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ПСИХОЛОГИЧЕСКАЯ ОСНОВА САМОРЕАЛИЗАЦИИ СТУДЕНТОВ В ИНТЕГРИРОВАННОЙ ОБРАЗОВАТЕЛЬНОЙ СРЕДЕ

The Psychological Basis of Students' Self-Realization at the Integrated Educational Environment

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Taras Schevchenko National University of Kyiv, Ukraine

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Abstract. *In the space of modern Ukrainian higher education, the tasks of vocational training development and improvement, integration and creating conditions for disabled students' creative self-realization become really important. In order to create the structure of adapted environment at universities and to promote personal and professional development of all participants at the integrated educational environment, a comprehensive psychological study of the psychological foundations of students' personal self-realization should be done. The research objective: to study psychological characteristics of students' self-realization studied at integrated groups with investigation of disabled students' self-attitudes and their correlations with self-actualization, meaningful life orientations and psychological hardiness. Research methods: the test-questionnaire of self-attitudes (S. Pantileev, V. Stolin); Shostrom's Personal Orientation Inventory in adaptation N. Kalin, A.Lazukin; the Test of Meaningful Life Orientation of D.L. Leontev; S. Maddi's Hardiness Scale in adaptation of D. Leontiev, Ye.I. Raskasova; the methods of statistical analysis for empirical data: comparative analysis of average indicators, correlation analysis. The performed empirical study revealed such psychological characteristics of disabled students' self-attitudes as unrealistic ideas about themselves, their abilities and skills, a tendency to self-blame, low level of self-understanding, which can become obstacles to their effective self-realization. The success of students' self-realization in the integrated educational environment of universities is provided by their internal resources: positive self-attitude, awareness of goals, meanings in life, strength and stability of Self, cooperation with other people, society as a whole.*
Keywords: *an integrated educational environment, meaningful life orientations, psychological hardiness, self-realization, self-attitude, students with disabilities.*

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Введение
Introduction

Современное образование – это важнейшая часть жизни человека и фактор его самореализации. Поэтому должно быть направлено на актуализацию и развитие ресурсов самореализации личности, жизненных и профессиональных целей, ценностей и смысла жизни, жизнестойкости, свободы и ответственности.

Особую актуальность проблема самореализации личности приобретает в юношеском возрасте, для которого характерны поиск оптимального смысла жизни, жизненных целей, потребность достижения личностной идентичности, трансформация системы ценностей, социальное, личностное и профессиональное самоопределение.

Это в полной мере касается студентов с инвалидностью, для которых возможность получения образования и приобретение профессии - эффективное средство социальной востребованности, социокультурной, экономической мобильности, свободы выбора жизненных целей и личностной самореализации.

Актуальность данного исследования обусловлена практической необходимостью изучения психологических особенностей самореализации студентов с инвалидностью, как формы в которой человек обеспечивает свое развитие и саморазвитие, и содействия этому процессу в условиях интегрированной образовательной среды.

Цель исследования: изучение особенностей самореализации студентов в интегрированной образовательной среде, через диагностику самоотношения студентов с инвалидностью и условно здоровых студентов, выявление взаимосвязей самоотношения с самоактуализацией, смысложизненными ориентациями и жизнестойкостью личности.

Методы исследования. Опросник самоотношения личности (Pantileev, 1993); модифицированный опросник диагностики самоактуализации личности А. Лазукин, Н. Калина (Fetiskin, Kozlov, & Manujlov, 2002); методика исследования смысложизненных ориентаций (Leont'ev, 2000); тест жизнестойкости С. Мадди, (Leont'ev & Rasskazova, 2006).

Обзор литературы
Review of the Literature

Существующие в психологии близкие по смыслу понятия самореализация, самоактуализация, саморазвитие, самоопределение, самоутверждение, самовыражение, саморазвитие, самоактивность, самодетерминация в достаточной мере не имеют однозначного объяснения. Очевидно,

что “само” предполагает нечто идущее из внутреннего, самопричинное, побуждаемое и регулируемое изнутри (Klochko & Galazhinskij, 1999). А это, безусловно, сложный для исследования и понимания феномен.

Все эти понятия содержат основную гуманистическую идею А. Маслоу (Maslou, 2008) о врожденной тенденции, присущей всем без исключения людям, о реализации собственных потенциальных возможностей и способностей.

Самореализация - это процесс актуализации и реализации индивидуальности личности, ее внутреннего позитивного и творческого потенциала развития, психологической зрелости и компетентности.

Это процесс самопознания своих способностей, возможностей, образа «Я», смыслов существования (Selezneva, 2015); перевод их из состояний возможностей (потенциального) в действительность (актуальность) (Klochko & Galazhinskij, 1999); реализация их в реальных условиях взаимодействия с окружающим миром и людьми (Walker et al., 2011); способность человека реалистично воспринимать себя, свои возможности, способности и использовать их для планирования обучения, овладения профессиональными навыками и построения жизнедеятельности в целом (Wehmeyer et al., 2007).

Согласно концепции, К. Роджерса (Rodzhers, 2002) человек развивается в направлении самореализации только самостоятельно, никто не может в этом направлении его подталкивать. При этом, должны быть сформированы принципиально важные личностные характеристики: степень активности собственных усилий личности (внутренний локус контроля, внутренняя мотивация, воля, автономия, система ценностных ориентаций) как компоненты и условия эффективной самореализации личности (Serdyuk, 2014).

Человек живет и развивается в конкретных социокультурных условиях, в непосредственном взаимодействии с другими людьми, и его личностное развитие обусловлено системой его основных отношений (к себе, окружающему миру, другим людям), которые являются относительно стабильными и образуют целостность личности (Selezneva, 2015), «Я-концепцию» (Rodzhers, 2002) и самоотношение.

Самоотношение тесно связано с «Я-концепцией» индивида, как динамической системой установок, направленных на саму личность. Отсюда, позитивную «Я-концепцию» можно рассматривать как позитивное отношение к себе, самоуважение, принятие себя, ощущение собственной ценности. И наоборот синонимами негативной «Я-концепции» становится негативное отношение к себе, непринятие, ощущение своей нереализованности. Именно позитивная, «конгруэнтная Я-концепция» (Rodzhers, 2016), является основным условием личностного роста и самореализации.

Самоотношение как компонент самосознания обуславливает процессы самоопределения и самореализации, выступает как их результат (Kolyshko, 2012); обеспечивает оценку человеком своих характеристик, способствующих или препятствующих самореализации (Selezneva, 2015); регулирует межличностное взаимодействие, постановку и достижение целей и как сложное когнитивно-аффективное образование обуславливает эмоционально-ценностное принятие себя (Pantileev, 1993). Развитие самосознания, позитивное реалистичное отношение к себе (способность оценить свои сильные стороны, сложности, потребности) связаны с личной автономией, самодетерминацией личности, с возможностью устанавливать и реализовывать цели, контролировать свою жизнь (Ankeny & Lehmann, 2011).

Отношение к собственному «Я» формируется в зависимости от того воспринимается оно позитивным, негативным или конфликтным (Stolin, 1983). Позитивное самоотношение фиксируется сознанием, в определенный период времени, как интегральное ощущение благополучия. Негативное и конфликтное самоотношение как субъективное ощущение неблагополучия. Таким образом, самоотношение, может быть, как ресурсом (позитивное отношение к себе), так и барьером (негативное или конфликтное отношение к себе) саморазвития и самореализации личности.

Самоотношение как ценность «Я», тесным образом связано с личностными ценностями, смыслами и активностью личности. В результате взаимодействия с ценностно-мотивационными образованиями личности и жизнестойкостью, как базовой характеристикой личности, которая опосредует воздействие на ее сознание и поведение всевозможных неблагоприятных обстоятельств (Maddi, 2006, 2013) (в данном случае соматических заболеваний), самоотношение включается в процесс деятельности и личностной самоэффективности, саморегуляции; стимулирует развитие познавательной активности, субъектности человека, автономной мотивации, способствует психологическому здоровью и благополучию, как характеристики зрелой личности (Ryan & Deci, 2017).

Таким образом, регуляторное влияние самоотношения определяется широтой его включенности в процесс самореализации и влияет на проявление субъектной активности личности.

Методология
Methodology

В исследовании были использованы: опросник самоотношения личности (Pantileev, 1993); модифицированный опросник самоактуализации личности А. Лазукина, Н. Калиной (Fetiskin, Kozlov, & Manujlov, 2002); методика исследования смысложизненных ориентаций Д. Крамбо та

Л. Махолика (Leont'ev, 1992); тест жизнестойкости С. Мадди, (Leont'ev & Rasskazova, 2006).

В эмпирическом исследовании приняли участие 453 студента, обучающихся в интегрированных группах университетов г. Киева, (Украина). И них: 215 студентов с инвалидностью (с заболеваниями опорно-двигательно-го аппарата, детским церебральным параличом, заболеваниями органов зрения, органов слуха, общие заболевания, заболевания нервной системы) и 238 условно здоровых студентов. Возраст испытуемых от 18-21 года.

Методы статистического анализа эмпирических данных: сравнительный анализ среднестатистических показателей, корреляционный, регрессионный анализ производился с помощью компьютерной программы для статистической обработки данных SPSS Statistics 21.0.

Результаты и дискуссия
Results and Discussion

С целью исследования особенностей самоотношения мы использовали опросник самоотношения (Pantileev, 1993). У значительной части респондентов выявлены средние (5-12) и высокие (больше 12 балов) показатели, сравнивая полученные данные с нормативными показателями (Pantileev, 1993). На Рисунке 1 представлены средние значения показателей самоотношения.

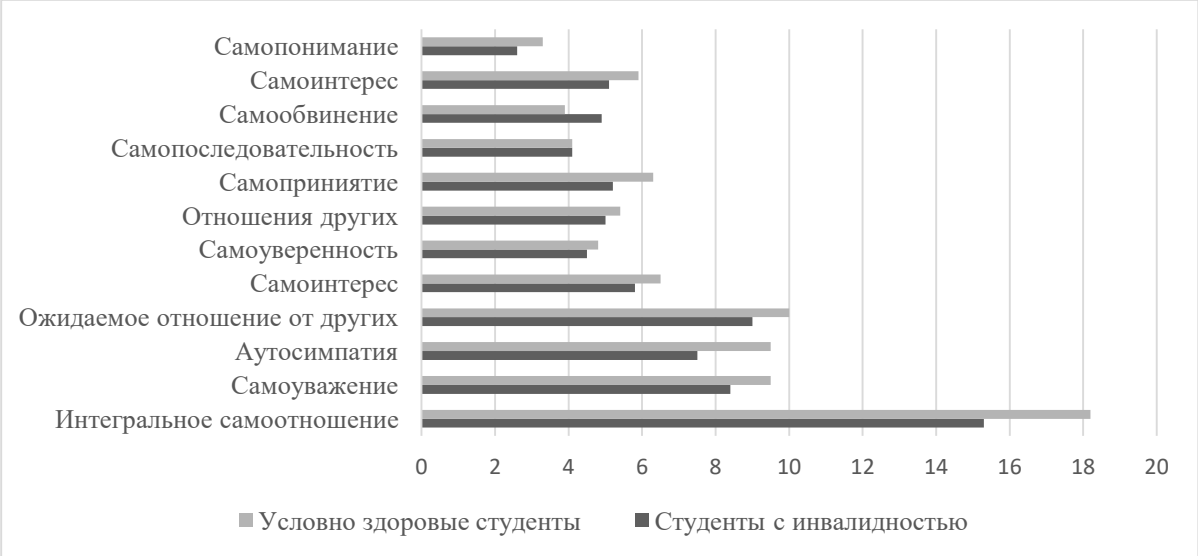

Рисунок 1. ***Средние значения показателей самоотношения студентов с инвалидностью и условно здоровых студентов***
Figure 1 ***Average values of self-attitude indicators scored by students with disabilities and relatively healthy students***

Структура самоотношения у респондентов отличается выраженностью его компонентов. У студентов с инвалидностью средние показатели по всем компонентам самоотношения ниже, а по «самообвинению» выше, чем у условно здоровых студентов (Рисунок 1). Это может свидетельствовать о том, что для студентов с инвалидностью характерно нереалистичное представление о себе, своих возможностях, способностях. Они склонны к самообвинению, что может снижать их способность действовать в соответствии со своими предпочтениями, убеждениями; делает их зависимыми от внешнего влияния, вмешательства и может является барьером эффективной самореализации.

Можно предположить, что функционирование и поддержание собственного «Я», у исследуемых студентов, осуществляется за счет разного соотношения показателей самоотношения. Так, наиболее важную роль в способности испытуемых прогнозировать, контролировать свою деятельность, взаимодействовать с самим собой и окружающим миром, играет «интегральное самоотношение», «аутосимпатия», «самоуважение» и «ожидаемое отношение от других». Ожидаемая высокая внешняя оценка других, при низком самопонимании, недостаточности собственного опыта, в студенческом возрасте, еще остается важным фактором развития отношения к собственному «Я».

С целью сравнение показателей самоотношения, смысложизненных ориентаций, самоактуализации и жизнестойкости личности студентов мы использовали методики: опросник самоотношения личности (Pantileev, 1993); модифицированный опросник самоактуализации личности А. Лазукина, Н. Калиной (Fetiskin, Kozlov, & Manujlov, 2002); методику исследования смысложизненных ориентаций Д. Крамбо та Л. Махолика (Leont'ev, 1992); тест жизнестойкости С. Мадди, (Leont'ev & Rasskazova, 2006). В Таблице 1 указаны выявленные, значимые различия, в психологических характеристиках респондентов.

Значимые различия выявлены по параметрам: «интегральное самоотношение», «самоуверенность», «самоинтерес», «самоуважение»; самоактуализации: «автономность», «контактность»; смысложизненных ориентаций «результат жизни», «процесс жизни»; «жизнестойкость» (Таблица 1). Данные параметры у студентов с инвалидностью выражены слабее, чем у условно здоровых студентов. Можно предположить, что студентам с инвалидностью, как и условно здоровым студентам, присуще стремление к самоактуализации. Однако, неуверенность в себе, низкий уровень самопонимания, принятия себя, отображается в нереалистичном, часто конфликтном отношении к себе, оценке своих сильных, потенциальных способностей и возможностей, интегрированности отношения к собственному «Я». Что в свою очередь может препятствовать

осознанию жизненных целей, способности действовать автономно, быть включенным, регулировать, контролировать и нести ответственность за события своей жизни, по средствам личностной активности.

Таблица 1. ***Сравнение показателей выборки студентов с инвалидностью и условно здоровых студентов***
Table 1 ***Comparison of indicators of students with disabilities and relatively healthy students***

Показатели	t критерий равенства средних					
	F	Уровень значимости	t	Уровень значимости	95% доверительный интервал	
					нижняя граница	верхняя граница
Интегральное самоотношение	11,43	0,001	5,37	0,00	1,81	3,92
Самоуважение	7,78	0,005	3,01	0,00	0,25	1,21
Самоуверенность	13,74	0,00	1,56	0,11	-0,08	0,70
Отношение других	7,78	0,001	2,68	0,10	0,02	0,75
Самоинтерес	9,15	0,003	4,70	0,00	0,50	1,24
Автономность	18,88	0,00	1,79	0,07	-0,39	8,42
Аутосимпатия	3,58	0,005	2,39	0,01	0,93	9,68
Контактность	6,76	0,01	1,75	0,05	-0,44	7,81
Самоактуализации	3,87	0,005	3,28	0,00	1,48	5,94
Процесс жизни	11,53	0,00	4,24	0,00	1,79	4,89
Результативность жизни	23,92	0,00	1,35	0,17	-0,43	2,33
Локус контроля - жизнь	3,40	0,006	3,29	0,00	1,13	4,50
Вовлеченность	4,55	0,001	3,57	0,00	1,71	5,90
Контроль	4,23	0,002	1,89	0,01	-0,08	3,36
Принятие риска	4,55	0,003	2,86	0,05	0,53	2,88
Жизнестойкость	8,74	0,001	3,92	0,01	2,96	11,78

Для выявления взаимосвязи самоотношения с характеристиками личности (самоактуализацией, жизнестойкостью, смысложизненными ориентациями) мы использовали интегральные показатели самоотношения опросника самоотношения личности (Pantileev, 1993), базовые шкалы модифицированного опросника самоактуализации личности А. Лазукина, Н. Калиной (Fetiskin, Kozlov, & Manujlov, 2002); методику исследования смысложизненных ориентаций Д. Крамбо та Л. Махолика (Leont'ev, 1992); тест жизнестойкости С. Мадди, (Leont'ev & Rasskazova, 2006).

Нами выявлены значимые позитивные корреляционные связи самоотношения и его интегральных показателей с базовыми шкалами самоактуализационного теста, как у студентов с инвалидность, так и у условно здоровых студентов (Таблица 2).

Можно предположить, что высокий уровень самоотношения и его интегрированность обуславливают наличие у студентов ценностей

самореализации, способности переживать настоящий момент свей жизни во всей его полноте, стремление актуализировать свои способности и возможности. Уверенность в себе в сочетании с осознанностью, так же, обуславливает формирование важной характеристики самоактуализирующейся личности – потребности в автономии. Однако, не сформированность личностной рефлексии, как механизма познанияи понимания себя, может снижать потребность в познании. Низкие показатели корреляционных связей, и их отсутствие, самоотношения и его интегральных характеристик, с «потребностью в познании» диагностированы у условно студентов.

Таблица 2. ***Взаимосвязь интегральных показателей самоотношения и показателей самоактуализации, жизнестойкости, смысложизненных ориентаций***
Table 2 ***Correlation between the integral self-attitude and indicators of self-actualization, psychological hardiness, meaningful life orientations***

	Интегральное самоотношение		Самоуважение		Аутосимпатия		Ожидаемое отношение от других		Самоинтерес	
	1	2	1	2	1	2	1	2	1	2
Ориентация во времени	,27**	,25**	,35**	,16*	,24**	,21	,07	,14**	,19**	,03
Ценности	,65**	,32**	,58**	,23**	,54**	,27	,31**	,16	,24**	,07
Потребность в познании	,29**	,16	,37**	,18*	,27**	,06	,14*	,02	,21**	,02
Автономность	,23*	,27**	,21*	,21*	,25**	,28**	-,09	,12	,-04	,10
Самоактуализация	,42**	,40**	,37**	,25**	,36**	,33**	,12	,18*	,15	,14
Вовлеченность	,57**	,56**	,53**	,47**	,50**	,34**	,22**	,36**	,22**	,17*
Контроль	,53**	,56**	,59**	,53**	,43**	,40**	,16*	,24**	,14*	,21*
Принятие риска	,46**	,55**	,53**	,42**	,45**	,41**	,19**	,30**	,11	,23**
Жизнестойкость	,60**	,62**	,62**	,54**	,53**	,42**	,20**	,34**	,19**	,22**
Цели в жизни	,67**	,37**	,57**	,37**	,54**	,28**	,37**	,28**	,30**	,19*
Процесс жизни	,56**	,37**	,42**	,26**	,42**	,30**	,36**	,24**	,22*	,22*
Результативность жизни	,64**	,45**	,63**	,33**	,55**	,35**	,37**	,35**	,23*	,21*
Локус контроля-Я	,45**	,34**	,37**	,27**	,30**	,27**	,27**	,30**	,33**	,21*
Локус контроля-жизнь	,60**	,43**	,43**	,33**	,45**	,36**	,38**	,22*	,33**	,24**

*Примечание: 1 – испытуемые студенты с инвалидностью; 2 – испытуемые условно здоровые студенты; ** – корреляция достоверна на уровне $p \leq 0,001$; *на уровне – $p \leq 0,05$*

Интегральные показатели самоотношения значимо коррелируют с жизнестойкостью личности и ее составляющими. Это свидетельствует о том, что позитивное отношение к себе, личностная идентичность стимулируют активность собственных усилий, направленных на включенность в процесс жизни, способность контролировать жизненные

события, нести ответственность за них, преодолевать трудности и выдерживать напряжение, связанное с ними. Эти результаты согласуются с результатами исследования психологических факторов жизнестойкости старшеклассников (Serdiuk, Danyliuk, & Chykhantsova, 2019).

Самоотношение и его интегральные характеристики, у испытуемых студентов, тесно связаны со смысложизненными ориентациями. Причем, у студентов с инвалидностью корреляционные связи со всеми показателями смысложизненных ориентаций выше, чем у условно здоровых студентов (Таблица 2). Позитивное самоотношение, основанное на самоуважении и аутосимпатии, усиливает осознанность и поддержания личностных смыслов, целостности настоящего (насыщенность жизни), прошлого (удовлетворенность самореализацией) и будущего (цели в жизни). Эти результаты согласуются с данными исследования (Wehmeyer et al., 2007), которые показывают, что самоотношение и самопознание, как составляющие самодетерминации, влияют на постановку целей и достижения успехов в обучении студентов с инвалидностью.

На основе регрессионного анализа мы определили какие из независимых переменных существенны и значимы для прогноза показателя самоотношения. В качестве независимых переменных мы использовали базовые шкалы модифицированного опросника самоактуализации личности А. Лазукина, Н. Калиной (Fetiskin, Kozlov, & Manujlov, 2002); показатели методики исследования смысложизненных ориентаций Д. Крамбо та Л. Махолика (Leont'ev, 1992) и теста жизнестойкости С. Мадди, (Leont'ev & Rasskazova, 2006).

Результаты моделей регрессионного анализа в выборке студентов с инвалидностью поданы в Таблице 3.

Таблица 3. ***Модель регрессионного анализа для показателя «самоотношение» выборки студентов с инвалидностью***
Table 3 ***The model of regression analysis for 'self-attitudes' indicator of students with disabilities***

Модель	R	R-квадрат	Скорректированный R-квадрат	Стандартная ошибка оценки
1	.667[a]	.445	.439	3,497
2	.687[b]	.472	.462	3.423
3	.713[c]	.511	.493	3.370

a. Предикторы: (конст) цели в жизни
b. Предикторы: (конст) цели в жизни, потребность в познании
c. Предикторы: (конст) цели в жизни, потребность в познании, вовлеченность
d. Зависимая переменная: самоотношение

Достоверной является модель 3, которая объясняет 51% дисперсии. То есть, наиболее точно прогнозирует значение показателя самоотношения, модель, которая включает предикторы: цели в жизни, потребность в познании, вовлеченность.

Результаты модели регрессионного анализа в выборке условно здоровых студентов поданы в Таблице 4.

Таблица 4. ***Модель регрессионного анализа для показателя «самоотношение» выборки условно здоровых студентов***
Table 4 ***The model of regression analysis for 'self-attitudes' indicator of relatively healthy students***

Модель	R	R-квадрат	Скорректированный R-квадрат	Стандартная ошибка оценки
1	.621[a]	.386	.381	2.798
2	.722[b]	.560	.490	3.726

a. Предикторы: (конст.) жизнестойкость
b. Предикторы: (конст.) жизнестойкость, результативность жизни
c. Зависимая переменная: самоотношение

Модель 2 является достоверной, поскольку, полученное значение R-квадрат превышает 0,5. Наиболее точно прогнозирует значение показателя самоотношения, условно здоровых студентов, модель, в которую входят предикторы жизнестойкость и результативность жизни.

Выявленные предикторы свидетельствуют, о том, что осознанность жизненных целей, потребность в познании себя и окружающего мира, вовлеченность в собственную жизнь, в большей мере, обуславливают самореализацию студентов с инвалидностью. Жизнестойкость и результативность жизни (или удовлетворенность самореализацией) являются предикторами, обеспечивающими процесс самореализации условно здоровых студентов, а их не сформированность, могут значительно усложнять, и даже, деформировать саморазвитие личности.

Выводы
Conclusions

Самоотношение является одной из важных детерминант самореализации личности и в значительной мере обеспечивает степень личностной активности в постановке и достижении целей, целостности личности, эффективности ее отношений к себе, к миру в целом.

Выявленные психологические особенности самоотношения студентов с инвалидностью (нереалистичное представление о себе, своих возможностях и способностях, склонность к самообвинению, низкий

уровень самопонимания и самопоследовательности) могут быть препятствиями их эффективной самореализации. Позитивное самоотношение может поддерживаться развитием таких его ресурсных компонентов, как самоинтерес, самопонимание и самопринятие.

Успешность самореализации и студентов с инвалидностью, и условно здоровых студентов, обуславливается:

- сформированностью позитивного самоотношения, как смыслового образования личности, и его компонентов;
- мерой активности собственных усилий, направленных на включенность в собственную жизнь, способность регулировать и контролировать ее события, принимать вызовы и нести ответственность за результативность своей жизни;
- осознанностью целей и смыслов собственной жизни, способностью к самоуправлению, самоконтролю, самоорганизации своей деятельности, то есть включенностью в жизнь;
- включенностью студентов в интегрированное образовательное пространство вуза, основными ценностями которого должны быть - личностное развитие, гуманизм, творческая самореализация. Позитивное взаимодействие со студентами, преподавателями вуза, психологическая поддержка и содействие помогают развивать социальную компетентность всех участников интегрированной образовательной среды.

Summary

The article presents the results of the empirical study on self-realization of students studied in the integrated educational environment of universities, in the context of self-attitudes of students with disabilities and conditionally healthy students. It is determined that an individual's self-realization, as an integral phenomenon, is mediated by a set of interconnected personal characteristics, in particular self-attitude, the values of self-development and self-actualization, awareness of life goals, and psychological hardiness.

The article theoretically substantiates that self-attitude is one of the most important determinants of an individual's self-development and self-realization; self-attitude is closely connected with self-concept, as a dynamic system of attitudes aimed at an individual him/herself; the regulatory influence of self-attitude is determined by deepness of its involvement into self-developmental processes; self-attitude affects manifestations of an individual's subjective activities.

