience and rated it positively: three quarters of those who rated the learning experience described it as very positive or positive, only 4% as negative. It is important to note that middle-aged respondents (30–49 years old) rated learning experiences better than younger ones (81% and 71%, respectively) which would show a positive experience of adult education participants. An analysis of the barriers that prevented adults from participating in learning (interviewing non-learners over a three-year period) revealed that one of the main barriers is adults' perceptions that it is too late to learn. It was particularly salient in the older (60-year-old) group of respondents. A quarter (23%) of respondents indicated financial barriers - too expensive, difficult to pay for learning. One-fifth of respondents cited personal or professional commitments as an obstacle.

In order to encourage more active involvement of adults in lifelong learning, it is important to understand how adults perceive the purposefulness and usefulness of learning. A study by Strata (Strata, 2020) found that learners were more likely to report personal change, personal development, good time, communication, and less likely to report positive changes in the professional field, especially in relation to better careers or pay increases. Those who were not involved in learning primarily associated their learning expectations with changes in the professional field, they would be motivated to study for the opportunity to receive a higher salary or a new position.

Although, as mentioned above, statistics show that a relatively small number (7%) of adults in Lithuania still participate in lifelong learning, it is necessary to be proud that, as the Strata study (Strata, 2020) showed, a positive attitude towards adult learning dominates in Lithuanian society. 67 per cent of all respondents accept the importance of adult learning, fewer respondents (60%) enjoy the learning process and enjoy learning.

Conclusions

Adult education is one of the most important aspects of lifelong learning, which is actively pursued by various non-governmental organizations and educational institutions defending the interests of adult education. It is noticeable that there are a number of organizations and educational institutions providing lifelong learning services, but the average index of lifelong learning in Lithuania still remains low and not steady. This situation is influenced by the economic, social and political circumstances in the country. Summarizing the research review, it can be stated that although the main challenges hindering the growth of the number of adults participating in lifelong learning in Lithuania are financial barriers and the belief that learning is too late, and learning motivation is low, yet, positive attitudes of Lithuanian adults towards lifelong learning,

provide general expectation of increasing motivation for adult learning and more active involvement of adults in lifelong learning.

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DEJU NODARBĪBAS KONCEPCIJA PIEAUGUŠO LABIZJŪTAS VEICINĀŠANAI

The concept of a dance lesson for promotion of well-being of adults

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Abstract. *The context of the Covid-19 pandemic has highlighted the idea of improving the quality of life and health of people in the context of modern research. If a person is satisfied with himself, has self-realized, with a good physical well-being, he feels satisfied with life in general, thus promoting a quality of life for himself. There is an ageism perception in society that dance classes are suitable for young people. However, when forms of artistic expression are used to promote well-being in adults, it gains an existential dimension. Dance learning in this interpretation includes internalization of body management and dance technique, self-efficacy, positivity, and self-awareness. Therefore, studies focused on the positive effects of dance lessons on mental and physical health in adults are leading to increased interest, thereby contributing to promotion of well-being and healthy ageing. The aim of this publication is to identify the components of well-being in adult dance classes in the context of lifelong learning and to formulate the concept of dance classes. The study data were analysed using the qualitative data processing program NVivo 12.0. As a result, the components of the well-being of dance class participants have been identified, and an explanation of the individual dynamic balance of well-being content within the homeostasis approach is offered, which is the basis of the pedagogical concept.*

Keywords: *adult pedagogy, dance pedagogy, lifelong learning, NVivo, well-being*

Ievads

Introduction

Mūsdienu sabiedrībā notiek pakāpeniska izpratnes maiņa par cilvēku dzīves kvalitāti un veselības uzlabošanu kā labizjūtas pamatu, kā galveno mērķi izgaismojot kvalitatīvu dzīvildzi. Tāpēc mūsdienu teorētiskajos konceptos labizjūta kļūst par pētījumu priekšmetu daudzās nozarēs. Ne tikai bērniem un jauniešiem, bet arī pieaugušajiem, kuri vēlas veicināt savu labizjūtu un, rezultātā būt apmierinātiem ar savu dzīvi, ir nozīmīgas regulāras fiziskas aktivitātes. Mūsdienās arvien biežāk tiek uzsvērts, ka pašizpaušme ir aktuāla visas dzīves garumā, un deju nodarbības pieaugušajiem ir viena no iespējam pašrealizēties (York-Pryce, 2014). Šobrīd arvien lielāku interesi izraisa pētījumi par deju nodarbību pozitīvo ietekmi uz mentālo un fizisko veselību. Attālinot fiziskos, emocionālos un intelektuālos novecošanas procesus, ar cilvēku mentālo, kognitīvo un fizisko procesu stimulāciju tiek radīti priekšnoteikumi, lai veidotos

labizjūta, jo mentālā dimensija ir cieši saistīta ar fizisko, un tās funkcionē vienotā veselumā. Deja apvieno šo abu dimensiju (fizisko un mentālo) saplūšanu, primāri fiziskās sagatavotības uzlabošanās un sekundāri dzīves kvalitāti kopumā. Likumsakarīgi, tiek formulēts jautājums par pieaugušā cilvēka aktīvu iesaistīšanos savā personiskajā attīstībā un proaktīvu uzvedību savas labizjūtas veicināšanā. Tādējādi šīs idejiskās nostādnes aktualizē arī jautājumu par dejas pedagoģiskā procesa organizēšanu pieaugušajiem mūžizglītības kontekstā. Esošā situācija aizvien vairāk izkristalizē būtiskus argumentus, kāpēc labizjūtas izpētes aktualitāte pieaug, izvirzot to par nozīmīgu veselīgas novecošanas komponenti. Tāpēc šī raksta mērķis ir izpētīt pilngadīgu dejojāšu sociālos priekšstatus par labizjūtu deju nodarbībās, analizējot viņu atbildes par to, kādi ir labizjūtas komponenti un kādi ir tās veidošanās nosacījumi deju nodarbībā.

Labizjūta deju nodarbību kontekstā *Well-being in the context of dance lessons*

Mūsdienās aizvien populārāka kļūst ideja par savas dzīves kvalitātes uzlabošanu, izmantojot piedāvātās mūžizglītības iespējas, tādējādi nodrošinot labizjūtas veidošanās pamatu, gan socializējoties, gan bagātinot savu personību. Īpaši nozīmīga šī diskusija kļūst patēriņsabiedrības kontekstā, jo patēriņš tiek pozicionēts kā mūsdienu cilvēkam gan klātesoša, gan to ieskaujoša pieredzes telpa, kurā viņš veido savas attieksmes pret sevi, citiem un pasauli (Medne, Jansone-Ratinika, & Dinka, 2018), kura kontekstā ķermeņa kults un veselīgs dzīvesveids eksponējas neveselīgā interpretācijā. Savukārt publiskais diskurss vienmēr aktualizē sabiedrības gaidas un izpratni (Medne, 2015) un rezultātā nosaka cilvēku uzvedību.

Mūžizglītībā viens no būtiskiem aspektiem ir komunikācija, proti, teorijas par mācīšanos kā sociālo praksi pamatā ir uzskats, ka jebkura mācīšanās norit noteiktā vietā noteiktā kontekstā, un šis konteksts nosaka mācīšanās raksturu. Kontekstā noteicošais ir attiecības. Cilvēka būtība, viņa identitāte izpaužas attiecībās ar citiem cilvēkiem un sabiedrību. Personības nepārtrauktas attīstības pamatā ir mijiedarbība starp viņa identitāti un sabiedrību (Maslo & Koķe, 2020). Kā arī pieaugušo izglītība veicina talantu, emocionālās inteliģences un personības attīstības procesus (Medne & Jansone-Ratinika, 2019). Šāds teorētiskais redzējums attiecināms uz pedagoģisko stratēģiju, kuras pamatā ir uzticībā balstītas attiecības (Medne, 2019). Labizjūtu veido dažādi komponenti, tie savstarpēji mijiedarbojas un papildina viens otru. Deju nodarbības pieaugušajiem veicina kognitīvo procesu aktivitāti (Meng, Li, Jia, Liu, Shang, Liu, Bao, & Chen, 2020). Savukārt pētot deju nodarbību saistību ar pieaugušo līdzsvara sajūtu, garastāvokli un kognitīvajiem procesiem, secināts, ka īpaši uzlabojas līdzsvara sajūta, kas savukārt palīdz kritienu iespēju mazināšanai, kas ir viens no būtiskākajiem iemesliem gados vecāku cilvēku saslimstības un arī mirstības cēlonis, un tieši korelē ar labizjūtas zaudēšanu pieaugušo dzīvē (Chipperfield,

2018). M. Čiksentmihajs Flow teorijas ietvaros skaidro laimes un labizjūtas saistību ar to, ka brīdī, kad cilvēks kustas mūzikas pavadījumā, uzmanība tiek fokusēta uz ķermeni (Csikszentmihalyi, 1997). Tāpat atmiņas, koordinācijas un fizisko rādītāju uzlabošanās dejas nodarbībā veicina emocionālo apmierinājumu un sociālo iesaisti, kas veicina labizjūtu un apmierinātību ar dzīvi kopumā.

Analizējot labizjūtas aspektus izglītības kontekstā, tiek piedāvāts akronīms PROSPER, kura atšifrējums ietver septiņus labizjūtas komponentus: (1) pozitivitāte (*Positivity*) - pozitīvas emocijas, humors, optimisms; (2) attiecības (*Relationships*) - veselīgas attiecības; (3) rezultāti (*Outcomes*) – kompetence, individuālie panākumi ir nozīmīga rezultātu daļa; (4) stiprās puses (*Strengths*) - iespēja tās attīstīt; (5) mērķis (*Purpose*) - mērķtiecība, dzīves jēgas izjūta; (6) iesaiste (*Engagement*), saskaņā ar autoru viedokli šis ir viens no būtiskākajiem izglītības aspektiem; (7) dzīvesspēks (psiholoģiskā noturība/izturēspēja) (*Resilience*) - spēja adaptēties pārmaiņām, pārdzīvot neveiksmes un vilšanos (Noble & McGrath, 2015). Septiņu labizjūtu veidojošie kritēriji ir nepieciešami pedagoģiskā procesa īstenošanā, jo tādā veidā tiek veicināti katra pedagoģiskā procesa dalībnieka mācību sasniegumi un veicināta veselīga vide kopumā (Noble & McGrath, 2015). Šie septiņi labizjūtas komponenti, šī pētījuma ietvaros tika noteikti par labizjūtas kritērijiem (kodiem) un to izteiktība tiks identificēta empīriskajā pētījumā.

Savukārt attīstības izaicinājumu dzīves modelis (*Lifespan Model of Developmental Challenge*) (Hendry & Kloep, 2002), labizjūtas kvalitātes un personības attīstības kontekstā pēta mijiedarbību starp dzīves izaicinājumiem un individuālajiem resursiem, izslēdzot vecumu kā kategoriju. Šis modelis ietver piecus dialektiskus soļus: (1) lai veicinātu attīstību, cilvēkiem ir nepieciešams izaicinājums, (2) izaicinājuma veselīga atrisināšana veicina attīstību, (3) ja izaicinājums netiek atrisināts vai tas tiek atrisināts neveselīgā veidā, tas radīs grūtības nākotnes problēmu risināšanā, (4) izaicinājumu risināšanas process ir mijiedarbīgs, dialektisks process, (5) cilvēkiem ir atšķirīgs resursu līmenis, lai risinātu izaicinājumus (Kloep, Hendry, & Saunders, 2009). Resursi un to savstarpējā saistība ar izaicinājumiem ir pamats cilvēka attīstībai visas dzīves laikā – nevis, kā tik bieži tiek apgalvots, pieaugoša brieduma pakāpe, kas saistīta ar vecumu (Kloep, Hendry, & Saunders, 2009). Tas skaidrojams ar to, ka izaicinājumus nosaka resursi un otrādi. Katru reizi, kad cilvēks sastopas ar izaicinājumu, izaicinājumu sistēma un resursi nonāk nelīdzsvarotības stāvoklī, un, lai atgūtu homeostāzi, cilvēkam ir salāgojami savi resursi ar izaicinājumu proporciju (Kloep et al., 2009). Šis ir būtiskas atziņas dejas pedagoģijas praksē kopumā, kā arī mūžizglītības kontekstā, jo izaicinājums ir saistīts ar fizisko robežu paplašināšanu, kas paralēli ietver emocionālo un mentālo robežu paplašināšanu. Stabila labizjūta iespējama tad, kad cilvēkam ir psiholoģiskie, sociālie un fiziskie resursi, kas nepieciešami, lai tiktu galā ar konkrētu psiholoģisku, sociālu un/vai fizisku izaicinājumu. Šo modeli var attiecināt uz deju mācīšanās procesu

pieaugušajiem, kuram ir spirāles attīstības raksturs: fiziskā attīstība noris, paplašinot fizisko spēju robežas; lai šīs robežas paplašinātu ir nepieciešams mentāls resurss; ja ir subjektīvs labizjūtas līdzsvars, tad cilvēks var šo resursu izmantot, lai attīstītu savu fizisko spēju ietvaru. Šis modelis nav tieši saistīts ar labizjūtu, tas atspoguļo dinamiskā līdzsvara ideju attiecībā uz izaicinājumiem, ar kuriem sastopas cilvēks, un tievar kalpot par pamatojumu skaidrojumam, cik labizjūta ir svārstīgs stāvoklis, tādējādi pamatojot balansa nepieciešamību starp izaicinājumiem un resursiem (Dodge et al., 2012). Saskaņā ar šo argumentu autori piesaka jaunu labizjūtas definīciju: labizjūta kā balansa punkts starp indivīda resursu kopumu un izaicinājumiem, ar kurām viņš saskaras (Dodge et al., 2012). Subjektīvās labizjūtas homeostāzes teorijā dzīves notikumi tiek saprasti kā izaicinājumi (Cummins, 2010), un resursus veido adaptācija, pozitīvi afekti un kognitīvo buferu sistēma: pašvērtējums, pašefektivitāte, ticība sev un optimisms (Tomyn & Cummins, 2011). Labizjūtas homeostāzes teorijas resursu un izaicinājumu interpretācijas (Cummins, 2010; Tomyn & Cummins, 2011) atbilst klasiskās dejas kustību apguvei, tie tiek noteikti par empīrisku datu interpretācijas kritērijiem.

Analizējot teorētiskās atziņas, var secināt, ka jēdziena *labizjūta* izpratne ietver interpretāciju dažādību, un šis jēdziens ir daudznozīmīgs, taču var identificēt kopējas izpratnes iezīmes, proti, ka labizjūta ir pozitīvu emociju, veselīgu attiecību un iesaistes klātesamība cilvēka dzīvē, kas individuālā līmenī tiek noteikts kā resurss, lai tiktu galā ar izaicinājumiem.

Pētījuma organizācija un norise *Organisation and conduct of the study*

Lai apzinātu pilngadīgu deju nodarbības pieredzi deju nodarbībās, tika veikts empīrisks pētījums, kura mērķis bija identificēt labizjūtas komponentus (pozitivitāte, attiecības, rezultāti, stiprās puses, mērķis, iesaiste, dzīvesspēks (Noble & McGrath, 2015)). Šie septiņi labizjūtas komponenti šī pētījuma ietvaros tika noteikti par labizjūtas kodiem. Analizējot labizjūtas satura kritērijus (kas noteikti par kodiem šī pētījuma dizainā), katram kodam tika piešķirta resursa vai izaicinājuma vērtība atbilstīgi subjektīvās labizjūtas homeostāzes teorijas interpretācijai (Cummins, 2010; Tomyn & Cummins, 2011). Labizjūtas satura skaidrošanai un iegūto rezultātu interpretācijai izmantota izpratne par labizjūtu kā balansa punkts starp indivīda resursu kopumu un izaicinājumiem (Dodge et al., 2012).

Šajā pētījumā bija svarīgas brīvas deju nodarbības atbildes un izteiktā viedokļa neierobežotība, tāpēc pētījuma idejas realizācijai tika izvēlēta kvalitatīvā pieeja. No vairākiem kvalitatīvā pētījuma dizaina veidiem tika izvēlēts fenomenoloģiskais, jo tas apraksta piedzīvotā jēgu attiecībā uz kādu parādību vai jēdzienu (Creswell, 2006). Lai sasniegtu pētījuma mērķi, tika izvēlēta kvalitatīvo datu ieguves metode: fokusgrupas diskusija, jo tā nodrošina iespēju atklāt

indivīdu viedokļus un precizēt indivīdu pieredzes piemērus un terminu lietojumu. Šī pētījuma ietvaros, atbilstīgi epidemioloģiskajai situācijai, tika izvēlēts attālināts tiešsaistes fokusgrupas veids, izmantojot Zoom tiešsaistes rīku. Fokusgrupā piedalījās 10 respondenti. Fokusgrupas diskusija tika īstenota, ievērojot pētniecības ētikas principus. Fokusgrupas diskusijā netika lūgta informācija, kas varētu ļaut identificēt dalībniekus, video ieraksts kodēts anonīmi un pēc tam transkribēts. Pēc transkribēšanas fokusgrupas diskusijas ieraksts tika iznīcināts.