The psychological peculiarities of disabled students' self-attitudes are revealed: an unrealistic view on themselves, their capabilities and skills, which deforms their life goals, plans; they are prone to self-blaming, which reduces their ability to act in accordance with their preferences, beliefs and makes them dependent on external influences.

The high self-attitude and conjunction of its indicators determine the students' self-realization values, their ability to experience acurrent moment of their life in its entirety, their desire to actualize their capabilities.

Positive self-attitude, self-respect and auto-sympathy enhance an individual's ability to understand and maintain personal meanings, to feel integrity of the present (richness of life), past (satisfaction with self-realization) and future (goals in life).

The formation of a positive self-attitude, which underlies an integrated self-image, determines the measure of one's own efforts aimed at inclusion into life in order to control life events, bear responsibility for them, overcome difficulties and withstand stresses.

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COLLABORATION-BASED SUPPORT PROVISION MODELS FOR CHILDREN WITH SPECIAL EDUCATIONAL NEEDS

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Abstract. *The article aims to reveal collaboration-based support provision models for a child with special educational needs and his/her family in Lithuania. The qualitative research method used was a semi-structured interview. The participants of the research were special educators and speech therapists providing support to school-age children with special educational needs. The obtained results of the research helped to reveal children support specialists' attitude towards collaboration-based support provision to a child with special educational needs and his/her family in Lithuania. The research revealed the importance and opportunities of the implementation of interprofessional coordinated support based on interprofessional collaboration, referring to the experience of speech therapists and special educators providing support to a school-age child with special educational needs and his/her family.*
Keywords: *collaboration-based support, interprofessional collaboration, multiprofessional support, special educational needs.*

Introduction

The relevance and problem of the research. In the recent decades, both in international and national context, collaboration-based support concepts and models for persons with special educational needs have been undergoing change. Attention is more and more focused on inclusive education of children with various needs, child and family empowerment, systemic support, the complexity, flexibility, and accessibility of services is emphasized (Carpenter, 2007; Vanclay, 2003; Soriano, 2005; Nolte, 2005; Ališauskienė, 2010). Attitude, concepts, methodologies, and the notions used are changing, the focus is being shifted to the creation of equal conditions for everyone regardless of the level of disability or special educational needs (Miltenienė & Melienė, 2010).

In Lithuania, there is a lack of research that would reveal collaboration-based support provision models for a child with special educational needs and his/her family. While providing support to a child with special educational needs, it is

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important that specialists representing different professions provide complex services emphasizing active relations among various specialists and pedagogues, who strive to jointly solve problems that emerge in practice. Therefore, it is relevant to investigate the peculiarities of collaboration between child support specialists and pedagogues, and the peculiarities of special pedagogical support provided to children with special educational needs as well as challenges arising in practice.

The experience of the European countries shows (Davis & Gavidia-Payne, 2009) that family-centred practice is considered as an ideal and target model of early child and family support. In the authors' opinion, collaboration helps to unite persons with special educational needs (SEN), their family members, specialists in various fields (speech therapists, special educators, psychologists, neurologists, pediatricians, occupational therapists, etc.), and possible resources of the participants of the communicative system in order to distribute responsibility and commitments that condition the efficiency of the support for children. It is evident that in this context communication in a particular team of specialists and pedagogues is a complicated process, because the specialists of various professions differently understand the problems of the education of a child with SEN and the problems of overcoming the disorder, as well as the chosen methods of support. In the context of collaboration-based support provision to a child and his/her family, the collaboration among specialists creates the preconditions for partnership-based interrelations, complex service provision, and interprofessional development (Baker & Donnelly, 2001; Olenic et al., 2010; Reeves et al., 2010).

The object is collaboration-based support provision models for a child with special educational needs and his/her family.

The aim is to reveal collaboration-based support provision models for a child with special educational needs and his/her family in Lithuania.

Participants of the research. Speech Therapists who work in Pedagogical Psychological Services (PPS) (N=20) and special educators, providing support to school-age children with special educational needs (N=20).

Collaboration models – theoretical substantiation

In order to jointly solve the problems of complex character arising in practice, it is important for the representatives of different professions to collaborate, share roles and responsibilities, and combine their goals (Kairienė, 2012; Hall & Weaver, 2001; Hammick & Freeth, et al., 2009). Specialists of different professions working separately cannot ensure suitable support that would contribute to the welfare of a child or a family. The combination of the specialists representing different professions in a team creates the opportunities to provide

services effectively, i.e., in a complex, integral, and synergistic way, therefore, collaboration-based support is important, which is defined by active relations among the specialists of one discipline working together and striving to solve all the problems that arise in practice. The specialist's duty is to help families to achieve their aims, to know families and their needs as well as possible, to know his/her own attitudes as a specialist, and admit his/her limitations (Kantanavičiūtė, 2018).

Referring to the concept map of support provision by Olenick, Ryan Allen, and Raymond Smego (2010), work in a team reflects the development of knowledge, scientific research and functional meanings of teaching/learning. In the authors' opinion, two main models of support provision are predominant:

1) *Multiprofessional* support model is related to several professions, when the participants of support provision act next to each other, separately, not interacting among themselves. The profession characterizing every circle indicates separate accountability, when there is a lack of specialists' communication and knowledge sharing. It is pointed out that every specialist is a professional in his/her field and acts without leaving the boundaries of his/her profession. The interaction of every specialist with the child and his/her family is observed, however, the lack of specialists' interaction among themselves is felt.
2) Support provision in *interprofessional* teams of specialists, when specialists representing different professions strive for common aims, together organize the learning process, search for common solutions and share responsibility. This model of support provision unites the specialists of the professions of various fields and the participants of support receiving into a single whole. Specialists and pedagogues closely interact with each other focusing on the support provision to a child and his/her family.

Referring to the principles of interprofessional practice, Villa, Thousand (2005), Kauffman, Hallahan (2005) present the main models and directions of support provision:

- *paradigm of support* encourages to focus on the community partnership, a person with disability, the needs of his/her family, friends, community;
- *self-representation* – people with disability organizing political actions can change laws, attitudes and the support process that conditions their life;
- *person-centred approach* – a person with disabilities decides upon the most important goals of his/her life, and specialists providing support must help him/her strive for these goals;

- *family-centred support* – family is considered as the centre of all people's life. Acknowledging the rights of a person with disability, his/her family is involved into all the stages of intervention giving its members the feeling of empowerment and partnership;
- *decline in the role of specialists* – specialists' domination is replaced by the focus on versatile needs of a person to whom support is provided;
- *accountability* – theoretically interprofessional practice corresponds to the holistic model of human development, however, there are not enough data that would confirm that interprofessional practice is more effective than other models of support.

The collaboration between the specialists of various professions, pedagogues, and parents helps to construct a conceptual support model uniting scientific and practical knowledge. The persons, whose aim is to define a joint action plan that will help to solve problems in the most effective way, are involved into the process of interprofessional support. It means that the contribution of all the participants in striving for common goals must be equal, and the collaboration process must be based on respect and agreement.

The methodology of the research

The research was conducted referring to qualitative research approach. The research method used was a semi-structured interview. The data obtained during the interview were analysed distributing them into categories. The method of content analysis was applied for qualitative data processing. The questions of the prepared semi-structured interview were based on the analysis of scientific literature and the phenomenon under investigation. Having prepared the questions of a semi-structured interview for speech therapists, special educators, and teachers, in order to ensure the validity of the questionnaire of the interview, in the preparation for the research an exploratory study was conducted.

The results and conclusions of the research

The obtained results of the research helped to reveal child support specialists' (speech therapists' and special educators'), working in Pedagogical Psychology Services (PPS) and general education schools attitude towards collaboration-based support provision to a child with special educational needs and his/her family in Lithuania.

Table 1 shows the data obtained from interviews with PPS speech therapists regarding the providing of assistance to children with special educational needs.

Table 1 ***Category: Interprofessional support model (opinion of the speech therapist)***

Subcategory (team composition)	Affirmations of cooperation / non-cooperation
Special educator, speech and language therapist, social educator, two psychologists (N=5).	The team performs evaluations every day, teamwork, discussions take place in the afternoon, and the findings of the evaluation of each specialist are discussed and the final evaluation conclusion (L1) is formed.
Speech therapist, special educator, psychologist, social educator (N=4).	We cooperate on an equally (L20). Complex assessment of the child, each practitioner evaluates his or her field, discussing abilities and difficulties, and drawing conclusions and recommendations is the work of the entire team (L3).
Speech therapist, psychologist, special educator, social educator. Parents (N=4).	Each specialist expresses own observation and a general conclusion is available (L4), (L18).
Speech therapist, special educator, social educator, psychologist, teacher, public health specialist (N=6).	All specialists develop one single plan for coping with the disorder (L5).
Teacher of the deaf and hearing impaired, psychologist, special educator, social educator, parents (N=5).	The center of the whole team is the child and his parents (L6). It is very important to present the results to the parents, teachers and child development professionals after the child assessment (L19). We do it together (L17).
Speech therapist, special educator, psychologist, social educator (N=4).	It is good to have someone to talk to, talk to, discuss any difficulties, and discuss the educational achievements of children (L7).
Psychologist, speech therapist, special educator, neurologist (N=4).	Provides preliminary conclusions to the child's parents and educational institution. Work takes place in a team (L8).
Psychologist, speech therapist, special educator, social educator, neurologist. Administration (Director) (N=6).	We sit down at the table, the specialists and the parents of the child. After the evaluation, the individual specialists sit back and discuss together, writing the final conclusion and recommendations. (L9). We also provide counseling, if needed, to child educators, child support professionals and parents (L16).
Psychologist, speech therapist, special educator, social educator (N=4).	Initially, children are assessed by each specialist individually, and after evaluation we sit down to formulate the final conclusions (L10). We are considering how we will present the child assessment results to parents and representatives of the School Child Welfare Board (L2). We work as a team, so we deliver the child assessment results in consultation (L15).
Psychologist, speech therapist, special educator, social educator, neurologist (N=5).	Each performs their functions, then discusses and reaches general conclusions (L11).
Speech Therapist, special educator, psychologist, social educator, teacher of the blind and visually impaired, teacher of the deaf and hearing impaired, teacher (N=6).	First there is the discussion in the team. We discuss conclusions, recommendations in general. Sometimes we wait for the final conclusion of the medical staff. Challenges: lack of room, lack of specialists, relationship with parents of children with SEN, assessment of pupils with particular problems (lack of methodologies) (L12).

Psychologist, speech therapist, special educator, social educator, neurologist (N=5).	The teamwork principle is to write evaluation findings. We never write conclusions without discussing them. Emphasize to colleagues what worries us (L13).
Speech therapist, special educator, psychologist, parents (N=4).	Discussion of the results takes place in a team of specialists. Each specialist presents the conclusions of their evaluation, formulates the final conclusion, calculates the SEN and prepares recommendations. The findings are given to the parents (L14).

All speech therapists who participated in the study noted, that the child's abilities evaluating specialists cooperate with each other and discuss the achievements with the child's parents and other participants in the educational process who provide assistance to children with special educational needs. The research revealed the importance and opportunities of the implementation of interprofessional coordinated support based on interprofessional collaboration, referring to the experience of speech therapists and special educators providing support to a school-age child with special educational needs and his/her family (Fig. 1).

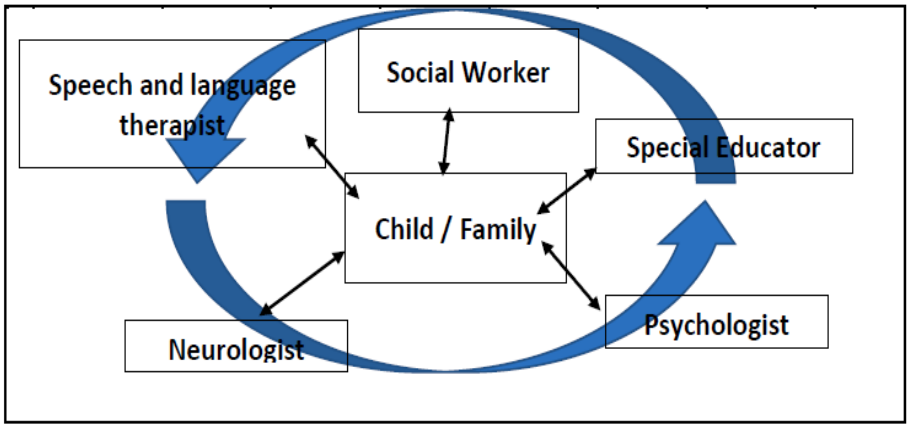

Figure 1 ***Collaboration-based support provision models (Opinion of Speech therapists)***

In our qualitative research, we sought to find out the prevalent patterns of provision in mainstream schools for children with special educational needs. The data obtained from interviews with special educators in mainstream schools are presented in Table 2 and Table 3.

Table 2 ***Category: Interprofessional support model (Opinion of special educators)***

Subcategory (team composition)	Affirmations of cooperation / non-cooperation
Special educator, speech therapist, social educator, teacher (s), public health specialist, administration representative (deputy director for education or director) (N=6).	We try to get everyone involved in discussing the results of the child assessment at the PPS, then we meet the child and their parents at school, and again come together to help (Sp1). We work together, only by working in a team, and with the help of regular consultation can we help children with special educational needs (Sp3).
Administrative representative (deputy director for education, head of unit or director), speech therapist, special educator, social educator, psychologist, teacher (s), public health specialist (N=8). Parents.	Cooperate (Sp6). Based on the child assessment results and recommendations received from PPS specialists, we organize the provision of child support. Each practitioner offers ways to help, and we discuss with the teacher(s) the principles of adapting curriculum and working methods (Sp4). Following the advice of PPS professionals, a Child Welfare Commission meeting is organized to develop a personalized child support plan (Sp2) with the class or subject teachers and parents. Findings from a public health professional, guidance for teachers and parents on helping children with health, visual, and hearing problems (Sp8) are also helpful.
Administrative representative (deputy director for education, head of unit or director), speech therapist, special educator, two social educators, teacher(s), assistant teacher (N = 7). Parents.	When we make a plan for individual child, we organize the provision of special pedagogical and social pedagogical support for the child together (Sp5). Everyone comments, we provide help at school and at home (Sp7). The special educator, together with the teacher(s) and the assistant teacher, provides directions for the assistance of the child with special educational needs and discusses general issues of curriculum adaptation. Consulting with parents (Sp10).
Administrative representative (deputy director for education, head of unit or director), special educator, speech therapist, social educator, teacher(s), public health specialist (N = 6).	All professionals cooperate with the teacher(s) to develop a single child support plan (Sp12).
Administrative representative (deputy director for education or director), speech therapist, special educator, social educator, teacher(s) (N = 5). Parents.	The whole team is centered around the child and his parents. We invite them to a meeting of the Child Welfare Commission. Talking to the child, parents, agreeing on aids, duties (Sp9).
Administrative representative (deputy director for education), speech therapist, social educator, teacher(s), public health specialist (N = 5). Parents.	Together, we sit down at the Child Welfare Commission meeting, discuss once more the recommendations of the PPS specialists, discuss how we will develop tailored programs, and the ways and methods of working. Here a speech therapist helps (Sp11).
Administrative representative (deputy director for education), psychologist, speech therapist, special educator, assistant teacher, public health specialist, teacher(s), (N = 7). Parents.	We have a large team to support the child. At the Child Welfare Commission meetings, we discuss how we can help children with special educational needs. We listen to everyone's suggestions. The expectations of the child and the parents are important to us (Sp14).

Table 3 ***Category: Multiprofessional support model (Opinion of special educators)***

Subcategory (team composition)	**Affirmations of cooperation / non-cooperation**
Administration representative, special educator, speech therapist, psychologist, social educator (N=5).	How can we talk about teamwork when everyone has an individualistic approach (Sp20).
Administration representative, speech therapist, special educator, social educator, class teacher (N = 5). Parents.	Each specialist performs his or her duties individually, and there are no meetings or meetings. The biggest problem is collaborating with parents (Sp15).
Administration representative, speech therapist, social educator, teacher(s) (N = 4).	There is no team in our office, everyone works for themselves, does not want to share information (Sp16).
Administration representative, speech therapist, teachers (N = 3).	In most cases, the public health professional does not participate in the work of the Child Welfare Commission, even though she/he is a member of the Commission. They say that children's health information is confidential and cannot be discussed without the parents' permission. There is a lack of special educator, psychologist (Sp17).
Speech therapist, educator, psychologist, teacher (N=4).	The psychologist keeps everything, related to the education of the child, a confidential (Sp18).
Speech therapist, social educator, psychologist, teacher (N=4).	There is no team work in the institution, but I would very much like to have someone to talk to about the education of children with special educational needs (Sp19).
Speech therapist, psychologist, teacher, special educator (N=4).	All specialists work in their offices, reluctant to communicate, and each individually develops disorder recovery programs for children. Lack of administrative support (Sp13).

There are several models of assistance in mainstream education. The data in Table 2 and Table 3 shows that there is a predominantly interprofessional model of support for children with special educational needs in mainstream schools, where members of the School Child Welfare Committee actively cooperate with teachers in developing individual child support plans, alternative working methods and teaching / learning methods. Special educators noted that children by themselves are actively encouraged to participate in this process. However, more than one third of special education teachers noted that their school still has a multiprofessional support for a child with SEN, where specialists have little cooperation with other pedagogical, social or psychological specialists. Specialists who is working with a child do not always receive the support of the administration. Most of special educators indicated that there was a lack of involvement of school-based public aid specialists in the work of the Child Welfare Commission.

The study found that children with SEN receives an assistance from members of the Child Welfare Commission (speech therapists, special educators, psychologists, teacher assistants, public health specialists) and teachers. A

representative of the administration directs the activities of the School's Child Welfare Commission. It has been noted that there is still a shortage of psychologists, teacher assistants and special educators in mainstream schools.

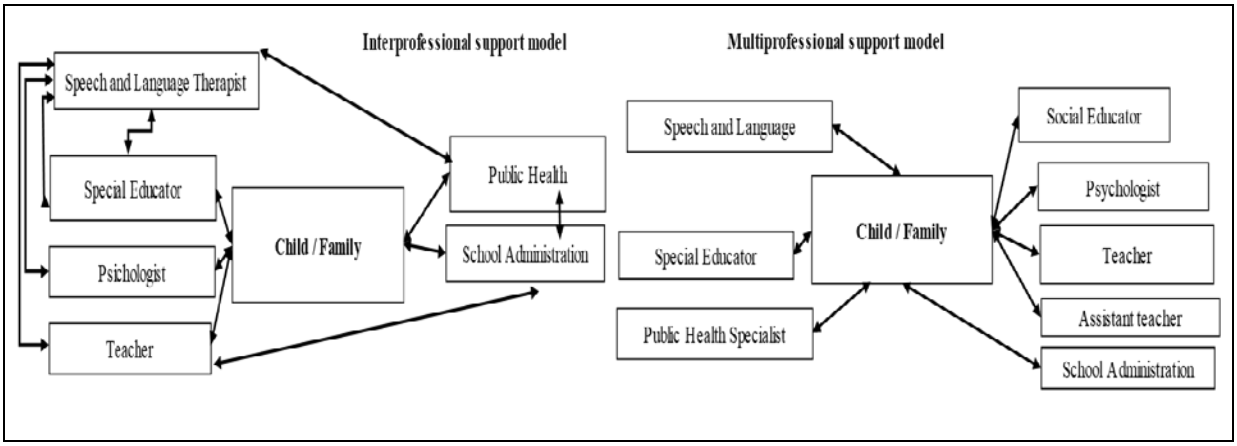

Figure 2 ***Collaboration-based support provision models (opinion of special educators)***

The speech therapists and special educators working in the PPS and mainstream schools noted that in order to help a person with disorders, it is important to stimulate family powers meant for cognitive acceptance of a problem or disorder, the development of self-confidence, and the increase of the feeling of control and sense. Family-centred support is based on the attitude that all family members should be involved into the process of assessment and support.

Conclusions

1. The research has revealed that in practice the beginnings of interprofessional support provision model are observed. Speech therapists working in Pedagogical Psychological Services noted that in their practice is dominated by an interprofessional aid delivery model, but more than one-third of the special educators surveyed noted, that the multiprofessional aid model for children with special educational needs is still predominant in mainstream schools.
2. According to children support specialists, while providing support it is important to encourage specialists' and pedagogues' effective communication and collaboration with a child and his/her family, to teach them suitable strategies of solving the problem, to give individual recommendations taking the unique needs of the child and the family into account.

3. One of important factors of involvement is counseling that positively influences the interaction of family members, helps to better understand the current situation and the indicators of the expected behaviour.

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ВНУТРЕННЯЯ КАРТИНА ДЕФЕКТА У ДЕТЕЙ И ПОДРОСТКОВ С ТЯЖЕЛЫМИ НАРУШЕНИЯМИ РЕЧИ

Internal Disorder Pattern among Children and Adolescents with Speech Disorders

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Abstract. *The study explored general and specific characteristics of the internal disorder pattern among children and adolescents with speech impairments. The internal disorder pattern is considered an integrative construct that demonstrates the perception and attitude of a person to his disorder and includes components: physical (assessment of their physical activity and attributes), sensitive (complex of feelings associated with a disorder), cognitive (knowledge about disorder causes, symptoms and their health limited opportunities), motivational (motives and its possible change caused by a disorder) and emotional (individual's attitude to their disorder). The internal disorder pattern affects I-concept development and is significant for an individual's successful social adaptation.*
The sample consisted of 88 participants – preschoolers (m=20), elementary school children (m=33) and adolescents (n=35).
The results show the differences of the cognitive and affective components (p≤0,05). The formation of the internal picture of the defect makes a greater contribution to the problems of adaptation in children of primary school age compared to other age groups.
Keywords: *Children and Adolescents with Speech Disorders, Internal Disorder Pattern, Speech Disorders.*

Введение
Introduction

Исследование факторов, оказывающих существенно влияние на функционирование личности в постоянно изменяющихся социальных условиях, является одной из приоритетных задач. Наличие нарушения является тем предиктором, который тотально определяет образ жизни личности, возможности самореализации и планы на жизнь. Однако, часть людей, имеющих нарушения развития, демонстрирует хорошую адаптацию и социальную успешность, другая, напротив, ведет жизнь

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социального инвалида. В связи с этим важно понимать, что наличие нарушения выступает в двух ракурсах – объективном, представленном в виде существующих физических и психических ограничений, и субъективном, являющимся отражением этих ограничений в картине самосознания. Поэтому изучение роли внутренней картины дефекта в обеспечении продуктивности личности, специфика ее формирования при различных нарушениях и в различные возрастные периоды является актуальной и важной научно-практической задачей.

Теоретические основы
Theoretical background

Понятие «внутренняя картина дефекта» (ВКД) является традиционным для российской психологической и педагогической науки, но не несет в себе негативной коннотации и стигматизации, а акцентирует наличие особенностей личности ребенка и взрослого, имеющего ограниченные возможности здоровья (Vygotsky, 2003; Gajdukevich, 2011). Данное понятие подчеркивает процесс и результат осознания своих особенностей и возможностей людьми с ОВЗ, а под термином «дефект» в данном случае понимается именно «отличность» от других, связанная с нарушением.

Внутренняя картина дефекта понимается как сложное, интегративное образование, как составляющая самосознания, проявляющаяся через комплекс ощущений, знаний, переживаний, мотивационных изменений, связанных с нарушением. Сенситивный компонент включает в себя совокупность ощущений, определяющихся наличием дефекта; физический связан с характеристикой человеком собственной физической активности, физических качеств; когнитивный компонент представлен знаниями о причинах, проявлениях дефекта, ограничениях, связанных с его наличием; эмоциональный означает отношение личности к нарушению и комплекс переживаний в связи с этим; мотивационный компонент характеризует структуру мотивов личности, возможное ее изменение в связи с наличием нарушения (Adeeva, 2019; Tikhonova, Adeeva, & Sevastjanova, 2019).

В современных исследованиях доказано, что различные варианты внутренней картины дефекта (ВКД) могут осложнять развитие, быть причиной различного рода нарушений поведения, эмоциональных проблем, в целом, повышать риск дезадаптации (Beitchman, Brownlie, Inglis, & et al., 1996; Lindsay, Dockrell, & Strand, 2007). Но также за счет проявления компенсаторной активности являться условиями успешного развития и социальной адаптации (Gajdukevich, 2011; Chebarikova, 2014; Kornev, 2012).

Значительный пласт данных касается внутренней картины дефекта и реакции на него у детей различных нозологических категорий. Е.А. Гайдукевич, опираясь на метаанализ исследований в этой предметной области, описывает особенности ВКД у людей с разными типами нарушений. Она констатирует сходство личностной реакции на дефект детей с сенсорными нарушениями, которая нередко принимает острый характер и провоцирует возникновение депрессии, чувства неполноценности. В то же время у детей и подростков с нарушениями интеллекта отсутствует адекватное восприятие собственного нарушения, они некритично оценивают собственные возможности, объективная самооценка и признание у себя негативных качеств возможно лишь в старших классах. Однако наиболее остро переживается дефект детьми, имеющими выраженные физические недостатки, что наблюдантся у учащихся с нарушениями опорно-двигательного аппарата (Gajdukevich, 2011). В то же время, исследования внутренней картины дефекта при речевых нарушениях немногочисленны.