Pētījuma izlase veidota, izmantojot mērķtiecības stratēģiju, pētījuma autors apzināti un pārdomāti izveidoja visproduktīvāko izlasi, kas atbildēs uz pētījuma jautājumiem. Mērķtiecīgā izlase ietver dalībniekus ar personīgu pieredzi pētījuma priekšmetā, un viņiem jāspēj paust savu viedokli, šajā gadījumā pieaugušus dalībniekus ar regulāru deju pieredzi mūžizglītības kontekstā.

Saskaņā ar apstrādājamo datu apjomu fokusgrupas diskusijas transkripta lingvistiskā kontentanalīze un konteksta analīzes veiktas kvalitatīvo datu apstrādes programmā QSR NVivo 12. Fokusgrupas diskusijas transkripta apstrāde un analīze īstenota šādā secībā: (1) transkribētās fokusgrupas diskusijas teksta importēšana NVivo datnē; (2) atvērtā kodēšana NVivo datnē (kritēriju identificēšana), piešķirot kodu attiecīgajam teksta fragmentam. Šajā publikācijā atainota viena daļa no apjomīgāka pētījuma.

Pētījumu rezultāti, to analīze *Research results and analysis*

Pētījuma izlasi veidoja 10 respondenti, visi respondenti bija sievietes. Respondentu vecuma sadalījums: 1 respondente 60 gadi; 1 respondente 62 gadi; 2 respondentes 50 gadi; 2 respondentes 53 gadi; 2 respondentes 45 gadi; viena respondente 40 gadi; viena respondente 43 gadi. Dejošanas pieredze respondentēm: divām 30 gadi; viena divi gadi; viena 11 gadi; viena 12 gadi; viena 13 gadi; viena 14 gadi; viena 15 gadi; divas 16 gadi.

Lai noteiktu deju nodarbību apmeklētāju labizjūtu veidojošos komponentus un to izmantošanas biežumu, NVIVO programmā atvērtās kodēšanas laikā tika identificēti teorijā noteiktie septiņi kodi: pozitivitāte, rezultāti, attiecības, mērķis, stiprās puses, iesaiste, dzīvēspēks un atvērtais kods pedagogs (1. tabula).

1.tabula Kodu biežuma tabula (autores veidots)
Table 1 Code frequency table (created by author)

Kodi	Pozitivitāte	Rezultāts	Attiecības	Mērķis	Pedagogs	Stiprās puses	Iesaiste	Dzīvēspēks
Skaitis	140	94	81	42	36	32	15	14

Kodu lietošanas biežums norāda, cik plaši un izvērsti par katru jautājumu respondenti runā, netieši norādot arī to, kas respondentam ir aktuāli vai svarīgi. Pētījumā iegūtie rezultāti liecina, ka visbiežāk identificētais kods ir **pozitivitāte** (140), ko intervijās raksturo pozitīvas emocijas, prieks, humors, optimisms. Pirmais respondents to raksturo šādi: *“tas gandarījums un prieks, un laime, un sajūtas, labās pozitīvās sajūtas ir tā pasaule, uz ko es tiecos arvien vairāk un vairāk”*. Ceturtais respondents to raksturo šādi: *“dod pozitīvas emocijas”*. Analizējot iegūtos rezultātus atbilstīgi subjektīvās labizjūtas homeostāzes teorijas interpretācijai, var secināt, ka koda **pozitivitāte** saturs atbilst resursam.

Otrais biežāk minētais kods ir **rezultāts** (94), kas fokusgrupas diskusijā tiek skaidrots kā sasniedzamais rezultāts, ko respondenti iegūst, apmeklējot deju nodarbības. Tas ietver fiziski sasniedzamu rezultātu, piemēram, ceturtais respondents to raksturo šādi: *“un pat ieraudzīju, kā sāk mainīties mans ķermenis, man kaut kā izturība paliek vairāk, gan spēju sevi pārvarēt, gūstot gandarījumu, gan emocijas, kas veidojas, sasniedzot vēlamo rezultātu”*. Septītais respondents to raksturo šādi: *“pašai priekš sevis ļoti svarīgi, jo, ka tu esi sevi pārvarējis, sevi piespiedis to izdarīt, jo ērtāk ir sēdēt dīvānā, skatīties filmu noteikti. Jā, tā sevis pārvarēšana, tā man liekas ļoti svarīga”*. Tātad respondenti rezultātus saprot kā individuālus panākumus un savu prasmju pilnveidošanu, kas ir nozīmīga deju nodarbību daļa. Analizējot iegūtos rezultātus atbilstīgi subjektīvās labizjūtas homeostāzes teorijas interpretācijai, var secināt, ka koda **rezultāts** saturs atbilst izaicinājumam.

Kods **attiecības** (81) raksturo sociālo dimensiju: dejojāju savstarpējo komunikāciju nodarbību kontekstā. Piektais respondents to raksturo šādi: *“vispār ideāli, es lidoju pēc tā visa un meitenes, kuras, es arī iepazīstos arī ļoti, ļoti man patīk”*. Kā arī šis kods ietver grupas locekļu vienotību uzskatos par deju un deju nodarbību organizāciju, papildinājumus fokusgrupas laikā, arī piekrišanu un apstiprinājumu citu fokusgrupas dalībnieku viedoklim. Piemēram, trešais respondents to raksturo šādi: *“tad es ļoti lielā mērā piekrītu arī X dalībnieka teiktajam”*. Tātad var secināt, ka respondenti šo labizjūtas kritēriju saista ar pozitīvu ieguldījumu, piederības izjūtu, motivāciju un sasniegumiem. Analizējot iegūtos rezultātus atbilstīgi subjektīvās labizjūtas homeostāzes teorijas interpretācijai, var secināt, ka koda **attiecības** saturs atbilst resursam.

Kods **mērķis** (42) tiek saturiski saistīts ar iegūstamo aspektu kopumu, kas nosaka stimulus un motivāciju apmeklēt deju nodarbības, piemēram, prieks, ko piektais respondents raksturo šādi: *“tas prieks, ko tu iegūst tieši tagad. Jo tā pamatideja, ar ko es, ko es nodarbojos”*, fiziskā stāvokļa un veselības uzlabošana, par ko trešais respondents minēja: *“dejošana ir vispār pilnīgi nemanot izmaina veselības stāvokli vai fizisko pašsajūtu”*, vēlme socializēties, ko astotais respondents raksturo šādi: *“iedvesmojošā sajūta un patīkšana atrasties tieši šajā nodarbībā, tieši šo pasniedzēju un kopā ar tieši šo grupu”*, papildījuma izjūta, par ko ceturtais respondents reflektēja: *“man liekas, ka dejas ir tāda harmonizācijas lieta, ja tā var teikt, un es katram novēlu padejot”*. Analizējot

iegūtos rezultātus atbilstīgi subjektīvās labizjūtas homeostāzes teorijas interpretācijai, var secināt, ka koda **mērķis** saturs atbilst izaicinājumam.

Kods **stiprās puses** (32) ietver pašapzināšanos, pašvērtējumu, kā arī komponentes, kas tos nosaka, un veidu, kā tos pilnveidot. Trešais respondents to raksturoja šādi: *“nu, man liekās, ka dejošana ļoti ceļ pašapziņu, ka tas ir tā nu kaut kāds iekšējs spēks, kurš virza uz priekšu, un tas ceļ savu pašapziņu, noteikti”*. Analizējot iegūtos rezultātus atbilstīgi subjektīvās labizjūtas homeostāzes teorijas interpretācijai, var secināt, ka koda **stiprās puses** saturs atbilst resursam.

Kods **iesaiste** (15) izmatots saistībā ar pilnīgu un apzinātu iesaisti nodarbībās, tādējādi mainot fokusu no ikdienas problēmām uz sevi un nodarbības saturu. Koda iesaiste saturiskā būtība atbilst uzmanības novēršanas hipotēzes teorētiskajam saturam. Proti, hipotēze, ka vingrinājumi uzlabo psiholoģisko labizjūtu, darbojoties kā uzmanības novēršana no stresa pilniem notikumiem un trauksmi, mazina tieši šī uzmanības novēršana, nevis pats fiziskais vingrinājums. Devītais respondents to raksturo šādi: *“es strādāju ar galvu ikdienā ļoti daudz, un tā de ja man patiešām ļauj mūzikā atslābināties”*, savukārt piektais respondents to raksturoja šādi: *“es aizmirstos pilnīgi, un eksistē tikai šis brīdis”*. Analizējot iegūtos rezultātus atbilstīgi subjektīvās labizjūtas homeostāzes teorijas interpretācijai, var secināt, ka koda **iesaiste** saturs atbilst resursam.

Kods **dzīvesspēks** (14) fokusgrupas diskusijā tika saistīts gan ar Covid-19 ierobežojumu pārvarēšanu: deju neesamību vai dejošanu tiešsaistes formātā, piemēram, septītais respondents to raksturo šādi: *“man ir svarīgi, ka mani pabiksta, un es ļoti ilgojos pēc klātienas nodarbībām, viennozīmīgi”*, gan ar spēju pārdzīvot neizdošanos, kuru pirmais respondents raksturo šādi: *“no sākuma neizdodas, pēc tam jau tā pirouette kaut kā kaut tur sāk sanākt. Nu, protams, man nesanāk, perfekti, tādā līmenī, taču, ak jā, man parādās spējas koordinēt savu ķermeni”*. Tātad šis kods raksturo dejojēju prasmi adaptēties pārmaiņām (elasticitāte), veselīgi reaģēt uz neizdošanos un pārvarēt vilšanos. Analizējot iegūtos rezultātus atbilstīgi subjektīvās labizjūtas homeostāzes teorijas interpretācijai, var secināt, ka koda **dzīvesspēks** saturs atbilst resursam.

Kā atsevišķs kods tika identificēts kods **pedagogs**, (tekstā kodēts ar X) (36), kas raksturo pedagoga profesionālās iesaistes dimensiju: gan to, ko respondenti sagaida no pedagoga (kļūdu labojumu, izpratni, profesionalitāti, inteliģenci), gan to, ko iegūst (kustību korekciju un paskaidrojumu, atbalstu, pozitīvu attieksmi), piemēram, pirmais respondents to raksturo šādi: *“svarīgi, kā to pedagogs pasaka, un te ir svarīga viņa personība, viņa vispār cilvēciskā attieksme pret citiem cilvēkiem, viņa vērtību sistēma”*. Proti, šis kods aktualizē uzticībā balstītas pedagoga-skolēna attiecības (*trust-based teacher student relationships*) pedagoģiskās vides kontekstā. Lai praksē veidotos uzticībā balstītas attiecības, respondenti akcentē šādas pedagoga profesionālās darbības komponentes neformālās izglītības kontekstā: izpratni, profesionalitāti, emocionālo inteliģenci. Piektais respondents akcentēja: *“man svarīgi, lai deju pedagogs prastu*

paskaidrot. Lai viņš saprastu manu problēmu, un X tiek galā ļoti labi ar visu mūsu problēmām, jo katram viņas ir savādākas, X redz mūsu kļūdas, pamana tās, kad mums ir kaut kāds progress, tas viss ir ļoti svarīgi”, savukārt devītais respondents uzsvēra: “lai man bez dejas ar šo pedagogu būtu par ko parunāt, lai viņš tā kā saprastu, kas tanī dejā notiek, kopējais inteliģences un intelekta līmenis, tas pedagoģiskais process ir ļoti svarīgs, lai pedagogs saprastu, pie kādas auditorijas viņš ir atnācis un kāds ir viņu mērķis”. Šis kods iezīmē cilvēkcentrētas pieejas ideju aktualitāti neformālajā izglītībā, ko septītais respondents raksturo šādi: “visvairāk patīk tas, ka, kad tās stundas notiek ļoti profesionāli. Tā ir visu laiku rēķināšanās ar mūsu iespējām, bet, līdz kaulu smadzenēm profesionāli viss tiek pateikts ļoti detalizēti”. Pieaugušo izglītībai ir raksturīga balstīšanās pieredzē un šīs pieredzes reflektēšana mācīšanās procesā. Katrs pieaugušais ir ar atšķirīgu bērniības pieredzi dejā, trešais respondents to raksturo šādi: “mana aktīvā dejošana ir no trīs gadu vecuma līdz 25”, citiem tās nav, astotais respondents to raksturo šādi: “es neesmu nodarbojusies ne vienā deju kolektīvā, un vispār laikam nekad ar dejošanu īpaši neesmu nodarbojusies, un šī pieredze ar deju veidojas pirmoreiz”, tāpēc pedagogam ir būtiski atrast atbilstošu pieeju katram, ko piektais respondents raksturoja šādi: “un X tiek galā ļoti labi ar visu mūsu problēmām, jo katram viņas ir savādākas”. Grupas nevienmērīgais sastāvs ir pieaugušo neformālās izglītības specifisks aspekts, kas prasa individuālu pieeju, vienlaikus saglabājot kopēju mācību procesa virzību. Šī koda analīze rosina secināt, ka respondentiem ir nozīmīgi, lai deju process ietvertu uzticībā balstītas attiecības un sadarbību ar pedagogu, kā arī savstarpēju atbalstu un savstarpēju mācīšanos ar citiem dejojājiem. Analizējot iegūtos rezultātus atbilstīgi subjektīvās labizjūtas homeostāzes teorijas interpretācijai, var secināt, ka koda **Pedagogs** satur atbilst resursam.

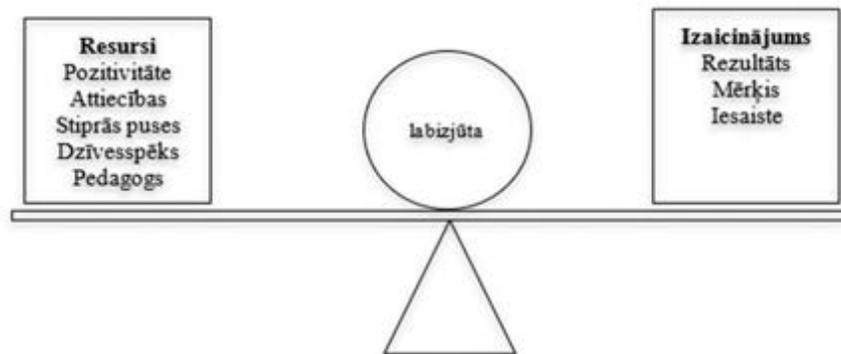
Uzskatāmībai kodu biežuma un resursu - izaicinājumu attiecības atainotas 2. tabulā.

2.tabula **Kodu biežuma un resursu-izaicinājuma attiecību tabula** (autores veidots)
Table 2 **Code frequency and resource-challenge relationship table** (created by author)

Kodi	Pozitivitāte	Rezultāts	Attiecības	Mērķis	Pedagogs	Stiprās puses	Iesaiste	Dzīvesspēks
Skaitis	140	94	81	42	36	32	15	14
Resurss (R)/ izaicinājums (I)	R	I	R	I	R	R	I	R

Lai skaidrotu pētījuma rezultātos iegūto individuālo izaicinājumu un resursu līdzsvara kombināciju, atbilstīgi labizjūtas izpratnei kā balansa punktam starp indivīda resursu kopumu un izaicinājumiem (Dodge et al., 2012), tika izveidota tā shematiska vizualizācija (1.attēls). Katru reizi, kad cilvēks sastopas ar izaicinājumu, izaicinājumu sistēma un resursi nonāk nelīdzsvarotības stāvoklī, un,

lai atgūtu līdzsvaru (homeostāzi), cilvēkam ir salāgojami savi resursi ar izaicinājumu proporciju. Pieaugušiem cilvēkiem (pieaugušo pedagoģijā) resursi ir vairāk nekā skolēniem (skolas pedagoģijā), jo pieaugušie mācās apzinātāk un mērķtiecīgāk (Maslo & Koķe, 2020), tādējādi apzinātāk var izmantot savus resursus (apzinās, kas ir resurss un kā to izmantot). Savukārt izaicinājums/i pieaugušo deju nodarbībā ir saistīts ar fizisko robežu paplašināšanu, kas paralēli ietver emocionālo un mentālo robežu paplašināšanu. Šis izaicinājums/i pamato pieaugušo vajadzību pēc izaugsmes, kas ir cilvēka darbības un vides nosacījumu mijiedarbības rezultāts. Vajadzība pēc izaugsmes iekļauj gan vajadzību pēc atzīšanas un cieņas, gan vajadzību pašapliecināties, gan vajadzību pašrealizēties. Ja cilvēks apzinās savus resursus un prot tos produktīvi izmantot izaicinājumu mazināšanai, viņš sasniedz balansa punktu - labizjūtu. Savukārt balanss tiek izjaukts ar katru jaunu izaicinājumu (piemēram, dejā apgūstot vienu kustību, sāk apgūt nākamo).