Одной из важнейших проблем, далеких пока от разрешения, является возрастная специфика ВКД в аспекте ее влияния на адаптацию и благополучие ребенка разного возраста при различных вариантах дизонтогенеза. Так, было показано, что первые признаки осознания своего нарушения появляются у детей старшего дошкольного возраста в период интенсивного формирования самооценки. Сильные переживания дефекта появляются в подростковом возрасте, когда оформляются основные компоненты Я-концепции (Adeeva, Tikhonova, & Khazova, 2019; Adeeva, 2019). Так, например, по данным Л.Э. Семеновой, Е.Н. Михальцовой (2014), 52% заикающихся мальчиков в возрасте 12-13 лет считают, что заикание создает препятствия в установлении социальных контактов, 78% считают его причиной буллинга, фактически все говорят о негативных переживаниях и страхе речи (Semenova & Mikhaltsova, 2014). В этом же возрасте приходит понимание необходимости лечения и коррекции дефекта, а также необходимости личностной активности, личного вклада в изменение ситуации (Kaljagin, 2007). Здесь бы хотелось отметить системную модель развития Я-концепции людей с ОВЗ представленную Г.И. Бондаренко: согласно данной концепции развитие личности и Я-концепции в ситуации ограниченных возможностей здоровья представляет собой движение потенциальных возможностей человека с инвалидностью (Я-потенциальное) от маргинальности (Я–маргинальное) к полноценности (Я–полноценное). Механизмом данного движения является адаптационно-волевая деятельность, определяющая специфику Я-концепции инвалида в каждый возрастной период (Bondarenko, 2006).

Таким образом, цель исследования заключается в изучении специфики компонентов внутренней картины дефекта у детей дошкольного, младшего школьного возраста и подростков с тяжелыми нарушениями речи (ТНР) в связи с уровнем социально-психологической адаптации. Мы предполагаем, что, во-первых, компоненты ВКД имеют возрастные различия в период с дошкольного до подросткового возрастов; во-вторых, компоненты ВКД связаны с возможностями адаптации ребенка с ОВЗ к новым условиям.

Методы и выборка
Method and research participants

В исследовании приняли участие 89 детей с официальным статусом ограниченные возможности здоровья, обусловленные тяжелым нарушением речи (диагноз: специфические расстройства развития речи и языка). Из них – 20 детей старшего дошкольного возраста (средний возраст 5,8 лет), 33 ребенка младшего школьного возраста (средний возраст 10 лет), 36 детей подросткового возраста (средний возраст 13,6 лет).

Для изучения особенностей компонентов ВКД была использована беседа «Изучение внутренней картины дефекта» Т.Н. Адеевой (2018). В данной методике раскрываются физические, эмоциональные, когнитивные и мотивационные характеристики ВКД. Особенности и нарушения адаптации изучались с помощью «Карты экспертной оценки социально-психологической адаптации» (модифицированный вариант карты наблюдений Д. Стотта) для детей дошкольного и младшего школьного возраста (Gurova, Shljakhta, & Sedova, 1992) и методики диагностики социально-психологической адаптации К. Роджерса и Р. Даймонда (методика СПА) для детей подросткового возраста (Raygorodsky, 1998).

Математическая обработка полученных данных осуществлялась с использованием статистического пакета «Statistics 17.0». Статистический анализ производился с помощью дескриптивной статистики (среднее арифметическое, стандартное отклонение), оценки значимости различий между группами по критерию Краскела-Уоллиса (H), корреляционного анализа с помощью метода ранговой корреляции Спирмена (r).

Результаты исследования
Research results

Одним из важных предположений нашего исследования является утверждение о том, что существуют определенные различия в наполняемости и проявлении компонентов ВКД (физического,

когнитивного, мотивационного и эмоционального) в разных возрастных группах. Результаты исследования свидетельствуют о том, что различия касаются не всех компонентов ВКД. Так, не обнаружено различий в проявлении эмоционального и физического компонентов.

Таблица 1. ***Данные показателей критериев ВКД у трех групп детей с ТНР методики «Беседа ВКД»*** *(Adeeva, 2018)*
Table 1 ***Data of indicators of criteria for IDP in three groups of children with speech disorders of the method «Interwiew about IDP»*** *(Adeeva, 2018)*

Компонент ВКД	Дошкольники		Младшие школьники		Подростки	
	M	σ	M	σ	M	σ
Физический	4,25	2,05	4,27	1,54	4,17	1,36
Когнитивный***	3,65	2,03	4,33	1,67	2,91	1,63
Мотивационный*	3,40	1,27	3,39	1,27	4,14	1,06
Эмоциональный	4,00	1,38	4,79	1,51	4,83	1,38

*Примечание: *** - p≤0,001; * - p≤0,05*

Сравнение результатов по критерию Краскела-Уоллиса, выявило значимые различия по когнитивному компоненту ВКД между группами детей с ТНР (H=13,7, p=0,001). Более всего данный компонент выражен у детей младшего школьного возраста, менее – у подростков. Осознание дефекта происходит благодаря оценочной системе в учебной деятельности и трудности в освоении школьной программы по русскому языку и чтению: «трудно с русским», «трудно быстро читать», «не умею много писать» (70%). Так, 73% младших школьников признают свой дефект и знают о его причине, 30% детей догадались о своем нарушении, а 33% - узнали от других. Тогда как подростки (лишь 13%) говорят о том, что имеют некоторые сложности в развитии речи, 46% из них утверждают, что сами дефекта не видят, им об этом говорят взрослые (педагоги, родители настаивают на необходимости регулярного посещения специальных коррекционных занятий в образовательном учреждении для компенсации ограничений речевой деятельности). Дети дошкольного возраста с удовольствием посещают занятия с логопедом для коррекции речевого нарушения и верят в улучшение их состояния, поскольку у детей дошкольного возраста высокая вероятность коррекции нарушенного развития в связи с сензитивностью данного возраста, о чем постоянно напоминают им родители. Знают о профилактике: дошкольники – 60%, младшие школьники – 27%, подростки – 33%. Подростки знают о неизбежности особых образовательных условий и жизненных ситуаций с учетом специфики нарушения.

Таким образом, впервые ребенок начинает осознавать свой дефект в старшем дошкольном возрасте, младшие школьники знают о наличии у них нарушения, причину этого, методы профилактики, а подростки, уже имея полное представление о дефекте и его последствиях, больше переживают по поводу дальнейшей собственной жизни. Выявленные данные соотносятся с раннее нами проведенным исследованием специфики компонентов ВКД у детей с ЗПР, что на наш взгляд обуславливается структурой дефекта, то есть высокой вероятностью обратимости нарушения и отсутствием физических проявлений в нарушениях (Tikhonova & Khazova, 2019).

Далее было выявлено статистически значимое различие в проявлении показателя мотивационного компонента ВКД (H=6,9, p=0,03): подростки обладают более высокой мотивацией по исправлению нарушения в отличие от двух других групп. В подростковом возрасте 33% учеников с ТНР желают изменить физические качества, но эти качества не связаны с нарушением речи, 36% говорят о желании изменить качества личности у себя. Так, они признаются, что хотели бы изменить «внешность», «бросить курить», «набрать массу, чтобы лучше выглядеть», а также «поумнеть», «улучшить характер», «быть добрее». Большая часть подростков с ТНР (44%), в отличие от дошкольников (15%) и младших школьников (21%) считают состояние здоровья важным и желают здоровья и благополучия себе и близким людям. Что касается самого нарушения, то верят в улучшение: дошкольники – 85%, младшие школьники – 76%, подростки – 39%. Данная динамика, на наш взгляд объясняется возрастными особенностями, новообразованиями личности представленного периода развития.

Таким образом, обобщив полученные результаты, мы можем сделать вывод о содержательной специфике когнитивного и мотивационного компонентов внутренней картины дефекта, которая зависит от возраста.

Как уже было сказано ранее, внутренняя картина дефекта является неотъемлемым условием формирования и развития личности, а также ее адаптационных свойств. В своем исследовании мы предполагаем, что ВКД тесно связана с возможностями адаптации ребенка с ОВЗ к новым условиям. Для доказательства данной гипотезы нами был проведен корреляционный анализ компонентов ВКД и параметров адаптации с детальным сравнением корреляционных матриц трех групп испытуемых. Интересно, что теснее всего параметры адаптации и компоненты внутренней картины дефекта связаны у младших школьников (9 корреляций, 6 из них – касаются физического компонента), в то время как в дошкольном возрасте с адаптацией связан только когнитивный компонент – знание о своем дефекте (1 связь), а в подростковом – эмоциональный – переживание

своего дефекта и своей отличности от окружающих (2 связи). Таким образом, ВКД детерминирует в большей степени адаптацию детей младшего школьного возраста.

Таблица 2. ***Корреляционные связи между показателями адаптации и компонентами внутренней картины дефекта детей с ТНР (p<0,05)***
Table 2 ***Correlation between indicators of adaptation and components of the internal picture of a defect in children with SD (p <0.05)***

	Физический	Когнитивный	Мотивационный	Эмоциональный
Дошкольники				
Уход в себя		0,45*		
Младшие школьники				
Тревожность по отношению к взрослым			-0,35*	
Враждебность по отношению к взрослым	-0,41*			
Тревожность по отношению к детям	-0,36*			
Асоциальность	-0,37*			
Враждебность к детям	-0,39*			
Неугомонность	-0,39*			
Сексуальное развитие		-0,36*		
Умственные способности				-0,34*
Подростки				
Адаптивность				0,46**
Внутренний контроль				0,52***

*Примечание: *** - p≤0,001, ** - p≤0,01, *** - p≤0,05.*

Анализируя связи содержательно, можно утверждать, что у дошкольников полное осознание дефекта приводит к избеганию контактов, ограничению общения как со сверстниками, так и с взрослыми, поскольку они начинают осознавать, что нарушение является причиной непонимания со стороны окружающих, особенно сверстников, неприятия и даже насмешек.

У младших школьников, которые находятся в изменившейся социальной ситуации развития в связи с началом школьного обучения, несформированность физического компонента, представляющего собой

совокупность ощущений и физических состояний от имеющегося нарушения может приводить к враждебности по отношению к сверстникам и взрослым, усилению асоциальности, нетерпеливости и неприспособленности к работе, требующей концентрации внимания. Таким образом, формируются трудности адаптации к новым образовательным условиям. Несформированность эмоционального компонента ВКД приводит к отставанию в предметных знаниях и навыках. Интересно, что недостаток знаний о своем нарушении, его признание, причинах появления и профилактике (когнитивный компонент ВКД) отрицательно связан с темпом и направленностью полового развития. Вероятно, это объясняется тем, что в течение младшего школьного возраста происходит разделение детского сообщества и наиболее интенсивно и тесно дети начинают общаться со сверстниками по половому признаку, значительно проявляется подражание детей взрослым «своего» пола. Они копируют мужские и женские качества, максимально закрепляя свою полоролевую идентификацию. Это происходит тем легче, чем меньше ребенок знает о своей «отличности» от других людей. Наконец, низкий уровень развития мотивационного компонента внутренней картины дефекта, содержащего мотивы личности, связанные с преодолением нарушения, может приводить к тревожности по отношению к взрослым.

У подростков высокий уровень проявления эмоционального компонента, то есть эмоциональное отношение к нарушению, приводит к тому, что ребенок стремится контролировать эмоции и поведение, старается брать ответственность за события, происходящие в его жизни. Данная позиция говорит о наличии внутреннего, интернального контроля. Это, в свою очередь, приводит к повышению уровня адаптации, приспособления ребенка к существованию в обществе в соответствии с требованиями этого общества и с собственными потребностями, мотивами и интересами, Такое проявление мы склонны объяснять возрастными особенностями данного периода. В подростковом возрасте происходят сразу два важнейших изменения: на основе развивающейся рефлексии оформляется Я-концепция и происходят кардинальные изменения мотивации, начинает формироваться мировоззрение, под влиянием которого ведущее место в системе побуждений начинают занимать мотивы самоопределения и самоизмения.

Таким образом, существующие проблемы в адаптации детей с тяжелыми нарушениями речи, такие как недоверие к людям, асоциальность, неприспособленность к новым жизненным ситуациям, постоянное беспокойство о принятии сверстниками и взрослыми связаны с восприятием и отношением ребенка к своему нарушению, то есть с внутренней картиной дефекта.

Выводы
Conclusions

1. Онтогенетическая динамика внутренней картины дефекта при тяжелых нарушениях речи затрагивает лишь когнитивный и мотивационный компоненты. Физический и эмоциональный компоненты не имеют выраженной динамики, что может быть связано со спецификой структуры дефекта, поскольку физических проявлений в нарушениях речи практически нет.
2. Больший вклад в проблемы адаптации вносит сформированность внутренней картины дефекта (практически всех ее компонентов) у младших школьников, что связано с изменением ведущей деятельности и школьными требованиями.
3. Когнитивный компонент ВКД имеет большую выраженность и наполненность у детей младшего школьного возраста. Высокий уровень осознанности своих особенностей у детей связан со спецификой учебной деятельности (дифференцированное оценочное сравнение со сверстниками), а также структурой дефекта.
4. Полученные научные данные по изучаемой проблематике являются актуальными и необходимыми для оказания консультативной и коррекционной помощи детям с тяжелыми нарушениями речи и их родителям, что послужит основой для снижения риска возникновения личностных нарушений, коммуникативных проблем.

Summary

The study explored general and specific characteristics of the internal disorder pattern among children and adolescents with speech impairments. The internal disorder pattern is considered an integrative construct that demonstrates the perception and attitude of a person to his disorder and includes components: physical (assessment of their physical activity and attributes), sensitive (complex of feelings associated with a disorder), cognitive (knowledge about disorder causes, symptoms and their health limited opportunities), motivational (motives and its possible change caused by a disorder) and emotional (individual’s attitude to their disorder). The internal disorder pattern affects I-concept development and is significant for an individual’s successful social adaptation.

The sample consisted of 88 participants – preschoolers (т=20), elementary school children (т=33) and adolescents (n=35). The study used 1) a structured interview "Study of the internal picture of the defect" by T.N. Adeeva (2018) to study the perception of a mental disorder, 2) a expert evaluation of social and psychological adaptation (a modified version of the observation by D. Stott) for children of preschool and primary school age (Gurova, Shlyakhta, & Sedova. 1992) and 3) Methods of

diagnostics of social and psychological adaptation of K. Rogers and R. Diamond for adolescent children (Raigorodsky, 1998).

The results show the differences in all three groups, in motivational and cognitive components. Physical and affective components are not filled with content. Consequently the ontogenetic dynamics of the internal picture of the defect in severe speech disorders affects only the cognitive and motivational components. The physical and emotional components remain without reliable dynamics, which may be due to the specific structure of the defect, since there are practically no physical manifestations in speech disorders. The cognitive component of the IDP is more pronounced in children of primary school age. A high level of awareness of their own characteristics is associated with the specifics of educational activities (differentiated evaluation comparison with peers).

The formation of the internal picture of the defect makes a greater contribution to the problems of adaptation in children of primary school age compared to other age groups. The obtained scientific data on the studied problems are relevant and necessary for providing Advisory and correctional assistance to children with severe speech disorders.

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TEACHING SELF-AWARENESS AND SELF-REGULATION TECHNIQUES TO A CHILD WITH AUTISM SPECTUM DISORDER

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Abstract. *Self-awareness and self-regulation yoga techniques lead to stress management, reducing anxiety and well-being of individuals with Autism Spectrum Disorders. The current study seeks to investigate the degree of the autonomous involvement of an 11-year-old girl with Autism Spectrum Disorder in the self-awareness and self-regulation yoga exercises. The research was designed as an educational intervention. The intervention was applied once a week for 3 months, and took place at the sensory room of "School for all: Tokei Maru" at Include in Thessaloniki. Research diaries and observation protocols, by participant and external observers, were used for data collection before, during and after the intervention. According to the research findings, girl's degree and quality of involvement improved during the intervention, so that she managed to use specific techniques autonomously. Research findings cannot be generalized, but they are encouraging in developing effective self-awareness and self-regulation programs for children with Autism Spectrum Disorder in future research.*
Keywords: *alternative therapy, ASD, autism, Self-awareness, Self-Regulation, yoga.*

Introduction

As the number of children with Autism Spectrum Disorders (ASD) is increasing, researchers have been widely developed to investigate etiological factors, behavioral characteristics and effective interventions, all over the world. In strong connection with behavior problems of children with autism spectrum disorder (ASD), are self-regulation difficulties (Berkovits et al., 2017). Self-regulation is the ability to focus attention, manage emotions, and control behaviors to cope with environmental demands (Williford et al., 2013).

The ability of self-regulation develops through interactions with adults, peers, and the learning context according to Vygotsky's theory (Vygotsky, 1978). Self-Awareness is the awareness of the uniqueness of their body and mind. S-AR techniques in inclusive learning environments benefit all children and especially children with Autism Spectrum Disorder (ASD) or other Special Educational Needs (Hanapi & Latipun, 2019). Children in ASD, as they face social and

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behavioral dysfunction, they cannot learn self-regulation skills by social interaction, so they are expected to face Dysregulation or Self-regulation difficulties (Berkovits et al., 2017).

Approaching alternatively the development of Self-regulation and self-awareness (S-AR), an aggregation of empirical and research data focused on yoga practice (Vago & Silbersweig, 2012). Research findings demonstrates –that, attending lessons of self-regulation and self-awareness (S-AR) through yoga, children can improve the understanding of emotions, as well as specific motor and psychosocial aspects of development (Thorton & Hardy, 2015; Smith et al., 2020). The purpose of this study was to evaluate the degree of the autonomous participation of an 11-year old girl with ASD in S_AR techniques. The research followed the educational intervention methodology. Observing protocols from participant and an external observer were used for data collection before, after and during the educational intervention, in combination with participant researcher's diaries.

Literature Review

Yoga, is gaining popularity, as a complementary and alternative therapy for multiple reasons. Furthermore, it improves flexibility, balance and strength of mind and body (Kaur & Bhat, 2019). It offers multisystem experiences, impacting several developing systems including motor (flexibility, strength, balance), perceptual (joint proprioception, kinesthesia) (Mohanty, Pradhan, & Nagathna, 2014), behavioral (attention, alertness) (Jensen & Kenny, 2014) and children's social communication skills (social interactions, speech) (Smith, Esat, & Kanojia, 2020).

The current yoga research is encouraging for treating behavioral difficulties of children with ASD. Specifically, the use of daily yoga intervention at school has a significant impact on classroom behaviors among children with ASD (Koenig, Buckley-Reen, & Garg, 2012). Porter found that after the participation of an 11 years old boy with ASD in yoga lessons, his attention improved (Porter, 2013). Rosenblatt found efficacy in treatment of behavioral difficulties of 24 children aged 3–16 years, with a diagnosis of ASD after 8-week multimodal yoga, dance, and music therapy program (Rosenblatt, 2011).

Based on research findings that confirm the positive effects of yoga lessons in multiple aspects of children with ASD development this study investigated the degree and the quality of the autonomous participation of one girl with ASD, in the educational intervention of Shelf-awareness and shelf –Regulated techniques. The "participation" is considered as attendance and involvement in the execution of techniques (Nyquist et al., 2019).

Research methodology

The research methodology was qualitative and followed the educational intervention procedure. The educational intervention methodology involves the design, implementation, and evaluation of a curriculum in a particular subject and may relate to either the content or the teaching process. It requires measurements before and after the intervention in the experimental group to which the intervention is applied (Nanou, Giatrakou, & Maistrellis, 2020). Triangulation method was used, to ensure reliability of the results in this research. This method applied, as an attempt to maintain record and study, completely, the richness and complexity of Harriet's involvement, from more than one standpoint with more than one tool of data collection (Cohen & Manion, 2000).

Participants. In the educational intervention research participated an 11-year-old girl, Harriet, with ASD diagnosis from Public Authorities. According to the DSM_5 criteria Harriet was needed substantial support (level 2). The girl had difficulties, in speech, communication and adjustment social and environmental changes. Even though she could follow simple instructions she had difficulties communicating her needs to the others, especially to unfamiliar persons. She used simple words, but these, in most cases, was not suitable for the communication circumstances. Harriet, at the point of our intervention was not attached in specific objects and has a range of interests. She had developed writing skills and she used to draw or dance if she was asked. Her great difficulty was the management of acoustic stimuli. She used to be nervous and she had difficulties to concentrate in inclusive and noisy environment. Harriet used to participate in inclusive robotic activities with other Special Educational Needs or typical peers at "School for all: Tokei Maru". Before her participation in inclusive activities she used to enter at the sensory integration room (snoezelen room) where she used to lie on the water mattress and stay calm. When she entered in inclusive activities room Harriet closed her ears because of noise. This observation motivated the S-AR teacher to design and try to implement an S-AR program and investigate if Harriet would learn to implement specific S-AR techniques in order to stay calm. She was the chosen one to participate in self-regulation and self- awareness intervention program at Include "School for all: Tokei Maru" with her parents' consent.

Place and time. The teaching intervention implemented during the 2018-2019 academic year. In a total of 12 sessions conducted in 3 months at a once a week frequency inside the sensory integration room, with a water mattress at inclusive non-formal environment of "school for all Tokei Maru". The session lasted 45 minutes before her involvement in inclusive activities.

Teaching Methodology

In this educational intervention research, a traditional motif of self-awareness and a yoga session was followed by a specialized HATHA Yoga Self-Awareness and Regulated teacher (S_AR teacher). The intervention program started with two attention concentrating exercises (A.1, A.2) in order to gain the suitable attention of the practitioner. Secondly, but extremely important is the breathing exercises that are the key for a successful self-regulation session. Breathing is important for the parasympathetic nervous system and relates to the slowing of the heart rate, reducing stress conditions, and the body and mind connection-awareness (Rama, Balentie, & Hymes, 2011). Every session involved two types of breathing. Diaphragmatic and slow and deep breathing (Thorton & Hardy, 2015). After breathing, she continued with body exercises. Three vestibular, an intervention (B.1) and a forward bend (B.2), for regulating attention, concentration and emotional /behavioral stability. After these two, we use three proprioceptive exercises, two for stretching (B.3, B.4) and one for the joint compression (B.5), so that the practitioner feels her space in the room, grounding and better body coordination (Thorton & Hardy, 2015). The last exercises are two balancing poses (C.1, C.2) which improves memory and concentration and is connected with the part of the brain which controls the body in motion. The last part of the session is the two relaxation techniques which includes a slow breathing technique (D.1) and sitting or lying down in a comfortable pose, supported with sensory stimuli props ,like a water mattress , heavy and soft blankets etc.(D.2). In these positions we might follow a guided meditation, depended on the circumstances. Meditation is a conscious process of self-regulation that tempers the flow of thoughts, emotions, and automatic behaviors in the body and mind according to a research. (Sequeira & Ahmed, 2012).

Data collection

To achieve the purpose of the educational intervention were designed and implemented specific data collection tools. Particular tools, depending on the needs of each teaching intervention, have been designed and implemented in other teaching interventions (Nanou et al., 2020). The S_AR rating scale was used to assess the Harriet's autonomous involvement-participation before, during and after the intervention in every exercise in every session (Figure 1). Participation is determined as involvement, motivation, perseverance, interaction, and influence (Imms et al., 2017). S_AR rating scale is an adaptation of a corresponding scale which was used to detect the participation of SEN children in kindergarten activities (Varsamis et al., 2018) and in the assessment of children

with ASD participation in Judo activities (Nanou et al., 2020). In S_AR rating scale, 1 to 6 point was used to assess the participation in accordance of the S-AR teacher's support. More specifically point 1= no involvement, 2 = early-level involvement with support 3 = autonomous early-level involvement, 4 = satisfactory involvement with support, 5 = autonomous satisfactory involvement, 6 = excellent autonomous involvement. Researcher's diaries were used by the S-AR teacher after every session where recorded researcher's observation for feedback and reorganization of educational intervention. An external observer, special Pedagogue asses Harriet's participation with the same S-AR Rating scale before, in the middle and after participation (1st, 6th and 12th session).

Findings

In the first two sessions, according to research diaries of S-AR teacher, Harriet shown that she tried to fill comfortable with the new demands in the Snoezelen room. She was asked to imitate her teacher but Harriet did not respond. "She cannot understand that she has to imitate me". The teacher observed that despite there was an optical stimulus of the exercises, Harriet had difficulties with the attention, proprioceptive exercises and the guided meditation. She confronted difficulties with the position of her body in the sensory room. The teacher used physical guidance to help her participation. According to the S-AR scale her involvement was assessed with 1 or 2. Oppositely, Harriet in breathing exercises had a great success of participation without the intervention-physical guidance of the teacher. Breathing calmed the nervous system and helped the participant be more aware of her space in the room (sensory integration). According to the S-AR scale her involvement was assessed with 3 which mean that Harriet involved in S-AR in base level without the physical guidance of S-AR teacher.

In the third, fourth and fifth session, Harriet showed to get improved not only in the breathing techniques but also in the body exercises. As is shown in the 12- session assessment, the teacher could get easier Harriet's attention with a small, or no intervention - physical guidance because she started trust the teacher According to the S-AR scale her involvement was assessed with 3 to 5. The breathing exercises in the beginning and at the end of the session had an impressive development. Harriet shown at the begging of all sessions that was impressed by the sound of her breath and it was very pleasant for her to copy the techniques. According to the S-AR scale her involvement was assessed with 5 to 6 fir.1). The exercises needed the guidance of the teacher because they were complicated and new for the participant but at the meditation Harriet seemed to feel very comfortable and stay for more time without the guidance of the teacher (fir.1, 4th, 5th, 6th session). As S-AR teacher notes in her research diary *"She follows easier the body exercises, but most importantly she follows the breathing*

and relaxing techniques, which are related with the concentration, without any help from the teacher. She has just improved her mimetic skills so good that her mind has already embraced the session path in her routine".

From the sixth to the eighth session, the teacher was there just to demonstrate to Harriet the sequence of the exercises, because she was already used to them. Harriet needed some guidance only in some proprioceptive exercises that are more difficult than the other exercises and with the balance exercises, for the same reasons. From the ninth to the twelfth session the development of Harriet was remarkable, because apart from the fact that she participated in all the stages of the session without the intervention of the teacher, she also manifested her own suggestions and inspirations in breathing and in some exercises. The most important in the twelfth session, and the point that the teacher considered as the great success of all the research, is the meditation exercises. Harriet managed to stay laid on the water mattress until the teacher said that the session was over, and she had to get up. She was very calm and happy and from that time she looks for the meditation time in every session. According to the S-AR scale her involvement was assessed with 5 to 6 (table 1). As S-AR teacher notes in her research diary *"Harriet is ready to follow the session, easy and she can feel the benefits. She stays calmer and she gets very fast in a deep concentration mood".*

Table 1 ***Table of S-AR points of Harriet's involvement during 12 week sessions***

SESSIONS / S_AR exercises		1o	2o	3o	4o	5o	6o	7o	8o	9o	10o	11o	12o
Attention A.1		1	1	2	2	4	4	5	5	6	6	6	6
Breathing A.2		3	3	5	5	5	6	6	6	6	6	6	6
Body exercise	B.1	2	3	4	3	3	4	5	5	5	5	5	5
	B.2	3	3	3	3	3	3	4	4	5	5	5	6
Proprioceptive exercises	B.3	2	2	2	3	3	3	4	4	4	5	5	5
	B.4	3	3	4	4	5	5	5	5	5	6	6	6
	B.5	1	1	2	3	5	5	5	5	5	5	5	6
Balancing poses	C.1	3	4	5	5	5	5	5	5	5	5	5	5
	C.2	1	3	3	3	3	3	5	5	5	5	5	5
Slow breathing D.1		2	2	3	4	4	5	5	5	6	6	6	6
Guided meditation D.2		1	2	2	4	4	5	5	6	6	6	6	6
AVERAGE		2	2,5	3,2	3,5	4	4,4	4,9	5	5,3	5,5	5,5	5,6

In S-AR teacher notes from her research diary, at the 10nth session *"Harriet participates in the session almost 100 percent, she remembers the steps of the session, she does the exercises very easy. Moreover she is creative in the exercises*

and makes her own, but in harmony, moves" As the participant R-AR teacher notes in her diary, Harriet's involvement was gradually became autonomous but the most important of all is that in the 12th session the child managed to remain on a lying position with the eyes closed for 10 minutes and with open eyes for more than 20 minutes.

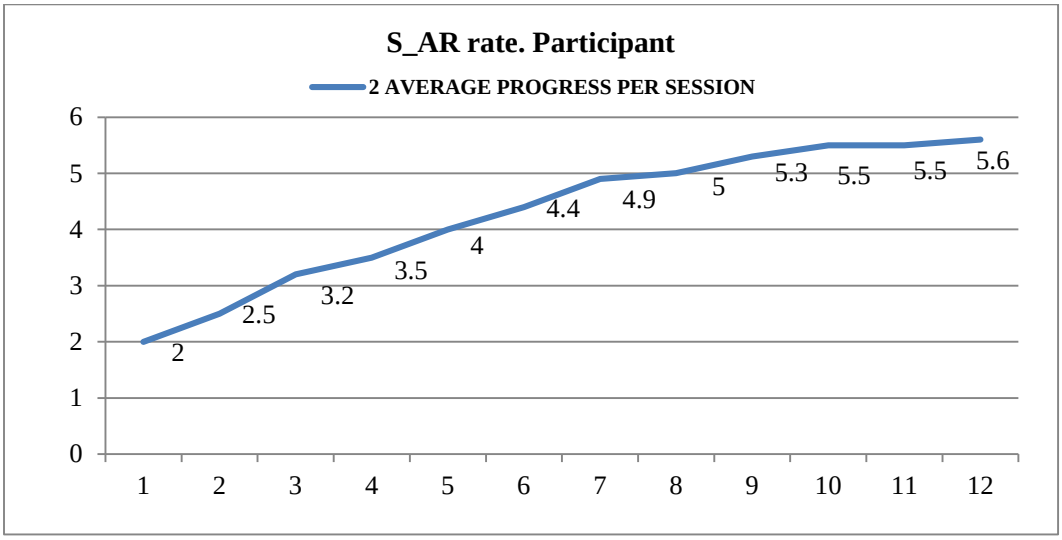

Figure 1 ***Mean of child's involvement in S-AR exercises in 12 sessions***

In Figure 1 the mean points of Harriet's involvement in S-AR exercises during the 12 session intervention, are presented. Her average involvement was improved from 1rts session to 12th session. The findings indicate that at the 1rst session Harriet participated in the S-AR exercises with the teacher's support (2 points) but after 12 sessions managed to be autonomous (5, 6 points).

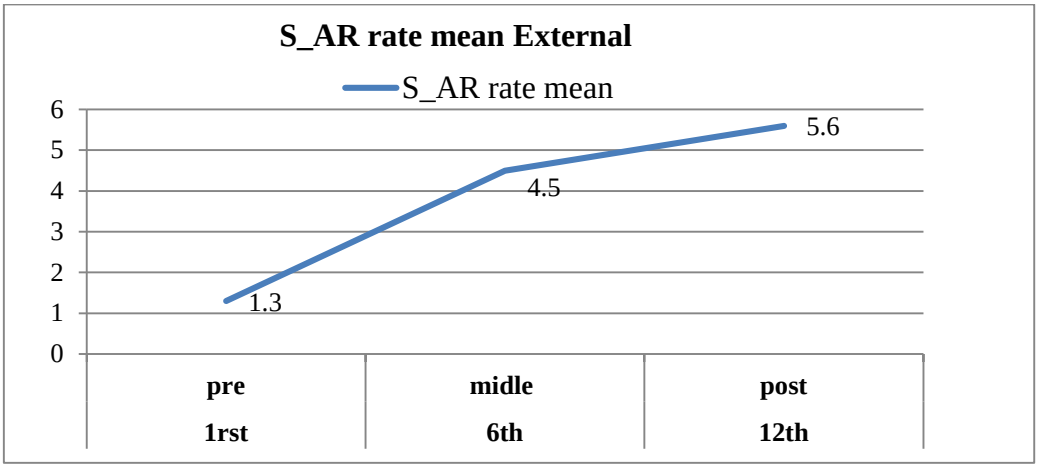

Figure 2 ***Assessment of the Involvement of the child in every session from external observers point if view***

Similar findings emerged from the assessment of Harriet's involvement by the external observer (Figure 2). The external observer assessed Harriet's involvement in S_AR exercises at the pre-1st, middle -6th, and post-12th sessions. At the 1st session, Harriet's involvement assessed with 1,5 at the 4th session with 4,5 and at the 12th session with 5,6. These findings demonstrate that Harriet improved her involvement in S-AR exercises gradually. At the 12th session according to the external observer, Harriet participated independently without the support of her teacher (5,6). The external observer's assessment confirms the assessment of S-AR teacher and her observations as they were recorded in S-AR teacher's diaries (Figure 3).

Conclusions

According to the findings, Harriet improved her participation, gradually, during the intervention. She learned the sequencing of S-R and S-A alternative techniques, but moreover she remained in a relaxed position and began to improvise for more than twenty minutes. Her involvement gradually became autonomous. She could follow the steps of the Self-awareness and Self-regulation exercises, and moreover she was creative on how she executed them. Although the educational intervention was implemented in one subject and the findings cannot be generalized, they are encouraging. Autonomous participation of children with disabilities in every aspect of social and educational activities is a prerequisite of self-determination (Imms et al., 2017). Future research should focus on the type of S-AR exercises that a child with ASD could follow autonomously, in order to learn how to be focused, to manage emotions, and to control behaviors in order to cope with environmental demands. Self –regulation and awareness programs are of great importance to be developed for children with Autism Spectrum disorder and other behavioral difficulties.

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A DIFFERENTIATED DIDACTIC APPROACH TO TEACHING THE ARTS (D.D.A.T.A.) FOR THE PURPOSES OF SPECIAL EDUCATION AND TRAINING

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Abstract. *The goal of the present work is to present the key of pedagogical and didactical principles involved in the differentiated teaching of such arts as music and dance for the purposes of Special Education and Training (Makris, 2019). The paper also will link that differentiated approach with Positive Psychology and, more specifically, with the P.E.R.M.A. model developed by Positive Psychology founder M. Seligman (Slavin, Schindler et al., 2012); and with M. Apter's Reversal Theory (Makris, 2009).*
At this presentation, we will be presenting didactical principles, methodological tools and case studies deriving from our clinical work that we carried out for 7 years (2012-2019) with mentally challenged individuals (Makris, 2019). In this study also we will have the chance to focus in teamwork teaching so that we may comprehend the principles of that approach experientially. What is more, this work will also focus on potential fields offering themselves for future academic research.
Keywords: *differentiated teaching, Special Education Training, teamwork teaching, didactics of arts.*

Introduction

Teaching individuals with mental disabilities is a task fraught with difficulties (Vilkeliene, Makris, Ingelevicius, Papatherapontos, & Sokolosky, 2017a,b). Two are the reasons that give rise to those obstacles: the first reason entails the extent and kind of mental disability that a learner may have (Macri & Makris, 2014a). The second one involves the very personality of the learners themselves herself (Macri & Makris, 2014b). Thus, when it comes to mental disability, teachers are called upon to work with individuals who possess different abilities and skills, various degrees of readiness, a varied pace of work and learning, a number of learning profiles, not to mention that a learner with mental disabilities may be interested in different things and have different talents than the other mentally disabled learners (Macri & Makris, 2014c).

Differentiating the teaching process is a proposal which, on its very own, stumbles onto social justice. To cite Aristotle, "*there is nothing more unequal than*

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the equal treatment of unequal people". Be that as it may, if we wish to be effective, especially when teaching the mentally disabled, we must be in a position to detect our learners' individual traits, particularities, needs, and skills (cognitive, emotional, kinetic, communication, social, relaxation, and recreational) (Macri, Makris et al., 2019).

The aim of the present article is to present a modern teaching approach and more specifically the key principles governing the Differentiated Didactic Approach to Teaching the Arts (D.D.A.T.A) in the field of Special Education. That approach (our methodology) emerged over time through not only the collection of empirical measurements but also through the seven-year period of teaching approximately 100 mentally disabled individuals. It was within that framework and within the framework of developing inclusive didactics that we also formed a musical ensemble which has given numerous concerts and performances throughout the years, collaborating in Greece with both amateur and professional choirs (Makris, 2019). As the article goes on, we will be examining at which points and how D.D.A.T.A. is linked to positive psychology and, more specifically, to Seligman's P.E.R.M.A. model and M. Apter's Reversal Theory.

Methodology

When teaching music or dance and before beginning work with a specific learner, we need to be in possession of that learner's medical, work therapy, and social evaluations (Makris & Macri, 2003). Moreover, the profile of that learner must be clear-cut in our mind. The arts and music in particular are a stand-alone, specific, and quite specialized field (Mullet, Morales, Guadalupe, Makris, Roge, & Munoz, 2012). Thus, in order to implement D.D.A.T.A., and following our first contact with mentally disabled learners, we need to be in a position to answer in detail the following Pedagogical Report (PR) questions regarding those learners:

(1) What interests do they have?
(2) What are their talents/aptitudes?
(3) What tasks can they perform?
(4) What knowledge do they have?
(5) Which are the auxiliary tools that will assist them best in their tasks?
(6) What are their individual learning profiles?
(7) How do they prefer to work?
(8) In what state of readiness are they?
(9) What is their pace when engaged in a task? (Macri, Makris et al., 2019).

The Differentiated Didactic Approach to Teaching the Arts (D.D.A.T.A)

The D.D.A.T.A. model is a model we have successfully applied for the last 7 years (2013- present) within the framework of our teaching music to mentally disabled individuals (Makris, 2015b). What is more, we discovered that the D.D.A.T.A. model has also proved successful in the teaching of dance. Thus, on the basis of our clinical experience and the empirical measurements we carried out throughout the period 2013-present, we can safely present some of the key facts that corroborate the D.D.A.T.A. model's effectiveness and stem from the model's empowering effects:

(A) successful implementation of team work on music (orchestra) and dance (group choreography) leading to:
  (1) ambience of enthusiasm;
  (2) supportive climate on an individual basis;
  (3) clear perception by the mentally disabled individual of other members in the group;
  (4) crystal-clear goals that can be adjusted to individual needs;
  (5) clear-cut roles;
  (6) delegation of duties depending on individual abilities/skills;
  (7) uniting people possessing skills of varying degrees;
  (8) a positive attitude towards learning; and
  (9) an increase in self-esteem and self-confidence.

(B) Selection of the right repertory appropriately adjusted to the needs of learners with mental disabilities participating in an orchestra or dance ensemble.

(C) A positive psychological climate where we observe the application of Seligman's P.E.R.M.A. model applies across the board.

(D) Appropriate motivation, with teachers taking well into account the fact that implementation of such motivation necessitates solid knowledge of the motivational theory as discussed in Apter's Reversal Theory.

(E) Centrally-controlled guidance of the learner group via the "Makris" Pedal Switch Visual Signal Generator that our team has constructed (Makris, 2015a,b).

(F) Precise analysis and appropriate codification of the parameters involving music, in the case of an orchestra, or involving choreographed movement, in the case of a dance group.

(G) Collaboration with amateur and professional choirs within the framework of pedagogical inclusion (Makris, 2019).

The axes on which a teacher should move when applying the D.D.A.T.A. model (Makris, 2019) are:

- Pinpointing the interests of each learner.
- Pinpointing the degree of under-performance of a learner per field of skills.
- Selection of the works to be taught.
- Creating the appropriate psychological ambience and encouraging each learner accordingly.
- Breakdown of the project into factors (Makris & Mullet, 2003).
- Visualizing the factors (Makris, 2017).
- Codifying the factors
- Determining the steps of the project
- Adjusting and differentiating the project to the level of each learner.
- Demonstrating the way the tasks should be performed; the strategies involved; and modelizing.
- Taking advantage of the positive potential per field of skills.
- Helping learners develop their artistic perception and skills.
- Ongoing, differentiated readjustment of goals, and ongoing evaluation.

Employing music and dance for the purposes of special education

Gestalt psychology emphasizes that the whole of anything is greater than its parts. It also offers the premise that learning includes the inception of a structural whole which, created by individual elements, is no mere mechanical reaction to a stimulus. The cases of an orchestra and group choreography function in precisely that way. What we have is a structural whole, be it a musical work or choreography, which is the result of numerous individual elements. It is exactly those individual elements that teachers must work on so that they may arrive at a teaching process which becomes effective through differentiation.

In the case of an orchestra, the individual parts of the “whole” are the musicians who play different musical instruments and, needless to say, the factors into which music can be analyzed: melody, rhythm, timbre, and tonality. In a like manner, the individual parts of a group choreography are the dancers who perform in the group, together with all the factors relating to dance: direction, level, movement, timing, rhythm, weight, flow.

Case study: D.D.A.T.A. and the Ichochroma (Timbre) Orchestra

The D.D.A.T.A. model took shape within the framework of the clinical work of Dr. Ioannis Makris at "Ergastiri", a workshop stewarded by the Association of Parents and Guardians of Persons with Disabilities, Athens, Greece (Macri, Makris et al., 2019). The preliminary, empirical observations on 100 individuals with mental disabilities of over 67% enabled the formation of the "Makris" standards and methodology. In turn, the "Makris" methodology generated a series of logical hypotheses which created the scientific premises of a broader theoretical framework whose confirmation is constantly renewed through successive empirical measurements (Makris, 2019). Moreover, that D.D.A.T.A. framework enables us to interpret and predict the appearance of various situations at the work level.

The Ichochroma Orchestra is comprised of people with mental disabilities and is the ultimate vehicle for the practice of differentiated teaching. Its approximately twenty-five members have given a number of concerts in collaboration with amateur and professional choirs (Makris, 2019). In July 2019, the Ichochroma Orchestra participated in an international music festival, in tandem with the choir of the city hosting the event. The differentiation we implement through D.D.A.T.A. functions at the pedagogical as well as the organizational level.

Differentiations at the pedagogical level:

- Content and materials are both differentiated. We select the appropriate repertory for the specific group we are working with. Wherever and whenever necessary, we make changes in the musical instruments' tonality and tuning such as the guitar and the ukulele.
- The teaching process and activities are differentiated. By means of the "Makris" Pedal Switch Visual Signal Generator we can fine-tune the entire teaching process (Makris, 2015a). At this point, our goal is not so much to teach music but the right use of a musical instrument in a specific setting.
- We differentiate the results. There have been cases when we had to change a certain song's introduction or rhythm for the sake of simplification.

Differentiations at the organizational level:

- We differentiate the environment, arranging it in such a way so as to be able to have effective rehearsals.
- We differentiate the way learners sit during rehearsals so that they may all make visual contact with us but, most importantly, with the "Makris" Pedal Switch Visual Signal Generator.

- We differentiate the orchestra's lineup depending on the stage offered at each venue where the Ichochroma Orchestra is to perform.
- We differentiate the way learners work. We receive from each learner that which s/he is able to give and work on that. To that purpose, we provide a greater number of instruments per category of musical instrument.
- We differentiate the pace at which each learner performs her/his tasks, taking full advantage of what each learner is able to give. For example, our orchestra includes a hyperactive learner whose initial participation in the tasks set was of short duration. At present, our hyperactive learner participates in the rehearsals at the same pace as the rest of the learners.
- We differentiate the classroom's climate. Each learner is unique and when some of the learners are in need of more time, more time is what we dedicate to them.
- We differentiate the elements that support each learner so that her/his performance improves.

D.D.A.T.A. and Seligman's P.E.R.M.A. theoretical model

Seligman's P.E.R.M.A. model helps us fathom the elements which connect to happiness (Slavin, Schindler et al., 2012). It also helps us increase the level of some of those elements so that we can bring into our life and that of our learners' a sense of fulfillment and pleasure. The analysis that follows examines those elements in association with the D.D.A.T.A. model:

P – Positive Emotion: The empirical measurements carried out after each session on all 25 of the orchestra's members in the framework of metacognitive reflection led to the direct and undoubted realization that all 25 of our "musicians" experienced positive feelings and a sense happiness.

E – Engagement: this element has been experienced by all orchestra members. At an initial stage, a "newcomer" who joins the orchestra does not readily experience the element of engagement. However, as time goes by, the more experiences the new member gathers up from her/his participation in the orchestra, the more her/his engagement with the ensemble grows. At present, all of the Ichochroma Orchestra members show a high degree of engagement.

R – Relationships: our orchestra members develop relationships within and without the orchestra, i.e., not only do they develop positive relationships between and among them but they also reach out to people who are not orchestra members and who come to the concerts or attend rehearsals. Overall, our learners' experiences from and participation in the orchestra help them enormously in increasing their social and communication skills, as well as their socialization process.

M – Meaning: That is the one element fully covered within the orchestra. For the orchestra's members, participation is an ontological state because, through the orchestra, they have found a *raison d'être*. Participation of individuals with mental disabilities in the orchestra urges them towards subsequent participations.

A – Accomplishments: At our instigation and within the framework of D.D.A.T.A., the orchestra's "musicians" set a series of doable goals. Implementing and accomplishing those goals gives our orchestra's members a sense of happiness and joy.

The conclusion on the empirical observations we have gathered for the past seven years from our "musicians" indicates that that Seligman's P.E.R.M.A. model and the Makris D.D.A.T.A. model are 100% in synergy.

Meeting points between D.D.A.T.A. and Apter's Reversal Theory

Reversal theory is a theory of personality, motivation, and emotion in the field of psychology. It focuses on the dynamic qualities of normal human experience to describe how a person regularly reverses between psychological states, reflecting their motivational style, the meaning they attach to a given situation at a given time and the emotions they experience (Makris & Mullet, 2009). The theory distinctively proposes that human experience is structurally organized into metamotivational domains, of which four have been identified. Each domain consists of a pair of opposing values or motives, so that only one of each pair can be experienced in any given moment. The primary emphasis of Reversal Theory lies in the concept of reversals -by "triggering" a reversal between states, we can change the meaning attributed to the situation. Reversals can be created by changing a situation.

We became conversant with M. Apter's Reversal Theory and used it in the framework of our post-doctoral dissertation. However, we also used it in practice while applying D.D.A.T.A. and have found it extremely useful: during the teaching process, rehearsal, or performance, learners with mental disabilities can switch domain or motive at any given moment, something that impacts negatively on the whole group. When that happens, the teacher must promptly and appropriately differentiate the teaching process so that the learner may return to the appropriate domain or motive with a view to accomplishing the task given her/him.

The graph below depicts the structure of Apter's Reversal Theory:

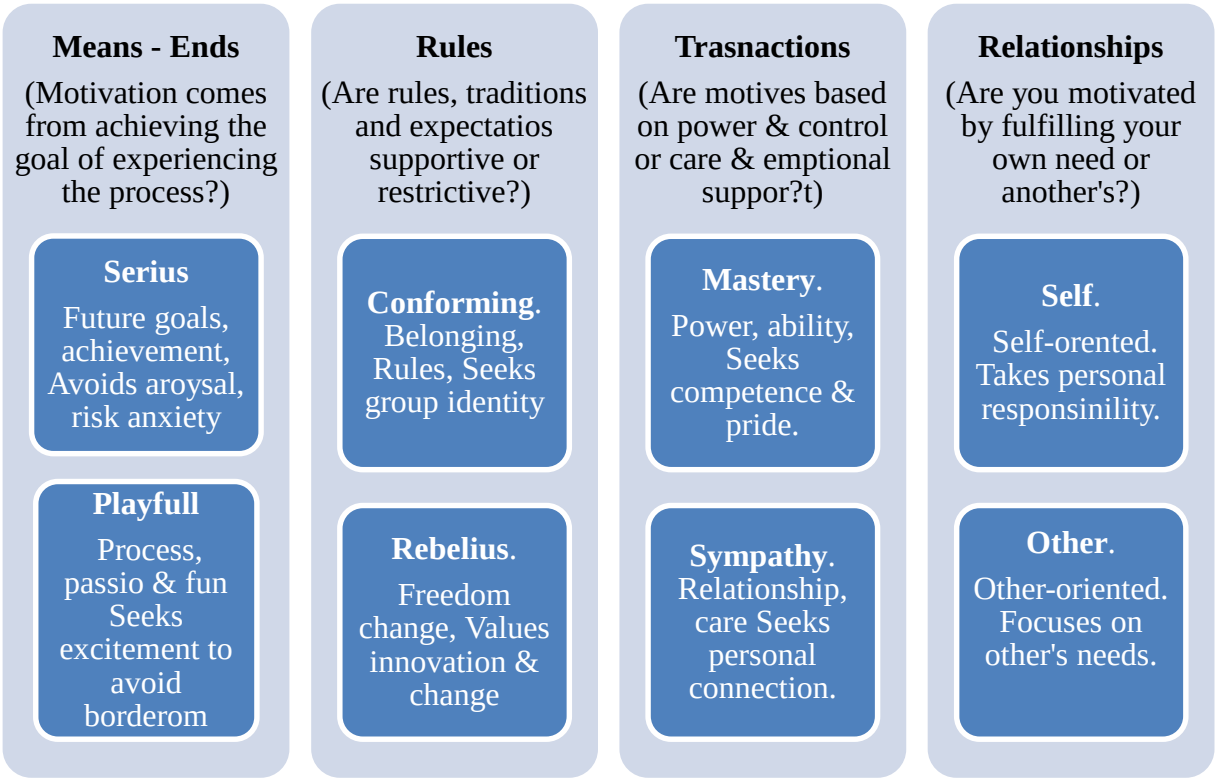

Figure 1 ***Apter's Reversal Theory*** *(Makris & Mullet, 2009)*

Conclusions

While implementing the D.D.A.T.A. model we became aware of a number of mistakes that can occur during the differentiated teaching process. Below are our conclusions on some of those mistakes are:

- Viewing teaching as an ordinary pedagogical process: for teachers of people with mental disabilities, teaching should not be a mere process but a get-together that is as experiential as it is creative for the teachers who also find though this differentiated teaching method an area where they can express themselves on a personal level.
- Differentiated teaching of both music and dance should begin with the discovery of the core knowledge of each learner, continue with probing into the learners' skills, and move on to prioritizing and ranking goals. Last but not least, the differentiated teaching process should end with the application of corrective actions as those ensue from the ongoing evaluations.

- In brief, we also discussed the following:
- The questions of the pedagogical report are crucial and teachers should be in a position to have answers to them as of the first interview with a learner.
- Creating a positive psychological climate and the culture that accompanies it are both important if our aim is to render our differentiated teaching process effective.
- Taking advantage of the learners' positive potential helps teachers manage the negative potential as well.
- Visualization is an integral part of the D.D.A.T.A. model. Together with codification, visualization should be differentiated and adjusted to the skills each learner possesses.
- Positive Psychology and the Reversal Theory find a direct field of implementation in the D.D.A.T.A. model.
- In this article we presented the axes governing the pedagogical implementation of D.D.A.T.A., a model and approach we have been successfully applying for seven year in the cases of people with a degree of mental disability of over 67%. Our approach's success has been evaluated by the audiences that have attended the Ichochroma Orchestra's performances. More importantly, within the framework of a European program, we were also able to develop our approach's pedagogical inclusion which stemmed from the synergy between the Ichochroma Orchestra and ordinary professional or amateur choirs.

Discussion

Currently, the D.D.A.T.A. model is applied by Dr. Ioannis Makris in Greece (Makris, 2019). However, it is an approach that can easily be implemented in other countries as well. We have come to the conclusion that actual research on D.D.A.T.A. should take place, research that does not rely simply on empirical observations but takes advantage of other research techniques as well. Such research would turn to the study of themes emerging from the realms of pedagogy, psychology, or the arts. Needless to say, such research would necessitate the establishment of a special technology and research workshop that would examine this special, differentiated teaching of the arts.