1.attēls. *Labizjūtas satura individuāli dinamiskais balanss* (Dodge et al., 2012)

Figure 1 *Individual dynamic balance of well-being content* (Dodge et al., 2012)

Secināms, ka katrs cilvēks individuāli izmanto sev pieejamo resursu kombināciju, un balansa meklējumi ir mūžmācīšanās komponente. Tādējādi deju nodarbība pieaugušajiem personības veidošanās kontekstā var tikt uzskatīta gan kā pieredzes, gan kā iespēju laiktelpa.

Diskusija *Discussion*

Pētījuma gaitā iegūti rezultāti, kuru analīze noteikta par pamatu diskusijai. Šis pētījums paplašina izpratni par deju kā fizisko aktivitāti pieaugušajiem. Pieaugušie ir aktīvi un pašvirzīti mācību procesa dalībnieki. Deju nodarbībās satiekas pieaugušie, kas veido dejotāju grupu ar neviendabīgu individuālo pieredzi, kas izaicina pedagoga profesionalitāti. Deju nodarbības mūžizglītības kontekstā ir veids, kā socializēties, apgūstot jaunas prasmes, distancēties no problēmsituācijām dzīvē un mainīt savu emocionālo fonu (gūt pozitīvas

emocijas). Tādējādi šī pētījuma rezultāti saskan ar pētījuma rezultātiem, kurā secināts, ka dejošana ir viena no fiziskajām aktivitātēm, kas ļauj cilvēkiem uzlabot savu dzīves kvalitāti, apmierinot sociālās piederības vajadzību (Keogh, Kilding, Pidgeon, Ashley, & Gillis, 2009).

Pieaugušo deju nodarbībās deju veidojošu labizjūta veidojas kompleksi kā šādu komponentu kopums: (1) ja deju veidojoši aktīvi piedalās deju apguves procesā, (2) ja tas notiek apzināti, (3) ja tas viņiem ir personīgi nozīmīgi, (4) ja deju veidojoši jūt pedagoga atbalstu un iedrošinājumu, (5) ja deju apguves procesā deju veidojošu psiholoģisko nosacījumu kopums ir līdzsvarā. Tādējādi var secināt, ka pedagoģiskās metodes un pedagoga personības īpašības pieaugušo deju nodarbībās ir potenciāls deju veidojošu labizjūtas veicināšanai. Šis secinājums saskan ar citu pētījumu pieaugušo izglītībā secinājumiem, proti, ka pieaugušo izglītības līmenī pedagoga profesionālā meistarība un personības īpašības (Medne, Jansone-Ratinika, 2019), un mācīšanās metožu potenciāls ir būtisks jautājums (Muceniece, Medne, & Gintere, 2021). Pieaugušajiem ir nozīmīgi, lai deju apguves process ietvertu veselīgu komunikāciju un sadarbību ar pedagogu, kā arī savstarpēju atbalstu un savstarpēju mācīšanos ar citiem deju veidojošajiem.

Teorētiskās literatūras analīze un veiktais empīriskais pētījums ļauj pamatot labizjūtas satura izpratni kā balansa punktu starp izaicinājumiem un resursiem un izveidot labizjūtas satura individuāli dinamiskā balansa skaidrojumu, tomēr pētījumam ir vairāki ierobežojumi, kas neļauj vispārināt rezultātus: teritoriālais ierobežojums ((1) viena pilsēta un (2) divas deju skolas), kā arī neliels respondentu skaits (N=10). Šis pētījums papildina mūžizglītības pētījumu klāstu un var kalpot tālākām izpētes dimensijām.

Summary

Nowadays, there is a growing interest in research that focuses on the positive effects of dance classes on the mental and physical health of adults, thus promoting well-being and healthy aging. The aim of this publication is to summarize and analyse the scientific findings on the components of well-being content and to study them in practice in dance classes for adults. The study data were analysed using the qualitative data processing program NVivo 12.0. The resource - challenge theory - was used to explain the content of well-being and to interpret the obtained results. As a result, the focus group discussion identified the components that make up the well-being of dance attendees, and concluded that it is important for adults that the dance learning process includes relationships based on trust and cooperation with the teacher, as well as mutual support and mutual learning with other dancers. Finally, an explanation of the individual dynamic balance of the content of well-being within the homeostasis approach is offered, which is the basis of the pedagogical concept.

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EXPERIENCES OF EXPRESSING SOCIAL JUSTICE IN NON-FORMAL ADULT EDUCATION

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Abstract. *Social justice in education is a research area aimed at providing equal opportunities for everybody to participate in the educational system. Research in the field of social justice rather focuses on formal education, in which the perception of the social justice concept depends on the attitude framed by the state – it is inseparable from the form of governance, the set of basic principles prevailing in society, as well as from the historical and cultural context. On the contrary, non-formal adult education, as a relatively convenient and most accessible form of adult education to upgrade or acquire new skills, involves occasional studies of these service providers in terms of social justice. It is also limited to the generalised perception of this phenomenon and, usually, to the contexts of its expression that are not always regulated by the state. Therefore, it is not clear how non-formal adult education addresses the problem of perceiving and expressing the concept of social justice, what role the state might play in ensuring social justice for adults in lifelong development and acquisition of new skills. The article raises the following problematic questions: How do adults perceive and experience social justice when participating in and engaging in non-formal adult education? How and in what ways does social justice exist in non-formal adult education? The aim of the article is to show the authentic experiences of study participants, by identifying the concept of social justice and expressions thereof in non-formal adult education. The results of the study demonstrate the controversy of the concept of social justice. This helped to confirm that there is no single definition of social justice that would be acceptable in all contexts of education. The following key forms of expression of social justice were pointed out by the study participants: equal opportunities, access, non-compliance of non-formal adult education services with participants' learning needs, goals, and objectives. This has revealed a partial aspect of implementing social justice in non-formal adult education.*

Keywords: *access, different social groups of adults, equal opportunities, non-formal adult education, social justice.*

Introduction

The successful socio-economic progress of the country is subject to the development of adult education and its development trends. For the majority of residents of the European Union, constructive, active, and productive functioning means certain skills, the acquisition and development of which requires continuing professional development, the ability to run their activities on the basis of the latest knowledge, scientific and technological achievements, to adapt to the

changing labour market and compete (4th Global Report on Adult Learning and education. Leave No One Behind: Participation, Equity and Inclusion, 2019). The importance of non-formal adult education as one of the most accessible forms of adult education in modern society is growing; its need for all adult groups is enhanced by the declared general concept of effective adult education policy (An in-depth analysis of adult learning policies and their effectiveness in Europe, 2015). It identifies six key factors for successful adult participation in lifelong learning activities: 1) Increasing learners' disposition towards learning (motivating conscious learning not by financial incentives, but facilitating by structural features of the adult learning system, such as free guidance for learners), 2) Increasing employers' investment in training (financing of employee training, arranging of training, promoting of learning culture), 3) Improving equity of access to learning for all (in particular, engaging disadvantaged and hard-to-learn groups, such as low-skilled unemployed, economically inactive population, people with low abilities), 4) Delivering learning that is relevant to employers and learners (focusing on the supply, motivating learning with relevant learning content for relevant skills, through flexible and innovative learning methods), 5) Delivering high quality adult learning (an important factor determining the participation of adults in learning), 6) Co-ordinating an effective lifelong learning policy. This common concept of effective adult education policy is implemented in line with the principle of social justice, which ensures the successful engagement of adults in lifelong learning.

It is important to emphasise that social justice is quite a broad concept, which comprises state policy, the process of implementation of it, and the evaluation of results. This concept is an integral part of the form of state governance, the totality of basic principles prevailing in society, as well as the historical and cultural identity of society. Many authors define social justice as the ideal situation in which all members of society possess the same fundamental rights, guarantees, opportunities, responsibilities, social support, while historical inequalities are recognised and addressed by special means (Thyer, 2010). One of the most vulnerable areas of social justice is education. Each state should pursue a socially just educational system for providing equal opportunities for everyone to participate in education. Social justice, therefore, is not just a theoretical concept; it is seen as a phenomenon, which requires practical solutions. In education, it has various forms self-expression: equal opportunities, equal access to education for different social classes, recognition and representation of interests of the most vulnerable social groups, identification and inclusion of different cultures, religions, traditions, and histories in educational programmes, etc. (Žalimienė et al., 2011).

As regards the concept of social justice, it is generally assumed as a matter of course and, therefore, implies a variety of uses. In the absence of a well-defined term, social justice has the definitions assigned by users at their own discretion

(Fraser & Bourdieu, 2007). And even though the concept of social justice and its expression in education has become the norm today, the analysis of it at various levels of the educational system, in particular, formal and non-formal, shows that its meaning varies.

Research in the field of social justice (Šliavaitė, 2018; Meernik, Golcevski, McKay, Feinberg, King, & Krastev, 2016; Iljina, 2014) rather focuses on formal education, in which the perception of the social justice concept depends on the attitude framed by the state – it is inseparable from the form of governance, from the set of basic principles prevailing in society, as well as from the historical and cultural context. On the contrary, non-formal adult education, as a relatively convenient and most accessible form of adult education to upgrade or acquire new skills, involves occasional studies of such service providers in terms of social justice (Frėjutė-Rakauskienė, Klumbytė, Marcinkevičius, & Šliavaitė, 2018; Jean Francois, 2014). It is also limited to the generalised perception of this phenomenon and, usually, to the contexts of its expression that are not always regulated by the state. Thus, it is not possible to adapt the requirements of the formal education system to non-formal adult education so as to provide adequate opportunities for all adults to take part in lifelong learning. This means that the concept of social justice in non-formal adult education is often interpreted more freely and more ambiguously, while its expression depends not only on the public education policy, but on the needs of such service providers, too. It is observed that providers of non-formal adult education involve various institutions (state, public sector, private), which pursue different goals and are financed from different sources. Also, such providers of non-formal adult education services usually run uncoordinated activities, i.e., each of them is guided by their own priorities and goals. It is, therefore, not clear how non-formal adult education addresses the problem of perceiving and expressing the concept of social justice, what role the state might play in ensuring social justice for adults in lifelong development and in acquisition of new skills.

The perception and expression of social justice in non-formal adult education are revealed through various philosophical theories of adult education, which have historically been different. Scientific literature (Šliavaitė, 2018; Frėjutė-Rakauskienė et al., 2018; Lawless & Guy, 2011) allows identifying the three following key conceptualisations of adult education, with the discourse of social justice: conservative, liberal and radical. According to conservatism, adult education is available for anyone; its obtainment is up to the individual, however, since each individual differs, inequalities result naturally from capabilities and individual efforts. Liberalism focuses on equal opportunities and fair distribution of social goods, in which education plays a key role. Radicalism, meanwhile, seeks to ensure equality of societal participation in education without marginalisation based on gender, race, socio-economic class, age, sexual orientation, beliefs, religious views, or abilities. The positions of each of the above

conceptualisations can be seen as certain forms of the concept of social justice and expression thereof that provide non-formal adult education with social justice. However, the authors Sh. Lawless and T. C. Guy (2011) are of the opinion that no one can define social justice and expression thereof in non-formal adult education better than practitioners who experience and can provide insights into the relationship between formal theoretical sources and practice. So, based on this assumption of the authors, we looked at this phenomenon from the perspective of real situations in adult learning, i. e., how the concept of social justice and expression thereof is assessed by learners who participate in various events held by non-formal adult education facilities.

The article raises the following problematic questions: How do adults perceive and experience social justice when participating in and engaging in non-formal adult education? How and in what ways does social justice exist in non-formal adult education?

The object of the research is social justice and expression thereof in non-formal adult education.

The aim of the research is to show the authentic experiences of study participants, by identifying the concept of social justice and expression thereof in non-formal adult education.

This article has been prepared using scientific literature analysis and qualitative study. The analysis of scientific literature has helped to elaborate various theories of social justice, to view the problem of perception and interpretation of this phenomenon in the context of non-formal adult education. The qualitative study has helped to reveal the experience of adults participating in non-formal adult education and representing various social groups, in reflecting aspects of the perception of social justice and expression thereof in the context of non-formal adult education.

Methodology

This qualitative study is aimed to reveal unique experiences of learners in terms of the expression of social justice in non-formal adult education. Phenomenological research has been chosen to discover the essence and importance of this phenomenon in social reality and, thus, to find out how users of non-formal adult education services actually experience this phenomenon. In this manner, the study helped to reproduce the overall picture of the situation.

The study is based on the following theoretical and methodological provisions: 1) Empiricism, which emphasises cognition through experience, leads to the conclusion that each individual should be offered appropriate learning opportunities that march his or her existing experience. This is one of the factors for adults' attitudes towards lifelong learning; 2) Pragmatism justifies the importance of lifelong learning as one of the key elements of the current adult

education policy; 3) Existentialism, which emphasises freedom of choice and responsibility for one's actions and justifies the importance of individual learning whereby the need for learning arises from the adult and non-formal adult education services provided (courses, seminars and other training) must meet the existing need; and 4) Social constructivism, which calls attention to the role of social processes and points out that the legal framework can provide theoretical opportunities for adult learning, yet, the rate of participation will only depend on the individuals in practice.

There were semi-structured interviews with respondents from different social groups used in the study. The qualitative study was conducted in September-December of 2021 in cities, towns and districts of Lithuania (Kaunas, Klaipėda, Šiauliai, Kretinga, Gargždai, Šilutė), where non-formal adult education facilities exist. The study participants were selected by the following key criteria for target selection: 1) the informants have accumulated considerable experience in using the services of non-formal adult education facilities, 2) the informants belong to different social groups by gender, age, education, and employment. The study has involved 38 informants from 11 non-formal adult education institutions (6 public and 5 private). In the semi-structured interview with residents of different Lithuanian cities, towns, and districts, 22 women and 16 men were spoken to. The age of the informants ranged from 28 to 65 years. They were of different educational background (higher education: 17, vocational: 12, secondary: 8, basic: 1) and occupational level in the labour market (working skilled work: 21, unskilled work: 10, unemployed: 7). There were 2 disabled people among all of the informants participating in the study. The study participants were interviewed using a prepared questionnaire. In developing questions, it was aimed to make them as open as possible and, thus, to allow the research participants to freely reflect on their experiences in the context of the concept and expression of social justice. Reaction moments, i. e., respondents' conscious or unconscious tendency to pose conformist responses, were taken into account when planning the interview questions. Informants were given unlimited time to answer questions. Interviews were combined with observational techniques to capture moments of informants' behaviour, speech, and expression of feelings.

In the study, the general ethical principles were followed: the principle of voluntariness, the principle confidentiality, the principle of anonymity, and respect for the subject. None of the above principles of research ethics were violated during the study. The consent of the study participants to participate in the research was obtained. They were introduced to the purpose and procedures of the study before sharing their experiences. Confidentiality and anonymity of the responses were also guaranteed – it was emphasised that the information received would not be accessible to anyone other than the informants themselves, and that the results would only be presented as a summary form, thus guaranteeing

the participant's irrerecognisability. During every meeting, a communication-friendly atmosphere was created, an opinion of each participant was heard, and respect was ensured.