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WAYS TO INCREASE THE INCLUSIVE COMPETENCE OF PEDAGOGICAL STAFF OF SPECIAL NEEDS SUPPORT TEAM

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Abstract. *Inclusive education in Ukraine at the legislative level started more than 10 years ago, but analytical monitoring studies indicate that the level of education for children with SEN is unsatisfactory. The lack of an inclusive learning strategy and low level of teachers` readiness to carry out the educational process for children with SEN together with their peers may be factors in this situation.*
The purpose of the study is to develop and implement an algorithm for enhancing the competence of teachers of inclusive classes. We conducted a training program in eight educational institutions (10 IEP teams), aimed at increasing the level of team interaction and inclusive competence of specialists. To assess the process of inclusive competence`s formation before and after the training program, we used Org-EIQ methodology, motivational orientation test, and teacher self-assessment method «Professional Development Tool for Improving the Quality of Practice in Primary School». As a result, all teachers have achieved a significant increase in the effectiveness of interdisciplinary support for children with special needs, which have reflected in the positive changes that have occurred in teachers at the professional, interpersonal and personal levels.
Keywords: expert coaching*, IEP team, teacher's competence, special needs, team management model.*

Introduction

Strengthening international focus at inclusiveness has caused essential changes and development of educational policy and practice, especially in a field of education for children with special educational needs (Ainscow, 2010; Haug, 2017). Nowadays the large-scale national educational reform takes place in Ukraine, which is aimed at the New Ukrainian School concept realization. This

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reform implements more inclusive ideology and acceptance of diversity (Cabinet of Ministers of Ukraine [CMU], 2016). However, there are numerous barriers on the way to provide quality inclusive education – providing the equal rights for students with special educational needs (SEN).

Following factors are relevant for Ukrainian society: rather high level of consciousness regarding the acceptance of inclusive values (European Research Association [ERA], 2012); developed theory on inclusive education (Kolupayeva, 2009; Kolupayeva & Taranchenko, 2016); clearly developed educational policy (Grinevich, 2015). However, Ukraine does not provide quality and sufficient inclusive practice yet. There is number of studies, where the gap between the theory and practice is discussed (Piters, 2018; Alishavskane, Onufrik, & Florian, 2019).

Now there is a lack of empirical studies, which are focused on the search of the ways of improving inclusive competence of teachers who provide psychological-pedagogical support for children with special educational needs in the school educational environment. In spite of obvious advantages of the team work and critical importance of the capacities of specialists and parents for team interactions as the main factor of the effective support of students with special educational needs in the educational process (İlik & Sarı, 2017), this format of workin Ukraine remains underworked out in the educational inclusive environment. Therefore, there is a need to deeper understanding and in the development of strategies and technologies of in-service training of the support teams, which provide psychological-pedagogical support of students with special educational needs. In order to meet this need, we set up the following goal of our study – to develop the program for in-service training of the members of Individual Educational Program teams (support team), which is based on the model of effective team management of Hackman (Hackman, 2002).

Literature Review

Analysis of special literature demonstrates that education is extremely important for the provision of sustainable society development and equal opportunities for all children, including children with special educational needs (Dumcius, Peeters, Hayes, VanLandeghem, Siarova, Peciukonyté, Ceneric, & Hulpia, 2014). Number of researchers, organizations and policy-makers achieved the consensus that quality of education depends from the well-educated and competent cadres (Dumcius et al., 2014). Importance of high qualification of professionals is recognized at the European level by the priorities of the strategic cooperation in a field of education and professional training (European Commission, 2015). It is mentioned there that professionalism of cadres is one of

the key tasks in the work in educational field, which is now the important issue of policy agenda in Ukraine. Because of this, the Government of Ukraine has implemented important initiatives on reforming educational sector, represented in the Law "On Education" (Verkhovna Rada of Ukraine [VRU], 2017) and the New Ukrainian School concept (CMU, 2016). UNICEF in Ukraine supports this process, in particular through the number of studies, which provided the analysis of the system of pre-school and inclusive education in Ukraine (Piters, 2018; Alishavskane et al., 2019).

Thus, the study on the quality of pre-school education which was conducted according to the European quality framework for early childhood education and care (EQF) identified activities, necessary for improving the system of teachers` competencies, among them – improving the system of on-going professional development for pre-school, primary and secondary school teachers, special teachers, methodologists, school directors and other educators (with the focus on child-centered learning as well as on inclusive approach), and the main focus of attention should be paid to the analysis of pedagogical practice within pedagogical mentoring (Piters, 2018).

In-service teacher training system in Ukraine has remained unified until the recent days and included participation at the in-service courses once per five years. However, taking into account current rapid changes, such a frequency (one time per five years) has not longer met the needs of the time and teachers` requests (Sofiy, 2017), that is why the government of Ukraine has adopted the new Procedure of in-service training of teachers and faculty members (CMU, 2019), where different forms of in-service training and on-going nature of professional development has been adopted. One of the tasks of in-service teacher training is developing inclusive competence through different forms, including on-job training (CMU, 2019). Therefore, there is an interest to the studies, which present different aspects of developing inclusive competence of the teams of psychological-pedagogical support of children with special educational needs in Ukraine.

Existing studies (Loreman, McGhie-Richmond, Kolupayeva, Taranchenko, Mazin, & Crocker, 2016; Martynchuk, 2018) identify some of the important components of the process of organization of educational environment, which are necessary to avoid the mistakes and to provide effective inclusive learning. The most profound is the study conducted by European Agency for Special Needs and Inclusive Education during 2009-2012 within the project "Teacher Education for Inclusion". The project was aimed at identification of the main teachers` competences, necessary for success fulprofessional work at schools in XXI century. The following competences have been identified within the study: team work with parents and other specialists, on-going professional and personal development.

Meta-analytical study (Hattie, 2009) identifies four criteria of the successful teachers` work:

1) PriorAchievement (the levels of students at the start);
2) Targeted Learning (the desired levels at the end);
3) Progression (the rate of progress from the start to the end);
4) Teacher Collaboration. The fourth criterion -Teacher Collaboration- means uniting the potential of the members of IEP team, which includes joint discussion and planning, identification of success criteria, ways of achieving learning progress, expectations for students, active parents` participation regarding goals` identification and realization (Stroggilos & Xanthacou, 2006). Other studies (Kurth & Foley, 2014; Rotte, 2014) of teachers` abilities to implement teaching process based of partnership interactions, communication with colleagues, students and their parents are the most important qualities for effective teachers.

At the same time the researchers identify some of the disadvantages of IEP team interactions, in particular: lack of their attention to the planning of joint work and assessment of its results; there is a tendency to act separately, not together (Strogilos, Stefanidis, & Tragoulia, 2016). Thus, the lack of mutual understanding between some of the specialists of the team (speech therapist and regular teacher) and their insufficient understanding of the content of professional work and professional limits (Hersh, O'Rourke, & Lewis, 2013).

Studies of the successful practice of inclusive classrooms demonstrate that in addition to the positive attitudes to inclusive teaching teachers have to possess certain competence, which include their ability to work in the teams (Hackman, 2002; Stroggilos et al., 2006).

Therefore, the context review of the studies on teachers` competencies necessary for their work in inclusive environment is the basis for researchers who wish to study the ways of developing inclusive competence of teachers – the members of IEP team in inclusive educational environment.

The goal of this research is to study and to justify effective ways of improving capacities of IEP team members towards team collaboration as the transversal skill, which will provide effective support to students with special educational needs at each of the stage of educational process. In our research we assumed that the level of inclusive competence of team members, their skills to work as a team will increase essentially the level of effectiveness of their work in supporting children with special educational needs in educational environment.

Methodology

Our research included three stages. At the first stage we explored the level of inclusive competence development of the members of pedagogical support

teams; the goal of the second stage was to conduct their training according to the program developed by us, which was aimed at the increasing the level of inclusive competence (including ability to work in a team); at the third stage we studied the results of the training approach we used.

To realize the first stage, we used the methods, which allowed us to explore the level of inclusive competence`s development of the members of psychological-pedagogical team which provides additional support to children with special educational needs, in particular the level of development its components:

1) emotional and organizational skills (methodology Org-EIQ, Giorgi & Maier,2014),
2) orientational motivations (test «TOM», Borgogni, Petita, &Barbaranelli, 2014),
3) teachers` self-assessment according to seven areas: Interactions, Family and Community, Inclusion, Assessment and Planning, Teaching strategies, Learning Environment, and Professional Development(we adopted methodology of identification of teachers` self-assessment «Professional Development Tool for Improving the Quality of Practice in Primary School»). That study included only the specialists working in the school.

Selection of the mentioned above study methods is based on the characteristics of the teachers` professional work in the inclusive school within interdisciplinary teams. As the result of our previous studies (Martynchuk, 2018) we identified that level of inclusive competency depends from emotional competency of teachers, which depends on the emotional intelligence and is based on it. Therefore, in our study we used the approach of Italian researchers G. Georgy and V. Maier (Giorgi & Maier, 2014) for the studying emotional intelligence. This process is based on two theories: the theory of at-job effectiveness and the theory of organizational intelligence. Researchers affirm that organizational intelligence structurally relates to the individual emotional intelligence through “group” mechanism: other words, emotional intelligence is accumulated in a certain environment, where it becomes organizational one (Giorgi & Maier, 2014). That theoretical statement was apobated and confirmed in the framework of our research (Martynchuk, 2018). The results of our research provided us the reasons to assume that emotional intelligence is the important part of inclusive competence and organizational intelligence is the core of the psychological-pedagogical team (support team), which supports the children with special educational needs.

While studying the level of development of inclusive competence of future educators from special team (Martynchuk, 2018), we used European valid methodology Org-EIO “Assessment of emotional intelligence” (authors:

G. Georgi, V. Maier, adaptation for Ukraine has been made by V. Klymchuk and V. Gorbunova) to study emotional organizational intelligence (Giorgi & Maier, 2014).

Teacher`s motivational orientations play an important role in the development of inclusive competence (Martynchuk, 2018) because motivation itself has a leading role in the person`s behavior structure and it is the driving force of human activities for achieving the specific goals. We used European valid methodology TMO test of Orientational Motivations" (authors: L. Borgoni, L. Petita, K. Barbarnelli, adapted for Ukraine by L. Burlachuk and Kh. Rakhubovska) to study orientational motivations. This test allowed to study the motivations which guide a behavior in the professional conditions (Borgoni et al., 2014).

While identifying the content of inclusive competence we used the study materials of International Step by Step Association (ISSA) – association, which works in a field of development of children aged from birth till 10 years old (pre-school and primary school age) in more than 35 countries and promotes inclusive education ideas through its programs and projects, in particular: modified the methodology according to the objectives of our research, systematized the main statements which related to the knowledge and skills to provide effective support to children with SEN. We put ISSA principles of Quality Pedagogy as the basis of development of study methods, because these principles correspond with international tendencies in the inclusive culture and practice (Competent Educators of the 21st Century: Principles of Quality Pedagogy, 2009). ISSA principles of Quality Pedagogy include seven areas (interactions, family and community, inclusion, diversity and values of democracy, assessment and planning, teaching strategies, educational environment, and professional development), which are based on the recent studies in a field of quality pedagogy and correspond with the international tendencies in the field of providing educational services to children aged 3-10 years old (Tankersley et al., 2010). They als ocorrespond with the results of the study conducted by European Agency for Special Needs and Inclusive Education «Teacher Education for Inclusion» (EASNIE, 2012).

At the second stage of research we used such methods in the training program, as: team activities, group discussions, implementing the tasks in small groups, video analysis of participants` actions, reflective-analytical activities, team consistent coaching.

Duration of the Training program was 7 months, it took place from October 2018 till May 2019 (there was one month break from December 22, 2018 till January 21, 2019). Training program was provided in 8 schools for 10 teams, which provided psychological-pedagogical support to children with SEN.

The third stage of our research envisioned confirmation of effectiveness of received results after implementation of training program. This confirmation has been done due to the developed semi-structured survey, self-reports of the teachers and data division by percentages to identify levels development of inclusive competence, which allowed to understand the level of teachers` and parents` satisfaction of team work`s quality as well as the changes in the educational process of children with SEN. To comprehend received results regarding development of teachers` inclusive competence we also used quality analysis.

To provide organizational impact on the level of team members` inclusive competence, we developed and implemented practice-oriented training program, which was focused not only at teachers, but also at parents of children with SEN. In total, 78 IEP team members, including 16 parents, 10 teachers, 8 teacher assistants, 8 psychologists, 8 speech therapists, 6 sports instructors, 9 special education teachers, 4 music teachers and 9 subject teachers, were involved in training program. The majority of all teachers – 53 outof 62 (85%), had the experience of working with children with SEN; other just were informed that children with SEN will study in their classrooms.

The developed practice-oriented training program is based on the model of team effectiveness of R.Hackman (Fig. 1).

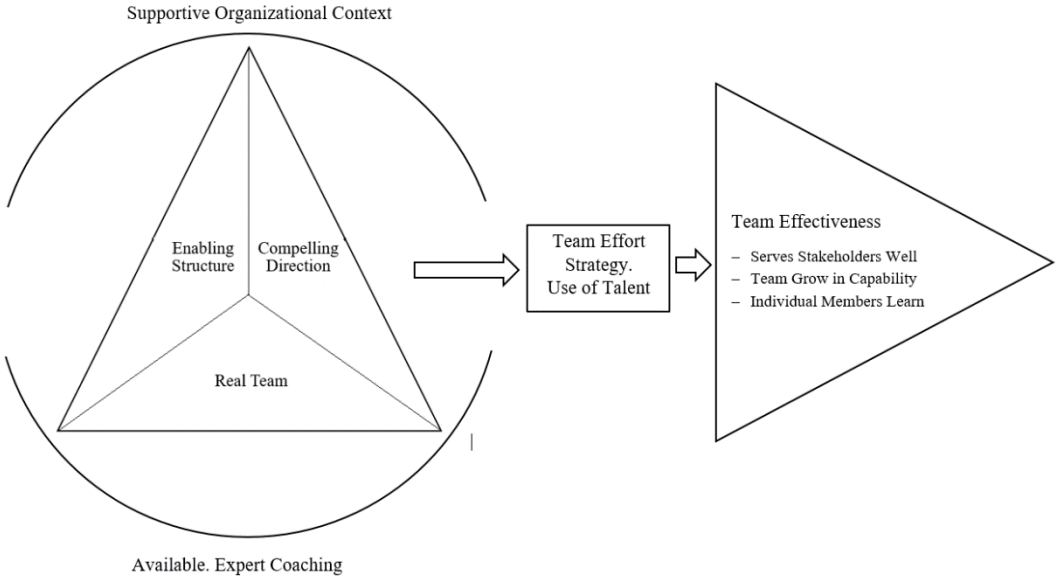

Figure 1 ***The model of team effectiveness*** *(Hackman, 2002)*

According to this model, in addition to professional competence (so called hard skills), there are also so called soft skills, which play an important role in the improving professional activities. One of the important soft skills is the capacity

to work in a team. It is important to understand that all efforts of specialists can be false-start if the first stage does not happen: creation a team, team work, and regular mentoring. Only preparatory work, which includes thorough planning, common decision making, coordinated algorithm of actions, can provide successful realization of existing teachers` competencies and also improvement of their skills in a future. Regular interactions between team members enable synergetic effects, which influence on realization of potential opportunities of team members and essentially promote the common success.

Therefore, we are making in our study the main accent on the development of effective interactions between IEP team members. Our developmental impact to increase inclusive competence of IEP team members (teachers and parents) was based on the following group interactions` principles: integration of professional and personal resources of each of the team members in the process of interactions; coordination of actions towards creating comfortable social environment based on individual approach to every child; establishing productive interactions with child`s family; coordination of efforts in the process of identification of criteria for assessment of effective education of children with SEN.

Research results

Diagnostic methodologies provide the results, which have been analyzed and interpreted to identify the main content of the training program.

According the methodology Org-EIQ, teachers demonstrated insufficient level of:

1) empathy as ability to listen to others, understand feelings and ideas of other people (n=44, 71%);
2) teachers` orientation on students, which is conditioned by teachers` efforts to manage educational process. Many of the teachers (n=52, 84%) confessed they could not find common areas of understanding with students and their parents, could not provide constructive dialog with them, they did not feel they were respected either by students or their parents. The majority of teachers demonstrated lack of skills to cooperate and interact with people to achieve common goals according the indicator “Team work”, they also were not able to stimulate others.

TOM test allowed to understand what kinds of orientational motivations are preferred by the teachers. Predominant level of orientational motivations` development according to all scales (orientation on achievements, orientation on leadership, orientation on innovations, orientation on relationships) was the medium level. Orientation on relationships has little predominance comparing to other scales. Considering peculiarities of professional activities within the context of inclusive education (which are presented in details in the study of European

Agency for Special Needs and Inclusive education within the «Teacher Education for Inclusion» project (2009-2012), we presumed that teachers should have a high level of motivational orientation on relationships and on the achievements to provide successful professional activities in the context of inclusive education.

The survey results according to methodology Instrument for professional development to increase the quality of primary teachers` work" identified the following levels of teachers` competencies according to different areas. 22 teachers (35,5%) were assessed as «Inadequate» (practice, which is not oriented at the child); 28 teachers (45%) received «Goodstart»,which was a result of their efforts to master effective methods and approaches oriented on children; 2 teachers (3%) were evaluated as «Quality practice» and «Moving forward» as the result of their believes in children`s potential, using all possibilities for professional development.

Quality analysis of the received results allowed us to understand that teachers of inclusive classrooms feel confusion regarding team work and lack of their confidence in their actions as well as lack of confidence towards children with SEN. Also, some negative attitude was identified towards psychological-pedagogical team: the majority of teachers saw the team meetings as obligatory work rather than important condition of their successful work; teachers mentioned they could hardly find time for such meetings, that they would rather spend this time preparing for the next day or record school documentation.

Training program includedalternation of learning sessions and practical implementation of received knowledge and developed skills to gain the experience of team work directly in the educational process.

The central focuses of the practice-oriented training program were theoretical and practical aspects of the team support of children with SEN in the educational process, the role of each member of the team in this process.

The following team work skills were developed/improved as a part of the training program: developing respect and trust, flexibility of thinking and activation of creativity; active listening, coordination of different ideas, recording effective documentation.

In order to practice these skills four experts provided consistent coaching, which alternated with reflective-analytical activities. The most widespread scheme of the team work was using the experience members of the psychological-pedagogical teams received at the training during their professional work, which allowed them critically reflect on it. During new training sessions, participants analyzed critically their new experience, where they tried to comprehend the factors of their successes and mistakes. Together with their coordinator and experts, all IEP members developed the rules for team work, established feedback, tried to focus on the mastering the modern approaches to the inclusive process at

the level of all school. All of this supported the necessary level of motivation and joint intensions regarding development and realization educational environment.

As the result of studying the level of competencies of teachers in team work to support students with SEN after the training, we realized that teachers improved their level of knowledge and skills regarding team work with students, their parents and colleagues essentially.

Thus, according to the methodology Org-EIQ increasing the indicators according the position "social competence" was identified: the majority of specialists could better listen to other people, to understand their feeling and thoughts (77%). High rating of indicator according the parameter "orientation at students, finding the common language with students and their parents, conducting constructive dialogue with them" was demonstrated by 84% of participants. The characteristic "ability to work in a team" demonstrated 93% of teachers, which is 3.5 times more comparing with previous study results.

Because of TOM methodology we identified the essential improving of such indicators, as "Motivational orientation on achievements" and "Motivational orientation on innovations", which provided evidences teacher obtained more inspirations for innovative work, they started to use spontaneity and creativity, they demonstrated intensions to obtain new knowledge and new approaches as well as their willingness to change by themselves.

Methodology "Instrument of professional development to improve the quality of primary teachers" allowed us to identify essential improvement regarding indicators of professional development: ability to communicate effectively with parents, to use different opportunities to work in IEP teams as well as in other types of teams of teachers, to analyze and to discuss their challenges with colleagues, to monitor procedures, to use new methods of work to increase effectiveness of teaching students with SEN.

During analytical sessions and through their self-analysis participants of the training highly evaluated all three stages of mastering their new experience – training sessions, practical implementation of their new knowledge, and further discussions. The joint conclusion was that a value of such a raining format was a team format and its on-going coach`s support.

Because of analytical sessions, majority of members of IEP teams (8 out of 10) recognized they not only couldn`t work in a team, but also did not fully understand the content of such interactions: they did not use individual educational program (IEP) as the instrument of cooperation, did not try to build partnership with parents, were not interested in the colleagues` experience, did not coordinate short-term and long-term goals for children with SEN between ourselves and did not formulate SMART objectives in particular; they did not monitor the dynamics of development of these children either. Participants of the study recognized that one of the most negative consequences of such

uncoordinated work was that they couldn`t identify the content and the process of services` provision, which would meet the actual children`s needs. Therefore, those services were more formal and had a minimal use for children.

One of the most important conditions for establishing real team support for children with SEN was the existence of coordinator (case manager) in the support team. Because of coordinator of support team (IEP team), it`s meetings became more prepared and had more clear procedures, content and were organized appropriately. Team members also identified the second important innovation – parents` role as partners. The majority of parents told they have never participated in the meetings with all professionals who worked with their child before. Usually they met individually with separate subject teachers who were working with their child. Such an experience was unusual both for the specialists as well as for parents, but implementation of equal interactions with parents was highly evaluated by all participants of the training program. Parents began to feel they can influence on the educational process of their children, they can make their choice regarding necessary methods, approaches and means, which can improve educational process for their children, to take an active role in the development and realization of learning and developmental goals for their children.

Discussion

The novelty of the approach is to educate teachers in the curriculum developed by our team program "Technology of team interaction of teachers of inclusive institutions", based on the team management model for significant achievements. Despite the obvious advantages of teamwork, this format of work in Ukraine is still not mastered in an inclusive educational environment.

The study`s results allowed us to make a conclusion that teachers have to master team interaction technology in order to be successful in working with children with SEN in inclusive educational environment. Establishing effective support teams essentially has changed the productivity of all IEP teams, which were involved in the study. Those changes, first of all, had their influence on increasing the positive dynamics of learning and development of children with SEN, and also on the level of satisfaction of the team members. All members of IEP teams assessed filling out the supportive documentation, planning and realization of partnership cooperation as the effective new experience.

Formative influence was done directly during the professional activity of teachers and was accompanied by regular expert coaching.

Received experience of the group work at the each stages of planning, realization and monitoring the process of support the students with SEN has been marked on the development of professional mastering of specialists, able to create modern educational environment, which corresponds with the existing challenges.

Achievements of teachers who have been trained in a team-work are essentially distinguished and included the following: capacity to work with other specialists, to analyze students with SEN, to develop measurable, time-bounded, specific and achievable goals, to plan special support and role each of the members in this process; to develop authentic partnership relations with parents, to support interactions with the child`s family and other colleagues in the school and outside of school based on the respect; to create the conditions for communication and exchange of information with family members of students with PAC in educational environment, to discuss with them plans, rules, procedures, classroom activities. In the interviews with teachers they confessed that ability to communicate with families effectively was a big challenge for many of them.

According the teachers` survey results it becomes clear that we obtained skills which allowed us to create real support team (headed by coordinator), which began to realize inclusive process purposefully, consistently, with coordination and divisions of functions with teacher with active parents` participation at all stages of developed algorithm of support providing. Such thoughtfully organization of the joint work had an impact on the increasing results of learning and development of children with SEN as well as on general classroom atmosphere – encouraging for all students, and also on the professional level of teachers.

Conclusions

The training program which was used in the process of development of teachers` inclusive competence has demonstrated its effectiveness, which was confirmed by diagnostic instruments and teachers` self-reports. Implemented work provided opportunities to identify two conditions necessary for training of teachers to work in the interdisciplinary teams:

1) when teachers will work as a team (without leaving their professional activities within psychological-pedagogical support);
2) providing consistent expert coaching, which allows step-by-step obtaining by teachers and parents the ability to organize and provide competent team support.

Making the conclusion, we have to say that study data testify the changing of nature of interactions between the support team members is the important condition for improving education for children with SEN and the quality of their parents` lives.

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SUPPORTING FACTORS FOR PRIMARY SCHOOL TEACHERS IN ENSURING INCLUSIVE EDUCATION FOR CHILDREN WITH AUTISM SPECTRUM DISORDERS

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Abstract. *The objective of the study presented in this article is to reveal supporting factors for primary school teachers in ensuring inclusive education for children with autism spectrum disorders (hereinafter the ASD). Qualitative research was chosen for the study. In the study, the method of a semi-structured written reflection was used. The obtained data was analysed by applying the content analysis method. Qualitative content analysis was carried out in accordance with the inductive, study data based and categories composed logic.16 primary school teachers participated in the study. The study data revealed that the school's inclusive culture and organization of inclusive education by the teacher at the classroom level had a significant importance for ensuring inclusive education for children with ASD. The school's openness to children diversity, implementation and cherishing of inclusive education values, favourable physical and psychosocial environment, ensuring support for learners, their parents, teachers and education support professionals, financial resources which allow for attracting necessary human and material resources, skilled teachers and professionals, the school's collaborating community and the school's collaboration with other institutions to ensure the quality of inclusive education were considered the key factors for the school's inclusive culture. The teacher's positive attitude to all the learners, child-oriented approach, favourable and inclusive educational and social environment created in the classroom, the teacher's close collaboration with learner's parents, other teachers and education support professionals, and continuous improvement of qualification were indicated as factors of the key importance for creation of an inclusive educational environment at the classroom level by teachers.*
Keywords: *children with autism spectrum disorders, inclusive education, inclusion supporting factors, primary school, teachers.*

Introduction

Lithuania has committed itself to create and implement inclusive education system based on common international ethical and political education provisions which would ensure socially equitable high-quality education for all

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(Ališauskienė & Miltenienė, 2018). Inclusive education supports and welcomes diversity among all learners. It involves changes and modifications in the educational content, approaches, structures and strategies, with a common vision that covers all children of the appropriate age range and a conviction that it is the responsibility of the regular system to educate every child (UNESCO, 2009, p. 9). When developing inclusive education, more attention needs to be given for children with special educational needs, by providing them with appropriate conditions for education in mainstream schools. Although in Lithuania legal regulation and statistical data on education of learners with special educational needs testify a formal inclusion of such learners as a predominant form of their education, yet they do not reflect the quality of their inclusive education (Ališauskas, Ališauskienė, Gerulaitis, Kaffemanienė, Melienė, & Miltenienė, 2011).

According to Ališauskas et al. (2011), big challenges for inclusive education in many countries, including Lithuania, are related to education of children with ASD. Studies reveal that schools face challenges when creating inclusive education, particularly for children with ASD, such as school policy, lack of teachers‘ training and resources, lack of understanding from teachers, other students and parents (Lindsay, Proulx, Thomson, & Scott, 2013), many teachers feel insufficient prepared to meet the multifaceted needs of children with ASD in inclusive settings (Finke, McNaughton, & Drager, 2009, Segall & Campbell, 2012; Majoko, 2016), etc.

Research carried out in Lithuania indicates that educational system does not provide sufficient level of attention and support for children with ASD in terms of inclusion and wellbeing in the classroom. The lack of statistical numbers about this disorder makes the evolution of the scope of this problem difficult and then organize and apply effective strategies at all levels of the public political system (Diržytė et al., 2016). A. Ališauskas et al. (2011) states that the major problems in educational process of children with ASD emerge due to their social interaction issues and specifics, lack of skilled teachers, internal and external material and physical resources, gaps in the teacher’s competence development programs, low parents’ involvement, and insufficient personalisation of educational programs.

Diržytė el al. state that just a minor part of teachers are prepared and know how to teach and approach children with ASD and also their families (Diržytė et al., 2016). The results of this study reveal that the teachers working in inclusive classrooms, where children with ASD study with their peers, face a lot of issues and questions concerning how to meet their personal needs related to their special educational needs, effective teaching and learning strategies how to include them into group activities and finally how to assess their skills (Diržytė et al., 2016).

A number of children diagnosed with ASD is increasing very rapidly worldwide (Lindsay et al., 2013). At the same time the need for effective methods

and policies of dealing with those children, their families, educators and society is increasing. There are several studies and policy statements in Lithuania about inclusive environments for children with ASD. School teachers, however, face challenges in everyday practical situations in the classroom.

The aim of the study was to reveal experience of primary school teachers in ensuring inclusive education for children with ASD. The following problematic issues were addressed during the study: what helps primary school teachers to ensure inclusive education for children with ASD, what challenges are faced by teachers in ensuring inclusive education for children with ASD and what educational technologies should be applied to overcome challenges faced by teachers in ensuring inclusive education for children with ASD. The aim of this article is to reveal the supporting factors for primary school teachers in ensuring inclusive education for children with ASD.

Research methodology

Research methods. Qualitative research was chosen for the study. In the study, the method of a semi-structured written reflection was used. Written reflections included three key issues, i.e. what helps primary school teachers to ensure inclusive education for children with ASD, what challenges are faced by teachers when ensuring inclusive education for children with ASD and what educational technologies should be applied to overcome challenges faced by teachers in ensuring inclusive education for children with ASD. This article presents the study data based on one of the written reflection questions, i.e. what helps primary school teachers to ensure inclusive education for children with ASD. The obtained data was analysed by applying the content analysis method. Qualitative content analysis was carried out in accordance with inductive, data-based research, where categories were logically assigned. The qualitative content analysis was reviewed for consistency, and by performing multiple readings and analysis of data, data coding, grouping codes into categories/sub-categories, and integrating categories into the context of the phenomenon analysed and description of their analysis (Creswell, 2013).

To ensure validity of the study data analysis, interview data was analysed by applying researcher triangulation, when the study data was analysed by two researchers (McMillan & Schumacher, 2006). Prior to the data analysis, the researchers agreed concerning the principles for the analysis, i.e. the primary data analysis was performed by each researcher individually, by coding text extracts and joining them into primary categories. The researchers hereafter compared the primary categories and any mismatches between the first and the second researchers were addressed in discussions and solved through a mutual agreement between the researchers. Upon agreement between the researchers concerning

data coding and generalization of categories, validity of the data analysis results was ensured.

Research sample. Criteria-based sample was used in the study. The informants were chosen according to the following criteria: primary school teachers who worked in general education schools and had an experience of at least 5 years in working as primary school teachers, and who had recently been working with children with ASD and had at least one year experience in working with children with ASD in mainstream classrooms at general education schools. The study was conducted in May 2019. 16 educators participated in the study. The teachers reflected their experience in the written-form based on the three questions of reflection mentioned. The reflection took up to one week.

Research ethics. The informed consent for the participation in the research was taken from every single participant. Researchers assumed an obligation not to disclose any information related to the school and the informant. The principles of anonymity, volunteerism and benevolence were followed. The educators were acquainted with the aim of the research, the questions of written reflection, and the importance of argumentated reflection on their experience. In order to ensure confidentiality for research participants, their names were coded by using a letter I and number (I1, I2 etc.).

Analysis of research results

The primary school teachers who participated in the research acknowledged that education of children with special educational needs emerging due to disabilities, including ASD, in the educational system together with their peers had a positive impact on the children and the school's entire community. According to A.Ch. Dybvik (2004), when inclusion is appropriate and truly premised on inclusive pedagogical practices, children with disabilities and their peers can benefit from being together (as cited in Goodal, 2015, p. 309). If children are not having their potential realised within a school permeated by an inclusive ethos, with inclusion-orientated practitioners, then ASD-specific provision could be justified (Goodal, 2015, p. 309).

The study data revealed that the school's inclusive culture and organization of inclusive education by the teacher at the class level had a significant importance for ensuring inclusive education for children with ASD (Fig. 1).

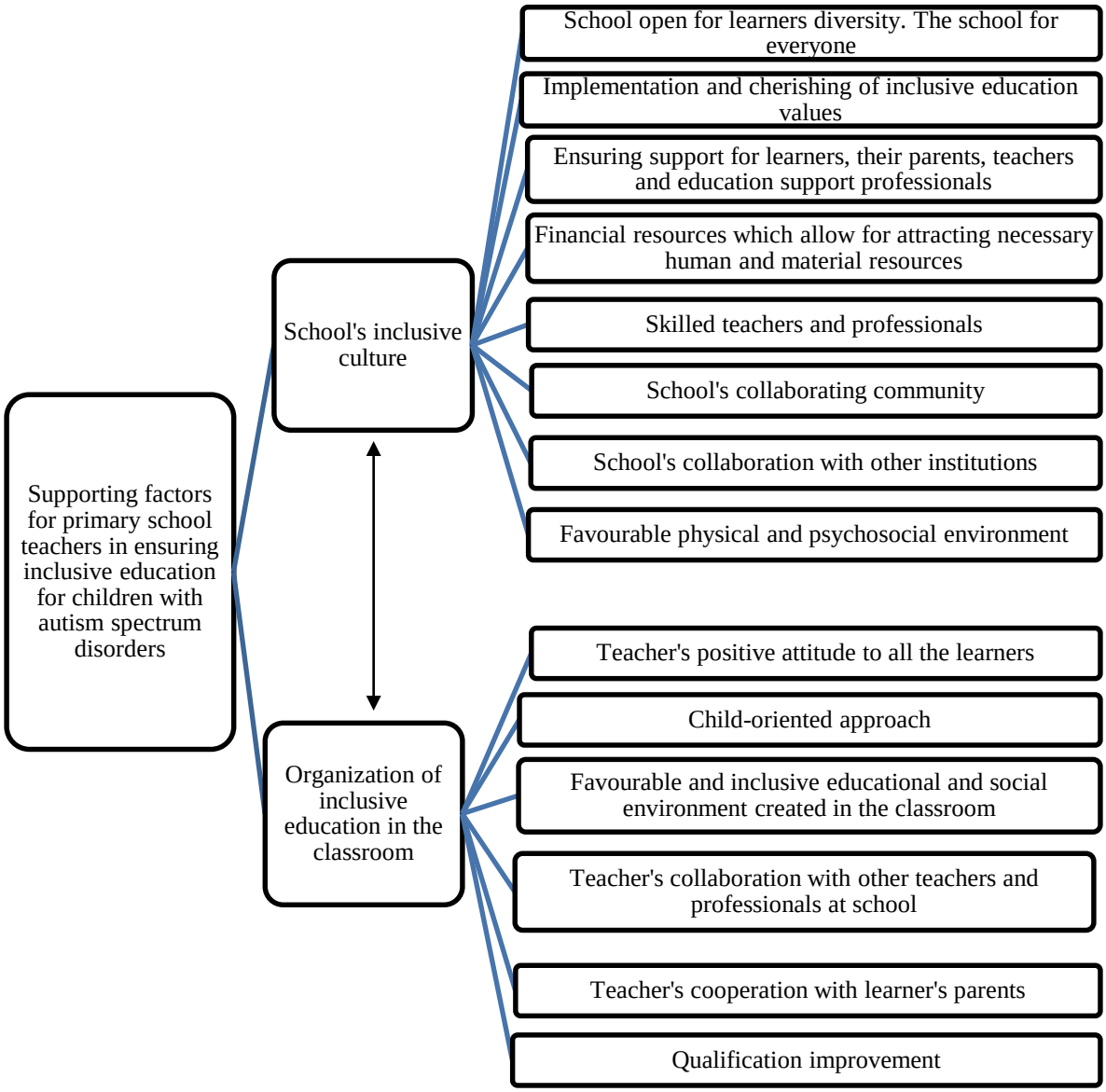

Figure 1 ***Supporting factors for primary school teachers in ensuring inclusive education for children with ASD***

The study reveals that the school's inclusive culture is related to the school's openness to children diversity and creation of the school for all. The participants of this research claimed that "declaration of inclusive education in documents is not enough, it should be implemented and visible in real life of the school as well" (I1). Informants stressed that „every child should be welcomed at school" (I16) and "every child should be cared for and feel valued" (I5). Noteworthy, the school's community would face fewer challenges, if it was positively disposed and ready to accept a child with a disability. According to informants, "this is not

a mechanical shifting of a child with ASD to a mainstream school" (I I16), 'it is important for the school to which the child with ASD comes to be ready and have a will to accept the child' (I13). Informants specified that „the administration plays an important role in the formation of the school's inclusive policy and culture" (I4), "when administration considers inclusive education a priority, the school's community is enabled to create inclusive educational environment" (I13). Based on the study participants' thoughts, "collective implementation of inclusive education by putting common efforts will reduce a contradiction between declaration of inclusive education and its actual implementation in schools" (I5). Efficient inclusive education is possible when the school's management and the school's entire community evidently consider inclusive education as a value and when a favourable environment for efficient education of children with different needs is created in the school (European Agency for Special Needs and Inclusive Education, 2007).

Establishing of the inclusive education values is a significant part of the school's inclusive culture. Informants claimed that "it is important for both: managers of the school and every teacher and educational support professional to perceive the meaning of inclusive education values and follow the values in their work" (I10). For this purpose, it is important, according to the informants, "to accept all the learners the way they are" (I3), "some teachers and specialists need to change their attitudes and decline labelling of children, which devalues possibilities of children with special educational needs in particular, as it obstructs any collaboration and creation of inclusive environment" (I11), "to strengthen the understanding that a child is first of all a child, irrespective of his behaviour, ability to study, etc." (I2), "to consider individual abilities of every child, not to forget his needs, by trying to respond to the needs and have necessary conditions for their satisfaction" (I7), "provide all children with possibilities to be and act together" (I12). The facts mentioned above indicate that inclusive education can be achieved only when thinking about every learner in the school. Respect to the diversity of every learner, education that mets individual needs and interests, encouraging of the learner's powers and abilities, enabling of all learners to feel part of their class and school community by being and working together, and feeling valued and useful are considered important values of inclusive education. The school should see diversity as a strength and a stimulus for further learning (European Agency for Special Needs and Inclusive Education, 2011, p. 14).

The study indicates that ensuring of support for learners, their parents, teachers and education support professionals is considered an important part of the school's inclusive culture. According to the participants of the study, in order to ensure inclusive education for children with ASD, it is important that "the school would not lack education support professionals and their assistance to the child, teachers and parents" (I9), "have enabling resources which contribute to

receiving support inside the school or by employing assistance from the outside" (I4). An informant claimed that "when teachers, education support professionals and parents get more support, consulting and training from skilled professionals, they will be able to better solve problems faced in the child's education sphere" (I10). As J. Anglim, P. Prendeville & W. Kinsella noted, teachers' sense of efficacy in meeting the needs of pupils with ASD was related to the amount and type of support that they perceived themselves to be receiving at the time (Anglim et al., 2018).

In addition, the study participants stressed the importance of financial resources and ability to manage such resources to ensure a possibility to attract necessary human and material resources which enable ensuring of inclusive education. Report on the monitoring of the social integration of persons with disabilities and the United Nations Convention on the Rights of Persons with Disabilities and its Optional Protocol 2017 note that Lithuania needs to improve individualized support and assistance provided to the persons with disabilities and their family members in educational institutions, increase a number of teachers, their assistants, speech therapists and special educators working with the children with disabilities in educational institutions, and grant possibilities for availability of necessary professional's support (Report, 2018).

The study reveals that the qualification of teachers and other professionals and possibilities for continuous training are important factors for the school's inclusive culture. According to informants, "one of the key steps when creating an inclusive school is qualification of its teachers and professionals and its continuous improvement in ensuring inclusive education" (I10), therefore "priorities for and types of continuous training need to be discussed at the school, by considering the emerging needs for continuous training and providing attention to inclusive education of children with special educational needs in mainstream classrooms, rather than focussing only on development of subject competencies" (I3). An inclusive educational approach is based on teachers' beliefs that they are capable of teaching a diverse range of children through creatively adapting practice to support the learning of all (Florian, 2014). Any successful intervention will be highly dependent upon the skills of school staff employed and on providing them with adequate resources (McAllister & Hadjri, 2013). The European Agency for Special Needs and Inclusive Education in its report Key principles for Promoting Quality for Inclusive Education – Recommendation for Practice stresses that all teachers should develop the skills necessary for effective education of all learners by considering each learner' needs. In their initial and continuing education, teachers should be equipped with the skills, knowledge and understanding that will give them the confidence to deal effectively with a range of learner needs (European Agency for Special Needs and Inclusive Education, 2011, p. 15).

The study shows that the school's collaborating community is a significant factor for the school's inclusive culture. Collaboration and team work are considered one of the essential principles of inclusive education. The participants of this study put a particular stress on the importance of collaboration when adjusting and implementing education programmes and individual educational plans. The study participants specified that collaboration enables a better "recognizing of and responding to the child's individual needs" (I1), "setting of clear aims and responsibilities and obligations for everyone" (I3). When working in a team and collaborating, emerging problems can be seen in a wider context. According to an informant, "collaboration helps to broaden the field of seeing a problem, discuss and better see what probably needs to be changed at the school or at home to improve the child's learning situation" (I12). Wider use of collaborative and reflective practice may allow greater opportunities for teachers to share examples of good practice and build confidence in their ability to differentiate the curriculum to meet the needs of all pupils with ASD (Anglim et al., 2018, p. 86).

The school's collaboration with other institutions also serves as an important factor for the school's inclusive culture. The research indicates that collaboration with other institutions is urgent for developing skills of teachers and education support professionals, providing support for children with ASD and their families, sharing of good practice in adjusting the environment, and consulting and receiving support in case of emergencies. J. Anglim et al. suggest that a lack of effective collaboration between professionals and a lack of multi-agency sharing of information are barriers to inclusion (Anglim et al., 2018).

The study reveals that favourable physical and psychosocial environment at school is a significant factor for the school's inclusive culture. Noteworthy, children with ASD are more sensitive to their environment. K. McAllister & K. Hadjri noted that being sensory sensitive and unable to integrate fully and communicate with others means that the person with ASD can find the world a disorientating and even frightening place (McAllister & Hadjri, 2013, p. 58). Therefore, according to an informant, "one of the key tasks is to adjust the school's environment to satisfy the child's needs. If we fail to satisfy the child's needs, we cannot reveal his/her potential" (I4). On the one hand, the participants of this research stressed the importance of adjusting the environment at the school and classrooms and proper teaching aids. According to the informants, "the school's physical environment both inside and outside should be accessible and safe for children with ASD" (I10), "from the place of the seat to lighting in the classroom, from the noise level to adjusting of teaching tools – all of these are determining factors when creating suitable physical environment" (I4), "the areas adjusted for children relaxation are needed as well" (I12), and in addition, "it is important to create physical areas at school, which would ensure good conditions

for keeping learners busy and satisfaction of their needs not only during classes, but also during the time off classes" (I10). Autism awareness is a combination of both: the human component and the built environment. According R. Khare (2010), just as a well-designed environment can be supportive, an ill-conceived environment can be harmful to a child's education (as cited in McAllister & Hadjri, 2013, p. 58).

In addition, the study participants attached great importance to creation of favourable psychosocial environment. According to teachers, "physical presence of a child with ASD in the mainstream classroom is not enough, it is also important for the child to feel good in the classroom and be involved in activity together with other children, to have good interpersonal relationships with the entire classroom community and certainly a friendly atmosphere in the whole school" (I14), "all the children should have the school and the classroom where they would feel good" (I1). The above indicates that the study participants put a particular stress on the importance of learners' well-being and community when creating a favourable psychosocial environment. According to K. McAllister & K. Hadjri, to a child, a school is many things; not just a place of learning but also a place of new experiences, a test bed to develop social skills and a supportive environment in which to develop and find themselves. In all aspects it should be an environment in which the child feels comfortable (McAllister & Hadjri, 2013, p. 63-64).

The teacher's activity in the classroom is also of great significance in an inclusive school. What happens in the classroom makes a big impact on all the learners being there. The research established that teachers acknowledged their essential role in creating inclusive educational environment in the classroom. The study reveals that when organizing inclusive education at the classroom level a great importance lies with the teacher's "positive attitude to the child and the teacher himself/herself and believing that you can change something" (I2), therefore it is important "to focus on the child's resources, develop his abilities by believing in his/her achievements" (I9). According to an informant, "positivity encourages a will to have collaboration and initiative, reduces stress, and creates a feeling of confidence and openness for collaboration with the child" (I11). The European Agency for Special Needs and Inclusive Education in its publication "Five Key Messages for Inclusive Education" notes that inclusion largely depends on teachers' attitudes towards pupils with special needs, on their view on differences in classrooms and their willingness to deal with those differences effectively. Generally, the attitude of teachers has been put forward as a decisive factor in making schools more inclusive (European Agency for Special Needs and Inclusive Education, 2014).

The teacher's positive attitude to learners is closely related to a child-oriented approach directed to recognition and acknowledgement of every child's

individuality and exceptionality. Education cannot be individualized without a new attitude of educators towards children individuality and acknowledgement of manifestation of individuality in educational process as a value (Juodaitytė, 2014). The study participants stressed that "the attitude to the child should be based on the child's potential abilities, by highlighting his strengths" (I3), "a child has an individuality and we work with the child, develop his abilities and do not try to make him just like everybody is" (I9). The study participants indicated that "the child's needs must be satisfied, if we fail to satisfy the child's needs, we cannot reveal his/her potential" (I4). For this purpose, according to informants, "it is important that the child receives any necessary support provided by responding to his/her personal needs". The study results revealed that in the context of the child-oriented approach, particular importance lies with encouraging every child's initiative, the child's active involvement in activity and empowering the child to succeed. According to the participants of this research it is important "to find an individual access to the children" (I8), "to provide the child with a possibility to express himself, his potential and reveal himself" (I3), "to enjoy the child's achievements, even minor ones, together with parents, other learners and teachers, rather than underestimate the child" (I11).

The results of this study show that when organizing inclusive education, creation of favourable and inclusive learning and social environment by teachers is important. Learning is not only individual, but also a social process. Therefore, it is important to include the areas of personal and social skills development of learners into the educational process, and enable learners to collaborate and create positive reciprocal relations. The participants of this study stressed that when creating favourable and inclusive learning and social environment in the classroom, the teacher primarily has to create positive interactions with every child. The above is illustrated by the following statements by informants: "I would say that the teacher's ability to enter into and develop positive relations with every child is a foundation for creation of favourable microclimate in the classroom" (I15), "one should primarily start from himself/herself and serve as a role model for children concerning what respect for others and proper relations are" (I1), "a trust in the strengths of the child with ASD and his/her progress need to be demonstrated for the entire class, positive thinking is needed to help the child to overcome challenges, the child's strengths must be recognized" (I14), "it is important for children to succeed, they should receive more public praises and encouragement, thus the child will become more self-confident and other people will see his progress" (I10), but "if the educator himself distinguishes and underestimates abilities of the child with any kind of disorder, other learners will follow this example as well" (I8). The above indicates that a positive relationship with learners, created by the teacher, serves as an example for children on how respectful and proper mutual relationship should be created. In addition,

according to O. Monkevičienė, reciprocal relationships between children with special educational needs and other learners in the classroom will develop successfully, if the barriers obstructing their development are eliminated. One of the educational strategies in this field is the teacher's trust in the learner strengths' transformability and showing of this trust in front of the entire classroom (Monkevičienė, 2017). According to the author, when seeing a positive and dynamic change of their powers, learners with special educational needs naturally accept their differences and thus their dignity increases; when seeing a positive and dynamic change of the powers of children with special educational needs, other learners in the classroom naturally accept their differences and respect them (Monkevičienė, 2017).

The study revealed that when creating inclusive learning and social environment in the classroom, social interactions among all the learners in the classroom should be encouraged and conditions for learning through collaboration should be granted. The study participants indicated that it was very important "to provide children with ASD with possibilities to participate in common activity with their peers during classes and during extra curriculum activities" (I2), "to organize as many common activities and group occupations as possible, without isolating children with ASD" (I10). Informants stressed the need "to help other children to have a better knowledge of special needs of the child with ASD" (I16), "to encourage respect for diversity of the peers" (I3). S.G. Soulis, A. Georgiou, K. Dimoula, & D. Rapti research shows that children in the classroom have a negative attitude towards their peers with special educational needs, when they are unsure what these learners are capable of, what they are incapable of and why (Soulis et al., 2016). The study participants claimed that "both children with ASD and other children need to develop social skills, because when lacking those skills children face challenges in communicating and collaborating with others" (I14). Therefore, according to informants, "common activities are useful for developing social skills of children" (I8), "encouraging of social interactions helps children with ASD to have more social relationships with other children, which are important for development of social skills" (I15). O. Monkevičienė claims that when having a lot of social contacts, the child with special educational needs feels being a member of the classroom, develops necessary social skills and feels well in the classroom (Monkevičienė, 2017).

The teacher's close collaboration with the child's parents, other teachers and education support professionals is specified by the study participants as an important factor for ensuring effective practice of inclusion. The study participants indicated that "it is important for teachers to receive practical support and assistance from colleagues" (I2), "it is good when regular meetings are organized where we can exchange our experience, raise the problems we face and share insights for their solution" (I16), "sharing of professional experience

contributes to our competence improvement" (I5), "collaboration encourages professional development, since it enables exchange of experience, learning from others and enriches us with practical examples of inclusion" (I12). The teachers who participated in the research acknowledge the importance of "listening to parents, taking their opinion into consideration, making decisions through collaboration, related to the child's education and provision of support for the child" (I8), "strengthening of collaboration with the parents in searching for new forms of collaboration, so that parents become a part of the institution's life and get better involved in the child's educational process and its continuation at home" (I2). In addition, according to informants, the parents should "be encouraged to be more actively involved in the child's educational environment and communicate more often not only with teachers and other professionals, but also with the child's classmates" (I10), "participate in the child's educational process: in its planning, implementation, and in discussions concerning the child's learning" (I6). Inclusive education can be implemented only through listening to expectations and needs of all the education stakeholders, by creating partner relationship based on collaboration.

The teachers who participated in the research indicated that teachers' professional preparation and development facilitate the inclusion of children with ASD in mainstream classrooms. Informants noted the importance of organizing the training oriented to practical application and of particular methodologies dedicated to approach children with ASD. The study participants indicated that to ensure inclusive education for children with ASD, they notably needed the knowledge which would help them to identify the individual educational needs of these children, as well as to select and apply appropriate ways for solution of problem behaviour, effective educational strategies and tools for developing social skills, and effective methods for information transmission, which encourage cognitive processes. Similar trends have been revealed in other studies (Sansosti & Sansosti, 2012; Corkum, Bryson, Smith, Giffin, Hume, & Power, 2014; Majoko, 2016), which noted that teachers need professional development in order to be informed and knowledgeable about ASD and about individualisation strategies for children with ASD and techniques for improving the behavioural, social, and academic outcomes of students with ASD in mainstream classrooms.

Conclusions

The study data revealed that the school's inclusive culture and organization of inclusive education by the teacher at the class level have a significant importance for ensuring inclusive education for children with ASD in in a mainstream schools.

The study indicates that among the important factors for the school's inclusive culture is creation of open school for everyone, by developing favourable environment for learners with different needs to stay together and receive effective education, with the aim to eliminate any obstacles for learning and participation and avoid any exclusion, where every member of the community would feel accepted and important. The school's inclusive culture is related to establishing of inclusive education values in the school's community, favourable physical and psychosocial environment created, and a prevailing atmosphere of collaboration, support and assistance for each other. Qualification of teachers and other professionals and its continuous improvement, as well as the school's collaboration with other institutions to ensure the quality of inclusive education are important factors for the school's inclusive culture. In addition, great importance is attached to financial resources and ability to manage such resources to ensure a possibility to attract necessary human and material resources which enable ensuring of inclusive education.