Research results

The analysis of the obtained data on the perception of social justice and its expression in non-formal adult education focuses on the differently expressed experiences of the study participants. The research data disclose the opinions of the informants, which were formed on the basis of their learning experiences. It was interesting to find out how such a broad, ambiguous concept of social justice, which is shaped not only by the state education policy, exists in practice and what interpretational variations of the concept of this phenomenon have been personally experienced by informants. The complicated perception of social justice, which causes a problem to its definition, is illustrated by fragments from the informants' speeches, <...as for me personally, this is a quite a 'vague' concept, although it is defined in educational materials and, I think, is necessary> (14); <...it is easier for me to say what is being done socially wrong than just. It is an aspiration rather than a tribute" (21). The informants identify the concept of social justice as multifaceted, with different meanings and interpretations, thus, making it difficult for them to describe it. As one informant states, "I think social justice makes a lot more sense, maybe, I don't even know them all" (34). This demonstrates that different interpretations of the concept in both scientific literature and educational policy tools make it difficult to describe it in practice, as well. Each participant in the study attempted to interpret it differently, in a way in which he or she has personally experienced and understood it. The speeches of the research participants underline the units of meaning for describing the concept of social justice; they can be divided into equal learning opportunities, access to learning, and socio-economic security. The said units of meaning can be justified by ambiguous answers of the research participants: 1) equal learning opportunities, <...to me, it sounds like something utopian: 'share equally'> (3); 2) access to learning, <...the word 'just' is too abstract in our society <...>, but it reflects the right to learning> (21); 3) social security, <...the state assures the right to learn, to upgrade qualifications and, thus, to keep staying on the market> (9); 4) economic security, <...through continuing learning, you grow and improve as a professional; this guarantees economic stability> (5). The informants' thoughts show that they do understand the essence of social justice, however, they understand this concept in terms of their personal experience. They also see differences in the manifestation of social justice in formal and non-formal education, <...its concept in children's education is much clearer and I know in this case that it is necessary to ensure that all children have access to education. As for adult education, it is quite vague, indefinite. It's like the opportunity to

learn is given to everyone, but it does not meet everyone's wishes <...> I am not happy with that> (19). The experiences of the research participants show not only the vagueness of the concept of social justice in non-formal adult education, but also the uncertainty of its expression in real situations of adult learning. Informants believe that the social justice in practice is lacking features which are declared in educational materials, *<...how social justice manifests itself in practice – it remains unclear to me. I believe that I am not alone at that>* (6); *<...it's like everyone knows what it [the concept] means, but you actually cannot see it>* (28). It has been observed that informants, when reflecting on the concept of social justice, fail to define it precisely because they tend either to concretise it (divide into separate parts, such as accessibility, equal opportunities) or to abstract, to name it as an ideal situation. This is illustrated by the following experience of an informant, *<...I would call this concept a social good that should ideally be implemented>* (7). Personal experiences of the informants demonstrate their understanding that social justice is necessary as a guarantor of a state as regards their lifelong learning, yet, the problem of perception and expression of this concept in practice creates a lot of uncertainty for them.

Social justice in non-formal adult education is primarily associated with access to learning, which is enshrined in educational documents and enables lifelong learning for all adults. Access to learning is also perceived differently from the subjective point of view of the study participants, since the definition of this concept is ambiguous, too. The informants analyse and assess the access to learning in various aspects: legal, geographical, economic, and the quality of learning services.

From a legal point of view of the informants, access to learning is nothing more than the legal regulation of social justice in adult education, *<...the state that creates conditions for all adults to learn is the access to education >* (17). According to the informants, the validation of social justice in educational documents (the Law on Education, adult education materials, lifelong learning strategy, etc.) shows that the state pays attention to adult education and lifelong learning. The importance of access to learning in educational documents is illustrated by the following personal experiences of the research participants, *<...it is very important that Lithuania, with due regard for the EU directives, provides opportunities for everyone to study>* (31); *<...the enshrinement of social justice in the law shows the state's acknowledgment that a person has the right to lifelong learning>* (4). Informants believe that the mere declaration of access to learning in educational documents so as to guarantee the right to study, education and professional qualifications does not yet mean the efficiency of the adult education system and its capacities to meet their various learning needs in a flexible manner. They, therefore, have doubts as to whether what is set forth in educational documents is actually being implemented and works in practice, *<...I do not think that what is contained in educational documents is sufficient to create*

the necessary conditions for us to learn> (7); *<...frankly, I would say that all the laws that have been passed in this regard are mere formalities <...> they declare the availability of adult education, but it not so good in reality*> (25); *<...they are just mandatory legal steps, though, no one actually implements them*> (9); *<...if the state documents lay it down, we think, it should work but, unfortunately, everything remains at the documentary level*> (34). So, the informants' experience shows that the adult education policy with regard to adult learning to some extent deviates from the real situation of adult education, i.e., the actions planned, methods and measures are not properly implemented to make it work effectively in practice, *<...the legislation on education only declares, foresees measures, actions, but does not oblige it to be implemented, leaves freedom, but nothing good is coming of it*> (38). The experience of this informant shows that he or she would like the state not only to regulate access to adult learning, but also to undertake the coordination of this process. The responses of the research participants demonstrate that it is very important for them that their right to education is not just legally regulated by various applicable legislation, but also that specific measures, methods and actions are provided for to implement the right in practice. Personal experiences of the informants illustrate that the most important thing for them is that this process works properly in real learning situations.

During the study, the informants have shared different experiences of access to learning geographically. Part of participants of the study see this aspect of accessibility positively, stating that, *<...the whole learning system has been developed and works > there are adult education facilities, various trainings offered, we have a choice*> (22). Yet, at the same time, they see shortcomings and cases of discrimination. The informants believe that they are to some extent discriminated when they cannot choose a training programme they want at their place of residence, *<...access to education must make it possible to study in place: at work, in an educational establishment, or where you live*> (7); *<...It would be nice not to leave for studies but to stay and study right here*> (4); *<...I 'm all for on-the-job training, but <...> there are no conditions, the employer does not buy training*> (15). The experiences of the informants further show that those who live in cities have a better opportunity to study than in remote regions, *<...I think those who live in big cities have better opportunities to study and the greater choice*> (16); *<...what learning in our district? Nothing of the kind! No one provides such services*> (30). Participants in the study also point to the main reasons why social justice is restricted by the lack of geographical accessibility. One of the reasons is an uneven allocation of the labour market, *<...there are so many companies and establishments concentrated in cities, and there is a big choice for people working here. <...> what will they teach me in the countryside where there are no "normal" jobs or unskilled jobs only*> (2). Another reason is an uneven infrastructure for the provision of training services. This is illustrated

by the following experiences of informants, *<...those living in remote regions do not have access to education because there are no such services available there>* (15). According to the study participants, another reason is the lack of information on the training programmes, *<...as regards information, there is windless calm, no offers for those living in the depth of the country, no one provides information about training>* (20). Time costs also hinder informants from learning, *<...it takes me half a day to go to the wanted training and back home; after I come back home, I am tired, irritable, and then the training becomes unexciting>* (14). As the experiences of the informants show, the content the available training programmes is still mostly focused on the learning needs of urban population, *<...why should I waste time looking for training if they all have their potential client in the city. I don't see the training I need>* (27). On the other hand, the informants point to information technology for training that diminishes the geographical gap. This discrimination is also mitigated by distance learning; formerly, there was no high supply in the country, but Covid-19 has led to an increase in supply and demand for such training. The advantages of such distance training programmes are illustrated by the statements of the participants in the study, *<...quarantine made it easier <...>, now you are not isolated from the best training programmes, they are distance, you don't need to go anywhere>* (16); *<...perhaps, distance training is good, I can participate from home in any training held in Lithuania>* (12). This suggests that informants as adults had so far been offered too little choice of distance learning, which would partly solve their problem of access to learning geographically. As this practice is still new, not all informants are able to take advantage of it. Opportunities to learn in cyberspace are often being hampered by other reasons, such as a lack of IT equipment or information technology skills, *<...but I still can't participate in them, I don't have a PC with a video and audio camera, <...> I can't use Zoom>* (8). Thus, the geographical aspect of access to learning points out an unequal allocation of training services by the criteria of: residence, time, information, demand and supply of training services. This inequality might be partially addressed by distance study, which, however, has some shortcomings. The experience of informants who have participated in distance learning shows that not all of them are fully happy with such learning. According to the research participants, the key disadvantages of distance learning are the lack of communication and limited access to practical skills, *<...and what about communication, direct contact? Virtual cannot substitute it, no matter what methods are used>* (16); *<...I personally have little use for it <...>, I want to try, to train in practice during the study, it is not always possible>* (3). The study demonstrates that, on the one hand, the access to learning is judged positively by informants in a broad sense, as adults are provided with opportunities to learn; on the other hand, there is an inequality observed in terms of location, time, information, supply and demand of training

programmes. As the experiences of study participants show, inequality in access to learning might be to some extent solved by distance learning.

From the perspective of the study participants' experience, access to learning in economic terms is evaluated to the extent to which learning and professional development depend on the learners' financial situation, prices of educational services, and financial support provided by the state and employers. According to the informants, adult lifelong learning needs a well-functioning system to be created so as to support the financing of educational services; the financing, accordingly, should have certain value and pay off for both parties, i.e., the state (the employer) and the employee. Otherwise, in their opinion, social justice is not possible, *<...financial support in adult education is essential. The state invests in me and it pays off – the state acquires a skilled workforce>* (36). The informants reveal in their experiences that their participation in adult education is directly related to their own financial capacities, *<...it depends on how much you can afford <...> if a wage is low and is only enough to live on, then how can I pay for the course? Even if I need them much>* (26); *<...you choose the training that you are capable to pay for>* (14). Every adult, through the participation in training, upgrades his or her vocational skills, acquires new competencies and, thus, makes a useful investment in himself or herself. Although the participants in the study realise the benefits of study for their professionalism, they, however, believe that the state or the employer should also be interested in and support them financially, *<...I understand that investment in myself is good for me, but why the state has no financial mechanism to cover the costs?>* (3); *<...training should be financed by the state or by the employer, at least, in part>* (17). Another problem, as the experience of informants suggests, is the cost of training – it is not regulated at the state level and is subject to a service provider. The study participants argue that training costs are too high and sometimes do not match the quality of non-formal adult education services. The prices of educational services are illustrated by the following negative experiences of the participants in the study, *<...you must pay for your own training, spend a lot of money, and they are of no value to you>* (9). Informants believe that adults would be motivated to learn and improve their skills if the state financed providers of adult education services and, thus, reduce the cost of education. Or, at least, the prices of adult education services should be regulated at the state level. The informants provide the following arguments in this regard, *<...the state should take into account the economic situation of the country, the income received by the workforce and <...> show an interest in contributing financially or regulating the prices of services>* (29). It is also important for informants that employers collaborate with the state in providing access to learning in economic terms, *<...employers should have a strong interest in employee training, as this brings a profit to the company, so, they should be more concerned about financing employee training>* (11). Thus, the experience of the study participants reveals that the aspect of economic accessibility in non-

formal adult education is not controlled at the state level. Consequently, providers of such service have freedom when setting the prices of training. This suggests that social justice in economic terms is only partially implemented in non-formal adult education.

The attitude of the research participants belonging to different social groups toward the phenomenon of social justice as an equal opportunity is quite favourable. They do not feel disadvantaged as regards to restriction of their learning opportunities due to their age, gender, linguistic, ethnic or other criteria. They recognise and name equal opportunities as a human right to learning, implementation without marginalisation based on age, gender, socio-economic class, nationality, beliefs, religious views, abilities, etc. As the informants state, *<...equal opportunities mean that no one will be discriminated against due to their gender, age, beliefs, or other differences>* (25); *<...we all have equal opportunities to learn, regardless of nationality, age, gender, or talent>* (1). Although the principle of equality is enshrined in adult education documents, nonetheless, as informants point out, it is not fully implemented in practice. Some informants feel that they sometimes experience social discrimination, *<...I don't earn much, I don't hold high positions, so, I can't always pay for good training>* (37). According to the informants, they also have had different experiences as being members of the most socially vulnerable groups, such as the unemployed or disabled. The research participants reveal that unemployment sometimes hinders learning, *<...when I was unemployed, I couldn't choose what I wanted to study>* (28); *<...I didn't work for a couple of years, so, I didn't have the opportunity to study, I had no resources for that>* (4). As to the participation of socially vulnerable people in non-formal adult education, the experiences of informants about persons with disabilities have mostly distinguished. The study participants say that the state tends to leave this social group out of consideration, even though it documents equal opportunities. As the experience of the informants of this social group shows, *<...the most painful thing is that my close friends have virtually no access to education>* (39); *<...training takes place when EU projects are won <...> Once the training ends, we are no longer needed>* (23). People with disabilities are also discriminated against because of educational facilities that are not always adapted to people with reduced mobility. This is illustrated by the experience of one informant, *<...I am not always able to study what I want – sometimes I find out that I will not be able to study because the educational facilities are not adapted for people with disabilities>* (23). We may assume that equal opportunities without marginalisation are implemented only partially in Lithuanian non-formal adult education. As evidenced by the experience of the research participants, problems of the most vulnerable social groups are still not adequately addressed.

The study highlights that the quality of informal non-formal adult education services is of high importance for the informants. In reflections on the quality of

non-formal adult education, the participants have revealed their attitudes toward the training service providers, who also determine the effective implementation of social justice in adult education, *<...the aim must be to ensure the high quality of all adult education services>* (26). The personal experiences of the informants allowed shaping a detailed picture of the qualitative aspects of the content of training programmes, teaching methods, lecturers' competence, as well as organisational and administrative services. Advertising for training programmes is very important for informants, *<...a training programme must have a commercial appearance to make me want to buy it>* (6). Aspects of a high-quality training programme are illustrated by the following experiences of the informants, *<...practical content, which is interestingly presented by a lecturer, is very important for me; practical, visual techniques should engage me >* (7); *<...of course, teaching material with practical examples, a variety of methods used <...> the most important thing for me is to use it in my job>* (17). When choosing a training programme, informants first pay attention to its title, *<...often the title is not clear whether it is worth>* (12); *<...titled in scientific terms, a content, too; a lecturer is unknown, and they [providers] think that it should catch the eye, intrigue>* (9). The research participants name the reasons for not choosing training programmes: 1) training program structure, *<...a programme content should attract attention, yet, sometimes I lack a clear aim of a training programme, specific objectives and results>* (28); 2) more focus on practical aspects, *<...less time for theoretical aspects and more analysis of practical situations, innovative methods; they would motivate to learn>* (33); 3) benefits for the learner, *<...if I see practical benefits in the course, it is much easier and more exciting for me to study>* (16). Curricula should meet the needs of adult learning. This requires the adult education providers to continuously study the learning needs of adults. The informants argue that not all of such providers do this, *<...did anybody ask what I needed, what knowledge and skills were lacking?>* (34); *<...it's good when a company orders training; it finally delves into what we need and sometimes management makes a decision for us>* (5); *<...if they studied the needs of all of us, it would be more useful training programmes>* (31). So, in the opinion of the research participants, a training programme must be prepared in a high-quality and informative manner so as to encourage adults to learn and improve their skills. In order to ensure social justice in non-formal adult education, the state's efforts alone are not enough - providers of these services must get involved in this process, too. The participants' experience made it clear that the problem of social justice must also be addressed at the level of informal service providers, *<...the policy is established by the state and must be implemented by service providers, who should focus on making adult education accessible and of high quality>* (22). There must also be certain requirements imposed for providers of non-formal adult education services. The experience of the informants shows that training providers should be experts in the field of adult

education, <...adult education field must be staffed by competent people, experts in adult education, not just any education> (16); <...in this field, it is still necessary to pursue high-quality training, high-quality teaching, high-quality practical tasks, high-quality organisation of training, which can only be achieved by qualified professionals> (8). The study participants have pointed out in their experiences the problems prevailing in non-formal adult education, which should be addressed as soon as possible so that the training is focused on adult learning needs, whereby curriculum content and the desired results should be in line with the development of general skills and competencies relevant to the labour market, as well as the acquisition of knowledge, skills, etc., necessary for vocational activities.

Conclusions

The implementation of social justice in non-formal adult education is becoming one of the main reasons of why adults learn. Looking at the participants' personal experiences, their assessment of the concept and expression of social justice in real learning situations of non-formal adult education shows contradictions with the attitude toward the nature of this phenomenon as declared by the state education policy. According to the informants, social justice is associated with accessibility, equal opportunities, and the quality of educational services where every adult wants to feel and be appreciated as an equal participant in learning. The study has revealed that its participants do not fully understand the concept of social justice due to its complicated meaning; neither can they precisely define it. Therefore, it is controversial in non-formal adult education.

Experiences in the expression of social justice show real learning situations in which the study participants, representing different social groups, do not always succeed in certain areas. During the interviews, the informants have pointed out the social groups (unemployed, disabled) who are most affected by discrimination and social exclusion. Representatives of other groups just partially feel discriminated in geographical (place of residence), economic (financial opportunities) terms, and in terms of quality of training services.

The interviewed respondents see the state as responsible for the implementation of social justice in non-formal adult education, for shaping the education policy; non-formal adult education service providers – as responsible for education policy implementation; employers – as intermediaries between the state and education service providers, who might also promote lifelong learning.

The analysis of the phenomenon of social justice and expression thereof allows assuming that the learning adults' reflections on their experiences show the controversy of the concept of social justice. This helped to prove that there is no single definition of social justice acceptable in all educational contexts. The following key forms of expression of social justice were pointed out by study

participants: equal opportunities, access to education and training, non-compliance of non-formal adult education services with participants' learning needs, goals, and objectives. The latter just partially show an attitude toward the implementation of social justice in non-formal adult education.

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