When developing inclusive educational environment at the classroom level by teachers, significance is attached to the teacher's positive attitude to all children and a child-oriented approach directed to recognition and acknowledgement of every child's individuality and exceptionality, with the aim to respond to every child's needs and interests, by encouraging his/her powers and abilities and by cherishing high expectations concerning every child. In addition, favourable and inclusive learning and social environment in the classroom created by the teacher is important. In this context, the teacher should create positive relationship between the teacher and learners, and among the learners themselves, by showing a trust in the powers of every child and his progress for the entire class, by assisting the child in overcoming challenges, noticing his/her strengths and empowering every child to succeed. Moreover, making conditions for learner education through collaboration is essential. The participants of this research indicate the teacher's close collaboration with the families, other teachers and education support professionals as important factors for ensuring effective practice of inclusion. The teacher's personal continuous professional development is also very important. The study reveals that teachers attach importance to epistemic information (knowledge on ASD specifics) and notably instrumental information (knowledge on how to work with children with ASD and create inclusive environment) when ensuring inclusive education for children with ASD.

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I KNOW READ AND COUNT BUT I DON'T KNOW: A SPECIAL HISTORY AND SUI GÉNERIS

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Abstract. *We describe the sui generis case of a couple of cohabitants and parents of 9 children that stands out in the light of the cognitive admiration and applause of many, because it shows how our characters considered illiterate in the eyes of the conventional educational world, arrived to be regular readers without having attended an educational center. The purpose of the study is to highlight the circumstances that forced the subjects of the sample to start alone in the field of reading. As a method, mayicatica was applied and the observation technique was used whose instruments were observation records and structured interviews. In conclusion, the collected experience shows that the learning of reading is not only conventional and its acquisition also responds to real communication needs.*
Keywords: *literacy, illiteracy, learning, writing and reading.*

Introduction

The present case study, scientifically named, is based on neurological approaches to understand the personal history of Mr. Francisco Gómez Cabañas, a native of the district of Velapata, Chachapoyas - Amazonas, Peru and his wife Mrs. Adelina Vargas Trigoso. This case is unique or unique, which deserved to be studied for many reasons and among them we mentioned the following: *Knowing how to read without knowing how to write, knowing how to count money without knowing how to add*; something anecdotal and striking because it fractures or breaks with the conventional patterns or schemes of teaching reading and writing which argue that to read it is necessary to know how to write and that to add it is essential to know the elementary numbers and operations. The study aims to highlight the empirical procedures and circumstances that forced these people to start alone in the field of reading.

The world's educational systems have the agreed opinion that children should be taught to read and write; This action is totally accepted in diverse cultures. For example, according to Spanish regulations, the ideal age to start going to school is between 18 and 24 months, in Peru and much of Latin America, the minimum age is 3 years for Initial and 6 years for Primary. (Ministry of Education of Peru, 2017)

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In general, it is assumed that education and the right to education must begin within two or three years; since, at that age the child begins to have autonomy, he can already walk, emit words and begins in the learning of reading and writing through training; Upon reaching the age of six, the child must now fully manage the conventional reading and writing system. In this regard, numerous investigations open debate and try to find out scientifically what is the ideal age of the child in which to learn the system of conventional reading and writing. In this sense, the Ministry of Education of Peru (2015), determines that the school has the function of guaranteeing the acquisition of the graphic system of linguistic representation, from the level of Initial and is consolidated in the first cycle of Primary. Therefore, teaching to understand and rebuild the alphabetical writing system is a priority of the educational system.

Approaches to reading and writing

Three are the most common approaches that to date have been considered as educational proposals in initial literacy and that explain reading and writing differently (Vernon, 2013). First, the approach called "direct teaching" considers that a child must learn to identify the sounds with the corresponding letter, which is known as "phonological awareness" (Defior, 1994); likewise, he explains that the acquisition of phonological skills allows for good social communication. Proponents of this approach agree that our alphabetical writing system is a transcription of sounds and that the acquisition of phonological skills serves as the basis for learning to read and write (Defior, 1994). Secondly, there is the "integral language" approach (Goodman, 1989) in which it is stated that the learning of written language is a "natural" learning, since any child learns to speak without being taught explicitly to do so, since it is surrounded by people who use their language to communicate. Likewise, Goodman (1989) considers that the child who lives in a social environment that uses writing as a means of communication will learn to read and write because he needs to communicate. And finally, the constructivist approach (Ferreiro, 1990) that shares some points with integral language, especially the idea that reading and writing are communicative activities, and that children should come into contact with different types of texts from the beginning. In the same way, according to Teberoski (1992) both share the notion that reading is not decoding, but searching for meaning.

Illiteracy and literacy

Illiteracy is a worrying reality anywhere in the world, especially in developing countries. Many works on illiteracy allow us to indicate that there is

no single way to define illiteracy and its types, nor the exact form of its measurement (Chapital, 2015). The terms such as "no study", "no instruction", or "low or null schooling" are used to replace that of "illiterate people" or "who cannot read or write" (Pineda & Chapa 2018). However, the common denominator of its definition seems to be that given by the Organization of Ibero-American States (OEI) who defines it as the ignorance of literacy and basic arithmetic notions, which is linked to de-schooling (OEI, 2010). Meanwhile, illiterate people are understood to be those who do not know the coding and decoding of the written alphabet, so they cannot handle it widely to read and write, which does not prevent them from relating in literate practices and using written materials. (Pineda & Chapa 2018)

On the other hand, beyond its conventional concept as a set of reading, writing and calculation skills, or as an absolute or functional illiteracy (Martínez & Fernández, 2010), literacy today is understood as a means of identification, understanding, interpretation, creation and communication in an increasingly digitalized world, based on texts and rapidly evolving.

In Latin America and the Caribbean, significant progress has been made in terms of expanding coverage and educational access (Martínez, Trucco, & Palma, 2014). However, despite these advances and that absolute illiteracy rates are close to those of developed countries, there are still 35.9 million people over 15 who are illiterate (UNESCO, 2013). Such a reality, leads to the exclusion of young people and adults who, because they consider themselves poorly trained or qualified, cannot fully integrate into their community or immediate environment.

Consequently, the OEI (2010) indicates that "illiteracy is one of the most serious expressions of the process of exclusion and social marginalization, and, therefore, literacy is an essential requirement in any equity and social inclusion strategy" (p. 2). In that logic, literacy brings a series of advantages to those who have access, as well as to the communities and nations in which they develop. Among these advantages, according to Del Valle (2016), benefits of different types stand out: human benefits, linked to self-esteem, self-confidence and personal autonomy; cultural benefits, enabling the development and acquisition of critical and reflective capacity and allowing participation in the cultural life of the group; social benefits, improving knowledge in health, family planning, preventive measures to prevent diseases, etc., and economic benefits, enabling the increase of personal income, as well as promoting economic growth in the country itself.

Processes in literacy and inborn levels in their learning

For Vygotsky (1931/1995) the learning of written language consists in appropriating a system of symbols and signs, whose achievement determines the

child's cultural development. For their part, Montealegre and Forero (2006) determine that the development of literacy goes from non-awareness of the relationship between writing and spoken language, to the process of conscious operations such as the individualization of phonemes, the representation of these phonemes in letters, the synthesis of letters in the word, the organization of words; to the automation of these operations; and to the mastery of written text and written language.

In the development of literacy, Montealegre and Forero (2006) explain that there is a sequence of acquired processes such as: a) the development of written language as a natural form; b) the use of auxiliary signs in the assimilation of written language; c) levels of conceptualization or levels of literacy awareness: alphabetic awareness, phonological awareness, syllabic awareness, semantic awareness and syntactic awareness (ordering in oral discourse); d) the development of oral language and proper pronunciation as determinants in literacy learning; e) the process of learning literacy in natural (eg, game) and social (conversation activities) contexts; f) the teaching of literacy in a functional way and immersed in culture and daily life; and g) the potential of boys and girls in the construction of schemes (knowledge structures) on reality data.

Methodology

The present investigation is a case study conducted with two illustrious natural characters from the province of Chachapoyas-Peru, Don Francisco Cabaña and his wife Adelina Vargas; it is a unique case that arouses admiration in the reader; since, they are considered as illiterate before the conventional educational system; However, in their daily lives they became regular readers without having attended an educational center, breaking the different conventional schemes imposed on literacy systems.

This reality led us to formulate a scientific problem, study the relevant theories, and then find results with empirical evidence. As a method of investigation, the maieutics was applied, since, by means of questions, knowledge was discovered. As a technique, observation was used, whose instruments were reflected in observation records and structured interviews.

Data collection was carried out from 2015 to mid-2019. To do this, the field work consisted of home visits together with students of the Language, Language and Communication Theory courses taught at the Toribio National University Rodríguez de Mendoza, in different Professional Schools.

Results of the research

Our character was born in the annex of San Miguel de Velapata (former estate of the Tuesta López family), district of the province of Luya (Chachapoyas-Peru), on October 4, 1923 whose wife is Mrs. Adelina Vargas Trigoso with whom they had 9 children of the schools died 7 and today two (Juana and Ramón) live - their childhood and adolescence was spent working in this hacienda of San Miguel de Velapata, performing domestic work, agriculture and livestock work. He attended school, but after two months he retired because he could not continue to do housework in such a way that he did not learn to read and write and less to add; that is, he did not learn the alphabetic method to learn to write and neither did the phonetic method to learn to read, let alone the syllabic method; these methods consist: the first one learning the sound of the alphabet, the words are formed by combining the vowels and consonants; the second is the phonetic method in which vowels and consonants with the image of the object and the word are learned. Then consonants are combined with vowels, thus giving sequences of syllables such as: pa - pe - pi - popo, and finally the syllabic method that considers the syllable as the minimum unit of learning.

The syllabic method considers in a basic way the learning of the vowels and then they combine consonants with vowels, also the other way around, later turning to words that combine presented syllables and then phrases.

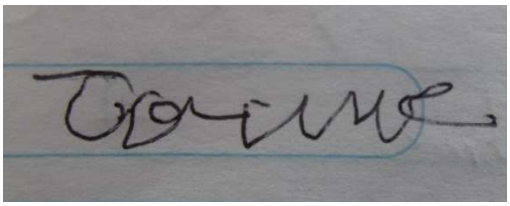
Don Francisco never had the opportunity to learn any method to learn to read and write, he only saw the letters, but he never got to memorize them like all school children who know the alphabet are upside down and straight, also combine vowels with syllables so playful We can say and affirm that he did not learn to read and write in short. As for adding, Don Francisco met and came to identify some numbers, but failed to perform the basic operations that are: add, subtract, multiply and divide.

Figure 1 ***Psychology students observe surprised how Don Francisco Gómez Cabañas reads any type of text***

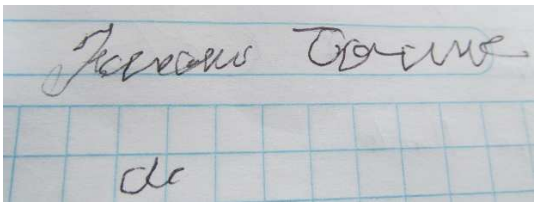
Figure 2 ***Don Francisco and his wife demonstrating their "Awake" magazines, preferred for reading***

Don Francisco is currently 96 years old and lives in the company of his family, daughter, grandchildren and great-grandchildren. The life of such a distinguished, special and unique character is of simplicity and moral order and of love and respect for God as shown in the illustrations presented. He is much appreciated, respected, loved and admired for his great determination and effort of a totally exemplary life by many young people who sporadically visit him to learn from him.

a)



b)



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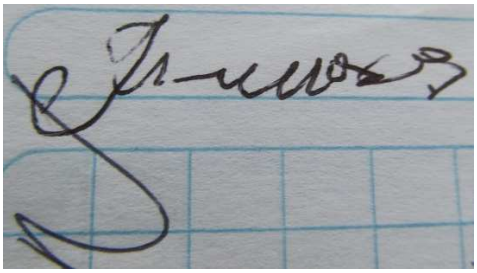

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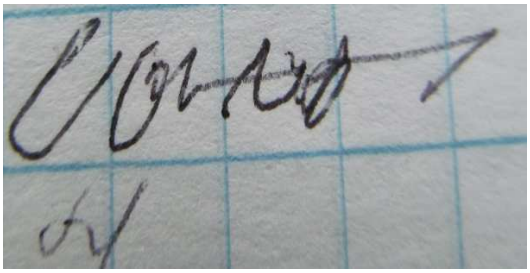

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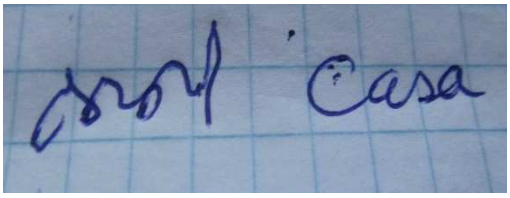

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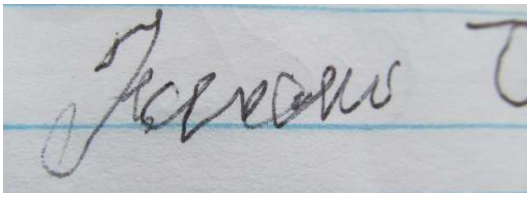
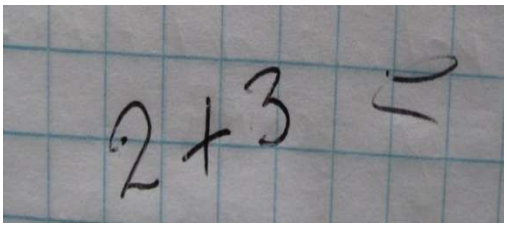


g) 

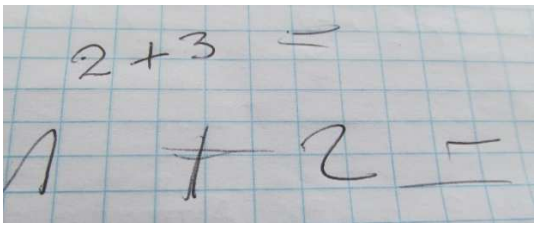
h) 

Figure 3 ***The images a, b, c, d, e, f, g and h, are photos taken on different dates visited by Don Francisco (periods 2015-2019)***

As shown in illustration 3, the different images presented represent the level of writing of our characters. At each visit they were asked to write some words or numbers and to perform calculations. To our amazement, they cannot do them if it is writing and they cannot add in the cases of written numbers; However, when any type of text is presented, its reading is fluid and the mental operations of calculation are also astonishing.

Conversing with him is amazing, exciting and we could even say magical because it breaks with the traditional teaching of reading and writing. At the end of reading this real case, dear reader, ask yourself the following question: Is our real character, Don Francisco Gómez Cabañas illiterate and ignorant?

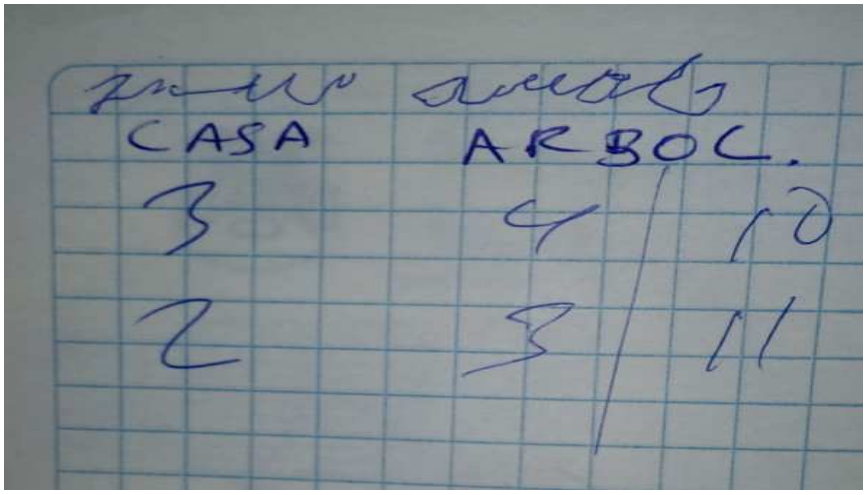


Figure 4 ***Strokes made by Don Francisco in the upper left that mean house and tree***

In figure 4, the numbers 3 and 2 are also observed 4 and 3 in which we ask you to add and evidenced that it is not possible to perform said calculation and say how much it is, but when we told you to count money provided by us, yes He knew how to do it without minor difficulty. This has been done in the presence of numerous students from different careers of the Toribio Rodríguez de Mendoza National University of Amazonas.

Figure 5 ***Don Francisco Cabaña Gómez surrounded by students of the UNTRM***

Each visit to Don Francisco Cabaña Gómez and his wife Adelina Vargas Trigoso, students are surprised by the reading skills and level of understanding achieved by this illustrious character, who without knowing how to write learned to read and add and be able to integrate into society as a religious entity.

Conclusions

In general terms, the experience gathered with Don Francisco Cabaña Gómez and his wife Adelina Vargas Trigoso demonstrates that the learning of reading is not only conventional, but can also be developed as long as they are generated in specific situations and respond to real needs of communication that unfold cognitive processes and their self-regulation.

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INFLUENCE OF THE TELEVISION PROGRAM "AULA365" IN THE LEARNING OF CHILDREN

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Abstract. *The objective of the research was to determine the influence of the interactive television program "Aula365" in the learning of children in the fourth grade of the primary level of the Educational Institution "Seminario Jesús María", Chachapoyas-Peru; for this, the quasi-experimental research design called "design with pre and post test with non-randomized control group" has been used. The non-probabilistic sample consisted of 2 sections "B" and "C" of the fourth grade, one for the experimental group and one for the control group of 30 students each, whose average age was 9 years. The study had as an independent variable the interactive television program "Aula365" and dependent on the learning variable. The instrument used was the Barranquilla Rapid Test (BARSIT) consisting of 60 items with a single weight of 1 point each item, which determined the levels of the learning variable according to a scale of predetermined values by: very lower (0-9), inferior (9-18), normal (18-27), superior (27-31) and excellent (31-60). The hypothesis was contrasted by means of the statistical parameter T-Student for two independent samples, to evaluate the influence of the interactive television program "Aula365" on student learning with a 95% probability of confidence. The results in the experimental group show that the T test was statistically significant (Tc = 4.076, p <0.05), with an average of 28.4 in the pretest and 35.7 points in the post test, which evidenced an improvement in the learning of the kids; however, in the control group the T test was not statistically significant (Tc = -1,147, 0.95, p> 0.05), with an average of 20.3 in the pretest and 20.1 in the post test. Finally, it is concluded that the interactive TV program "Aula365" positively influenced, since the children achieved an excellent learning.*
Keywords**:** *learning, primary education, influence, interaction, television program Aula365.*

Introduction

Technological advances in the XXI century, are developed considerably and as a consequence, communication practices are consolidated from the media such as television, radio, Internet, among others, with excessive possibilities of influence in education. Chavez (2004) states that although the social function of television is, in broad strokes, to cultivate values and promote culture, it is not

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necessary to educate its viewers, but there are those who suggest that every program educates, only that - the same as school, the same as home - can educate right or wrong. In this context, within the media, television is the most accessible medium for children (Díaz, Enciso, González, Mendoza, & Fonseca, 2019), since it is present in most homes and does not require complex skills to receive information, as it would be, for example to read, in the case of newspapers; Asencio (2012) states that television has both positive and negative influences on children, and it is important to analyze the influences and their effects in order to control the negative and promote the positive.

Researchers at the University of Pittsburgh and Harvard conducted a study on the habits of media consumption in 4 142 healthy adolescents, and calculated that every additional hour of television watched per day increases the probability of being depressed by 8%. (Cited by Pijamasurf, 2009). Because of its art, the most recent studies carried out in Colombia by Criado, Pallares, & Ascanio (2019), in Mexico by Díaz, Enciso, González, Mendoza, & Fonseca (2019) and in Peru by Martinez & Ureta (2019) conclude that the television programs that students watch have a great influence on behavior and learning.

The above is corroborated in observational theory or learning by observation or modeling developed by Bandura (1984), who demonstrates that human beings acquire new behaviors without obvious reinforcement and even when they lack the opportunity to apply knowledge. The only requirement for learning may be that the person observes another individual, or model, to carry out a certain behavior. Later, especially if the model received a visible reward for its execution, the observer may also manifest the new response when given the opportunity to do so. (Ruiz, 2010). Bandura (1984), highlights how, between observation and imitation, cognitive factors intervene that help the subject to decide whether the observed is imitated or not. Observation and imitation in young children model parents, educators, friends and even television heroes.

Due to the importance of the subject, the present investigation was carried out, whose objective was to determine the influence of the interactive television program “Aula365” in the learning of fourth grade primary school children of an Educational Institution; For this purpose, as specific objectives, the evaluation of learning in the understanding of vocabulary through recognition of antonyms; evaluate learning related to verbal reasoning through the recognition of synonyms, evaluate the learning of logical reasoning according to its analogous reasoning and evaluate the learning of numerical reasoning through numerical series and finally, compare the learning progress in the control study groups and experimental. In this sense, a quasi-experimental investigation has been carried out, formulated in the following question: what extent does the interactive television program “Aula365” influence the learning of children in the fourth grade of primary school of an Educational Institution? Therefore, we have

gathered the main approaches to television, in essence, the positive influences of educational-cultural television programs, in student learning. The general research hypothesis was formulated in the following terms: The interactive television program "Aula365" positively influences student learning, the results of which are described below.

Methodology

Population and simple. The population was determined by 75 students of the fourth grade of primary education of the Educational Institution "Seminario Jesús María", of the city of Chachapoyas-Peru, enrolled in the 2018 school year. However, to select the sample a sample was used by convenience, considering 2 sections: fourth grade "C" with 30 students for the control group and fourth grade "B" with 30 students for the experimental group, whose average age was 9 years.

Design of the investigation. The quasi-experimental design called "pre and post test design with a non-randomized control group" (Ñaupas, Mejía, Novoa, & Villagómez, 2013, p. 282) has been used.

Research instrument. The instrument used in the research process and with its respective measurement scale was: the Barranquilla Rapid Test (BARSIT) (Del Olmo, 1958) consisting of 60 items, which has a single weight each item of 1 point the correct one and 0 incorrect, hence it determines the levels of learning according to a scale of predetermined values of much lower (0-9), lower (9-18), medium or normal (18-27), higher (27-31) and excellent (31-60). The Barranquilla Rapid Test is a test that evaluates the learning of the person associated with their general intelligence, and is composed of 60 items that evaluate five dimensions: 1. Items that measure information or general knowledge acquired. 2. Understanding vocabulary: through recognition of opposites. 3. Verbal reasoning: is to discriminate a word that expresses a different category from others. They are 4 words that have equal category. 4. Logical reasoning: the association with a given element of its analogue, in accordance with an already known association principle; For example, the chair is for sitting, the bed is for… and 5. Numerical reasoning: an operation in which series of numbers are given that must be completed once the rule governing each series is deducted. With the exception of the numerical series, the other four are formulated with the multiple choice system.

Job overview. Initial phase: The purpose of the study was presented and socialized and consent was requested, then the pre-test was applied to both groups, constituted by the Barranquilla Rapid Test (Del Olmo, 1958).

Intermediate phase: 10 learning sessions were applied to the experimental group; Each session was planned for students in the fourth grade of the elementary

level in a time of 90 minutes, whose subjects were obtained from the Aula365 Interactive Television Program, downloaded from the official website of the YouTube channel dedicated to teaching (main website https://www.youtube.com/user/aula365tv).

The Aula365 television program was created in 2007 by Professor Pablo Aristizabal in the country of Argentina. Aula365 stimulates collaborative intelligence, favors the learning process and motivates learning through a social platform based on participation and collaboration in a safe environment. Through a series of multimedia and interactive content and with its own pedagogical model, all classified by age and grades, Aula365 brings parents and children together in an innovative teaching-learning process. Aula365 currently has more than 3 million users, including students, parents and teachers from Argentina, Chile, Peru, Uruguay, Mexico, Colombia, Italy, Spain, Brazil and the United States (World Summit Award, 2013).

The downloadable videos of the channel, have as subtitle: "*Educational videos for children*". The interactive educational programs downloaded and applied to the experimental group were the following:

1. *How to use punctuation marks*
2. *Own and common nouns*
3. *How are verbs conjugated*
4. *Synonyms, antonyms and paronyms*
5. *Can you guess all the series*
6. *World maps: physical map and political map*
7. *How much do you know about math? Multiplication, division, fractions, angles*
8. *How to add and subtract fractions?*
9. *How to add and subtract with numerical scales*
10. *The geometric figures*

The themes were developed through the workshop technique, through videos. Each video on average has a duration of seven to ten minutes, so the remaining time is spent interacting on the topic presented and in the resolution of application activities and practices.

The 10 videos chosen and with which the learning sessions were planned, obey the five dimensions that the Barranquilla rapid test evaluates.

Final phase: The post test was applied to both control and experimental groups, constituted by the Barranquilla Rapid Test (BARSIT).

To statistically assess the results, we have operated with the contrasted differences in each group between the pre test and the post test. To these differences the statistical parameter T-Student has been applied, with a significance level of 0.05 or 5% and a confidence level (Z): 1.96 (95%). Finally,

the statistical hypothesis was contrasted, deciding whether the hypothesis (H0) is accepted or rejected based on the comparison of the calculated T and tabulated T.

Finally, the processing and tabulation of the information obtained from the pre test and post test of the sample under study, was carried out with the help of the Microsoft Excel 2013 spreadsheet and the statistical software SPSS V.23.0.

Results of the research

In table 1, the averages obtained from the pre and post test in the control group in relation to the learning variable are analyzed, and it was found that in the pre test and post test 6.67% of the students, according to the learning scale they presented excellent and superior learning, without observing differences; This is due to the absence of stimulus in the control group; Likewise, it was found that of the 30 students evaluated in the control group, in the pre-test, 46.7% presented normal learning and in the post-test it amounted to 50%. Similarly, 36.6% in the pre-test and 30% in the post-test, presented a learning below the scale and only 3.33% in the pre-test and 6.66% in the post-test presented a learning much lower than the scale.

Table 1 ***Learning of the control group students in the pre and post test***

Learning scale	Pre test		Post test	
	f_i	%	f_i	%
Excellent (31–60)	2	6.67	2	6.67
Superior (27–31)	2	6.67	2	6.67
Normal (18–27)	14	46.7	15	50.0
Bottom (9-18)	11	36.6	9	30.0
Very lower (0 - 9)	1	3.33	2	6.66
Total	30	100	30	100

Source: Pre test and post test of the control group.

Table 2 shows the difference in averages obtained in the experimental group before and after the application of the interactive television program Aula365 as a stimulus. The results of the pre-test determined that 23.3% of the students presented excellent learning, 53.4% presented a higher learning, 23.3% a normal learning and no student was in a lower or much lower learning than normal; however, in the post test, after applying the interactive television program Aula365, the scores rose significantly, that is, all students achieved excellent learning, whose scores are in the range of 31 to 60, with marked differences one more What others; Therefore, it is clear that the use of educational-cultural programs such as Aula365 used as tools and teaching-pedagogical means,

positively influence student learning, also reinforcing their skills, abilities, abilities and attitudes of learning.

Table 2 ***Student learning before and after stimulation in the experimental group***

Learning scale	Pre test		Post test	
	f_i	%	f_i	%
Excellent (31–60)	7	23.3	30	100
Superior (27–31)	16	53.4	0.0	0.0
Normal (18–27)	7	23.3	0.0	0.0
Bottom (9-18)	0	0.0	0.0	0.0
Very lower (0 - 9)	0	0.0	0.0	0.0
Total	30	100	30	100

Source: Pre test and post test of the experimental group.

On the other hand, table 3 shows the difference in averages according to the dimensions of the learning variable in the experimental group before and after applying the interactive television program “Aula365”. These dimensions correspond to the Barranquilla Rapid Test (BARSIT), which quickly assesses the learning of the person associated with their general intelligence. Consequently, as a result a clear difference was found in student learning of 7.33 points with respect to pre and post test. Likewise, in each of the dimensions of the learning variable, significant differences of 0.2 are shown in general knowledge, 2.2 in vocabulary comprehension, 1.8 in verbal reasoning, 1.5 in logical reasoning and 1.6 in numerical reasoning. Such averages quantitatively corroborate the influence of the interactive television program “Aula365” on student learning.

Table 3 ***Average learning scores in the students of the experimental group before and after applying the interactive television program “Aula365”***

Dimensions	Test	Average	Dif. Averages
Student learning	pre test	28.40	7.33
	pos test	35.73	
General knowledge	pre test	5.5	0.2
	pos test	5.7	
Vocabulary comprehension	pre test	5.8	2.2
	pos test	8	
Verbal reasoning	pre test	5.5	1.8
	pos test	7.3	
Logic reasoning	pre test	5.8	1.5
	pos test	7.3	
Numerical reasoning	pre test	5.8	1.6
	pos test	7.4	

Source: Pre test and post test of the experimental group.

Similarly, table 4 shows the difference in averages according to the dimensions of the learning variable in the control group. As you can see the differences in each of the dimensions were minimal or almost nil; since, all this is due to the fact that in the control group there was no presence of stimuli, that is, it was a control group that allowed us to compare the effect of the independent variable on the dependent one.

Table 4 ***Difference of averages in the pre and post test according to dimensions of the learning variable in the control group***

Dimensions	Test	Average
Student learning	pre test	20.37
	pos test	20.07
General knowledge	pre test	4.07
	pos test	4.09
Vocabulary comprehension	pre test	4.08
	pos test	4.09
Verbal reasoning	pre test	4.07
	pos test	4.40
Logic reasoning	pre test	4.07
	pos test	4.40
Numerical reasoning	pre test	4.08
	pos test	3.09

Source: Pre test and post test of the control group.

To determine the significance of the results, the hypothesis was contrasted using the T-Student statistical parameter for two independent samples, to evaluate the influence of the interactive television program “Aula365” on student learning. This procedure helped us to test the null hypothesis that the means of two samples do not differ from each other, since the groups were independent, as shown in table 5.

Table 5 ***Student T test to stop independent samples in the experimental and control group***

Experimental group						
Description	Pos test	Pre test	Dif. Stockings	T calculated	T tab (58,0.05)	P<0.05
Average	35.72	28.40	7.32	4.076	2.002	0.000 (significant test)
Variance	59.45	37.36				
Dev. stand	7.71	6.11				
Sample	30	30				
Control group						
Average	20.08	20.30	-0.22	-1.147	2.002	0.884 (non-significant test)
Variance	33.92	33.72				
Dev. stand	5.82	5.81				
Sample	30	30				

Source: Pre test and post test of the experimental and control groups.

In table 5, we observe that in the experimental group there is a statistically significant difference (mean difference = 7.32, P <0.05, tcalc = 4.076> = 2.002), in the average student learning scores before and after applying the program "Aula365" interactive television, this means that said educational television programs did influence improving student learning. However, in the control group we observe that there is no statistically significant difference (mean difference = -0.22, P> 0.05, tcalc = -1,147 <ttab = 2,002), in the average student learning scores, this means that by The absence of such educational television programs did not influence the improvement of student learning.

Finally, in Figure 1 we can see graphically that the average student learning scores in the experimental group before and after applying the interactive television program "Aula365" (post test = 35.72 points, pre test = 28.40 points), yes they influenced student learning, however, in the control group as no stimulus was applied (post test = 20.08 points, pre test = 20.30 points), there was no difference in the average student learning scores.

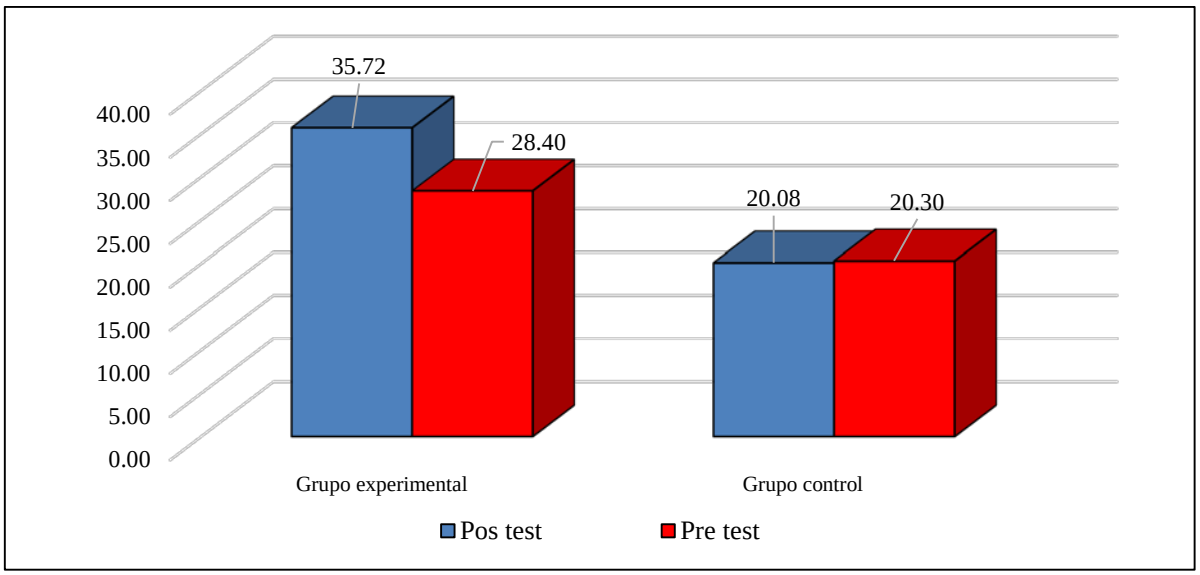

Figure 1 ***Comparison of pre test and post test averages, in the experimental and control group*** *Source: Pre test and post test of the control and experimental group.*

Discussion

From the findings found, we accept the research hypothesis that states that the interactive television program "Aula365" positively influences student learning, since in the pre-test the average was 28.40 and in the post-test of 35.72 points, whose difference in means was 7.32; however, in the control group in the pre-test an average of 20.30 was obtained and in the post-test of 20.08 (mean difference of -0.22). The results are compared with those obtained by Sanz (2019)

who, when evaluating the influence of the television contents of "Prodigiosa: the adventures of Ladybug" and "Peppa Pig" in 403 students from 6 to 8 years, distributed in seven schools among audiences and deprived of 1 and 2 of primary education of the community of Madrid that observed these programs, found that they do exert an influence on the behaviors, values and attitudes of the children; both the positive and negative behaviors of the series influence the little ones when acquiring and developing values such as responsibility, social skills, conflict resolution, friendship, respect and acceptance of the other, in which the vast majority put into practice such behaviors, 77.17%; However, the children of the private centers, who are the ones who visualize the series to a lesser extent, are the ones who have the least internalized values, 65.71%, compared to 75.23% and 82.88% of the children public and concerted centers, respectively. Such research coincides with ours, in the sense that both programs positively or negatively influence children, in our case positively because only educational programs that managed to increase student learning were used as a stimulus.

For its part, Durán (2019) shows that of 100% of children who see cartoons, whether with negative or positive content, 28% of children do not exhibit aggressive behavior, while 72% of children They exhibit aggressive behavior. This research reinforces what was found in ours, by showing that the child learns what is in front of him or what the model wants him to learn.

Similar results were also found by Vásquez (2019), who, when experimenting with children between 7 and 9 years old, was able to show reality television shows that influence children, since children are imitators of the behaviors of the characters affecting their development. Another aspect to consider should also be whether children are exposed to television, alone or in the company of an adult or if the programs they watch is the one for their age. Faced with the above, Sanz (2019) found that in the majority they do not usually watch television accompanied, only 9.93% of 403 children who investigated, always see it in the company of an adult. 29.78% always see it alone, which is a relatively high percentage. 60.05% of children are in front of the TV screen sometimes alone and sometimes accompanied by an adult.

The results obtained in this research are also compared with Martinez & Ureta (2019) who found that the television programs that students observe have a great influence on behavior and learning, since this leads to forgetting their tasks, not pay attention to the class by commenting on allusive topics to their favorite show; Likewise, it is reflected in their attitude, and the way they express themselves to their peers is violent and aggressive regardless of the well-being of their peers and the consequences that this can cause. Such results differ from ours. On the other hand, Alonso & García (2016) in interactive digital television, conclude that the modern paradigm of digital convergence towards interactive television implies that the model is turning towards a transmedia communication

that moves an integrated message through multiple media, languages and platforms.

The results obtained are contrasted with the research carried out by Asencio (2012) where he concludes that 100% of children who watch television and that most of their time is spent in front of a television, causes aggressive behaviors, in the same way they receive Negative attitudes and bad habits for its development. He also concludes that children prefer to watch more cartoons with violent content, than with educational programs and that television abuse has a negative influence on school performance. However, it is not entirely true when television is given a pedagogical value. On the other hand, educational and cultural television programs show us great advantages for achieving desired behavior as well as more solid learning, however, they are the most scarce in Latin America, because, on the one hand, they have a high cost, and usually they have very little audience (Berrú, 2007). Definitely, these contributions are based on the analysis criteria, which in the present investigation has been highlighted, since, in the local context of Chachapoyas, Amazonas-Peru region, there is no emphasis on television programs of a purely educational and cultural nature.

For these reasons, the research carried out, has given rise, to verify that television would be an excellent medium and a powerful tool in didactic and pedagogical matters if one knows how to use, as evidenced by the results of the present investigation that in the group Experimental, of 24.40 in the pre test, the television program “Aula365”, positively influenced learning at 35.72%, making a clear difference.

Conclusions

The application of the interactive television program “Aula365” positively influenced the learning of children in the fourth grade of the primary level of the Educational Institution “Seminario Jesús María”, Chachapoyas, since an excellent learning scale was reached, rising from an average of 28.4 in the pre test to 35.7 points in the post test.

The application of the interactive television program “Aula365” positively influenced the learning of vocabulary comprehension through antonym recognition, since, from 5.8 points in the pre-test, it amounted to 8 average scores in the post-test.

The application of the interactive television program “Aula365” positively influenced learning related to verbal reasoning by recognizing synonyms, since, from 5.5 points in the pre-test, it reached 7.3 average scores in the post-test.

The application of the interactive television program “Aula365” positively influenced the learning of logical reasoning according to the child's similar

reasoning, since, from 5.8 points in the pre-test, it amounted to 7.3 average scores in the post-test.

The application of the interactive television program "Aula365" positively influenced the learning of numerical reasoning through numerical series, since, from 5.8 points in the pre-test, it reached 7.4 average scores in the post-test.

There are significant differences in learning progress in the control and experimental groups; in the experimental group the difference was positive of 7.32 points and in the control group it was negative of -0.22.

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AUDIOTACTILE MAPS AS A FACILITATING ELEMENT IN SPATIAL ORIENTATION AND MOBILITY

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Abstract. *Tactile graphics represent an important means to overcome or alleviate the information deficit resulting from the loss of visual perception. The research framework of the paper is focused on a primary probe into the field of application of tactile graphics in the spatial orientation of people with visual impairment in the sense of development of spatial imagination and improvement of independent movement through the use of audiotactile maps. The chosen topic is viewed from the perspective of professionals working with people with visual impairment as well as the clients with visual impairment themselves. Partial results of the study are presented, focusing on the overall attitude of people with visual impairment to tactile graphics and their application potential, which adds to the overall picture of contemporary reality in the field of tactile graphics, with an emphasis on usability in spatial orientation and independent movement. The research has shown the considerable potential of tactile graphics in the development of spatial imagination. In connection with these conclusions, modern 3D maps with auditory elements were designed and will be also presented in the paper.*
Keywords: *audiotactile maps, people with visual impairment, spatial orientation and mobility.*

Introduction

The aim of the submitted contribution is to introduce a research framework in the area of tactile graphics with emphasis on the field of spatial orientation and individual mobility.

Tactile graphics intended for persons with visual impairment can represent a significant means of overcoming or reducing the information deficit originating due to restriction or loss of visual perception.

Despite the current preference for information received auditorily, tactile graphics still remain a significant information carrier. What is key is the function of tactile graphics in terms of improvement and support of the dynamic development of perception. In response to improved perception, the imagination develops - spatial ideas are refined, deepened and extended, as is thinking in terms of integration of the individual elements into a whole with respect to exploration

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of the surrounding world (Finková, Ludíková, & Růžičková, 2007; Růžičková, Kroupová, & Vondráková, 2018). Practically, tactile graphics is primarily of benefit within the area of spatial orientation and independent mobility, in particular, in terms of tactile plans and maps.

Searching for other ways to improve the spatial knowledge of and ignite the spatial imagination of persons with visual impairment is an important challenge faced by contemporary society. A number of studies focused on the application of tactile graphics, especially in the area of spatial orientation and tactile maps – for example Caddeo, Fornara, Nenci, & Piroddi, 2006; Espinoza & Ochaita, 1998; Espinoza, Ungar, Ochaita, Blades, & Spencer, 1998; Jacobson, 1992, 1998; Jacobson & Kitchin, 1995; Passini & Proulx, 1988; Thorndyke & Hayes-Roth, 1982; Ungar, 2000 (Kroupová, 2019).

The ability to move efficiently depends on the ability to construct and use a mental representation of the surroundings (Picard & Pry, 2009). The process whereby the spatial pieces of information are integrated into a mental representation is called cognitive mapping (Downs, Stea in Picard, & Pry, 2009). The aforementioned mental representations can be based both on direct, explicit knowledge of the route (mastered based on practice with instructor), and on mediated knowledge of the route through tactile maps or plans (Thinus-Blanc, Gaunet in Picard, & Pry, 2009).

The ability to construct efficient spatial representations develops gradually during life (Siegel, White in Picard, & Pry, 2009). Various authors point out the fact that deficiencies in the spatial skills of persons with visual impairment do not reflect a low level of education but rather an alternative means of embracing space in terms of coding and behavioural strategy (Thinus-Blanc a Gaunet in Picard & Pry, 2009). It is tactile maps that prove to be the relevant tools for increasing the knowledge of spatial configuration in the population of persons with visual impairment (Espinoza et al.; Ungar et col. in Picard & Pry, 2009). The results of these studies have shown that tactile maps help in creating spatial relationships better than direct experience in a real environment (Caddeo et al., 2006; Jacobson, 1998 in Picard, Pry, 2009) (Kroupová, 2019).

One such option of making tactile map is the use of 3D printing. 3D printers are currently a relatively inexpensive solution for rendering reality in tactile form. As part of our contribution, we would like to focus on introducing a project that presents space for people with visual impairments using audio-tactile maps. The production of tactile maps has a long history thanks to the Department of Geoinformatics and its cooperation with the Institute of Special Education Studies. Although expensive 3D gypsum maps were produced from in 2010, we have now begun production on a new generation of maps.

This new generation of maps is based on the possibility of printing parts of the map with conductive material, which behaves as a conductor when

encountering a touch screen (mobile phone, tablet or monitor) and thus triggers a special sounding part of the screen (see figure 1a). These will be presented in the last part of the paper.

Methodological framework

The scope of this research is focussed on a primary probe of the applicability of tactile graphics in spatial orientation and independent mobility among professionals and persons with visual impairment. The key premises of our study focus on the overall approach of persons with visual impairment to the use of tactile representation, the practical applicability of these representations within Orientation & Mobility, and the opinions of the professional public on the graphic representation as well as on the nature of this type of representation.

Based on the study of specialised literature and resources, several key questions arose:

1. What is the information benefit of tactile graphics for persons with visual impairment?
2. What is the applicability of tactile graphics within the area of spatial orientation and independent mobility from the perspective of visually impaired persons?
3. What is the information benefit of tactile graphics in the context of spatial orientation from the perspective of professionals working with people with visual impairment?
4. What should the characteristics of tactile graphics be, from the perspective of persons with visual impairment and interested professionals?
5. Does major society have adequate tactile elements in public space?
6. Are tactile graphics commonly used in activities of daily living of people with visual impairment?
7. Do tactile graphics also fulfil an aesthetic function for persons with visual impairment?

We proposed a quantitative research design that was represented by a questionnaire method. The primary research set was saturated based on intentional selection and the respondents were selected based on their visual impairment regardless of the degree. The secondary research set was made up of professionals working with persons with visual impairment.

The primary research set consists of 15 respondents of different ages (mostly young adults) with various visual impairments. Two thirds of the primary research file respondents are persons with congenital severe visual impairment or an impairment which originated at an early age (blindness, residual sight, severe vision impairment), which can be considered as a significant indicator of the

research validity. The secondary research set contains 16 professionals with various practice length, with 60% of professionals in practice longer than 15 years. These data imply adequate competences for assessment of the area of interest and highly relevant opinions of professionals. Moreover, 60 % of the respondents completed a course, training or workshop focusing on tactile graphics for persons with visual impairment.

Respondents from the research sets were administered a questionnaire consisting of open items with space for free association and closed items with scaling. The data collection was implemented through on-line communication (organisations in the territory of the whole Czech Republic were addressed). At the same time, the snowball sampling method was applied, for ensuring sufficient saturation of the research sets.

Within the data analysis, illustrative methods of representation in the form of tables were used. Considering the insufficient saturation of the research sets, it was not possible to test the data statistically; therefore, the interpretation has an a priori descriptive and qualitative nature. A few questions were aimed at providing a free associative space for the most authentic answers – therefore, we will not cross the borders of pure description in the analysis and interpretation and will utilise the methods intended for qualitative research primarily (bunching, contrasting, etc.). Due to the above, it is not possible to generalise the acquired data; therefore, the results will be interpreted predominantly in relation to theory (Kroupová, 2019).

Findings

The result of our study is a unique complex image of the current reality regarding tactile graphics intended for persons with visual impairment. Emphasis is placed on the information benefit of those graphics in the field of spatial orientation and independent mobility, from the perspective of persons with visual impairment and professionals working with persons with visual impairment. Part of this research, mostly qualitative data, was introduced at 10th ICEEPSY 2019, the 10th International Conference on Education & Educational Psychology and was published in The European Proceedings of Social and Behovioural Sciences, EPSBS. Qualitative data analysis revealed the dominance of cartographic information in tactile representation, in particular in relation to the mobility and orientation in persons with visual impairment.

The following section contains evaluation in terms of pure description of results using tables with percentage values. Considering the low saturation of the research sets, it is not possible to test the data statistically. The results only provide an input illustrative scope of the topic in question.

Table 1 ***Tactile information as the support element in O&M***

Tactile information as the support element in O&M	**Primary research set (relative frequency)**	**Secondary research set (relative frequency)**
Yes	26.7 %	87.5 %
No	73.3 %	12.5 %
Specific elements	Guide lines Tactile pavement Maps Intersection plans Working with details	Guide lines Tactile pavement Maps Route plans Plans of important buildings, municipality, stations

The discrepancy in the attitude of persons with visual impairment and the professional public can be considered rather disturbing; however, the enumeration of particular tactile elements in the spatial orientation corresponds in both research sets. The said discrepancy could be caused by inadequate understanding of the term “typhlography” in relation to spatial orientation.

Table 2 ***Experience with tactile maps***

Experience with tactile maps	**Primary research set (relative frequency)**	**Secondary research set (relative frequency)**
Yes	66.7 %	93.8 %
No	33.3 %	6.3 %
Benefit	33.3 %	62.5 %
Place of exposure	School	Institutions and organisations for persons with visual impairment Studies Within O&M teaching Own production In educating pupils with visual impairment Embossments in town centres Exhibition
Comment		“They are more suitable for additional illustration of the terrain situation rather than as an exclusive source of information.”

Both research sets confirmed considerable experience with tactile maps. What we consider as positive is the dominance of school as the mediator of contact with tactile maps. However, it is important to note that there are two school streams that members of our primary population may enter: special education versus inclusive (mainstreamed) schooling, and the tools utilised in special education settings are not often available in mainstream classrooms. For

illustration, we provide one of the comments of a professional respondent: "(…) in inclusive education (common school), I think they will not come across typhlographics at all. In schools for children with visual impairment, I hope they do (…)." This item also accentuates the role of relief maps in spatial orientation.

Table 3 ***Demand for 3D models***

Demand for 3D models by persons with visual impairment	**Primary research set (relative frequency)**	**Secondary research set (relative frequency)**
Yes	80.0 %	93.8 %
No	0.0	0.0
I don't know	20.0 %	6.3 %
Comment		It would surely be suitable (to increase the number of 3D models of monuments) – in rinciple, but I believe that it would not increase the number of visually impaired visitors and their interest – this option would be still used by the same persons.

The results confirm a greater demand for tactile information in the public space than has been met at this time, which was also evident within the high-quality data analysis.

Table 4 ***Awareness of current trends in typhlocartography***

Awareness of the new possibilities of connection to haptic and auditory information	**Primary research set (relative frequency)**	**Secondary research set (relative frequency)**
Yes	73.3 %	81.3 %
No	26.7 %	18.8 %

Respondents from both research sets confirm a sufficient level of awareness regarding modern trends in the field of typhlocartography. However, the absence of typhlocartographic elements in public space remains an issue.

In correspondence with our assumption, tactile graphics dominated in the area of spatial orientation, with the role of tactile maps, plans and 3D models being emphasised across a majority of the items examined (Kroupová, 2019).

We also dealt with other aspects of research (eg information contribution of tactile graphics, possibilities to overcome the information deficit, development of spatial imagination, contribution to spatial orientation). Interestingly, in most cases both research sets were in conflict with each other. However, respondents from both research sets agreed on the benefits of tactile graphics for area of spatial orientation and independent mobility. These aspects were presented at 10th

ICEEPSY 2019, the 10th International Conference on Education & Educational Psychology and was published in The European Proceedings of Social and Behovioural Sciences, EPSBS. Further research results are available in the aforementioned conference proceedings.

Practical applications

The results of the survey presented above showed us another possible way to improve the training of spatial orientation, in addition to strengthening the image of the surroundings, or repeating some of the routes already used. This option is working with maps and plans. Maps as the most ubiquitous products of geovisualisation are a natural part of humankind because most of the information around us is linked to the geospatial location. More than 85% of our perceptions are received by eyesight; therefore the majority of maps are produced for reading with eyes. In general, people with visual impairment perceive the world differently, so the creation of a tactile map for these users is conceptually different, more expensive and more difficult compared to normal maps.

The content of maps and their form must be relevant to the level of education In general, user issues in cartography focus on map use, cognitive aspects, user needs, and user preferences. User issues are essential in cartographic education and cartographic research, and their importance is growing with the specificity of requirements for the training of people with visual impairments. (Vondráková & Růžičková, 2018; Vondrakova, 2016)

Since 2018, the project TACR (Technical Agency of the Czech Republic) Perception of geospatial via 3D audio-tactile maps has been in progress at Palacký University in Olomouc. This project is currently in the final third and we can share some of the conclusions that have come from testing both classical tactile plans and maps, as well as their audio-tactile versions.

“The output of the project will be the prototype of the tactile-auditory maps, which are created by the 3D printing method with a link to the TactileMapTalk software (figures 1a, 1b). The software, together with the printed series of maps, will be the central tool for audio tactile learning. TactileMapTalk will teach users how to work with the map, following the sub-tasks in the educating materials. As a result, the user will be able to effectively use the map with the iPad while practicing a separate movement. The software will be created under an open Creative Commons license. The map set is composed from sub-maps which represent the parts (data layers) that a visually impaired individual learns to recognize. A comprehensive map containing all layers is then better to understand and the user gains the skills to work with similar tools automatically. The upcoming 3D map type has not been created yet in any research. Good training

will be required to understand and manage the orientation in the map.“ (Hrbacova & Ruzickova, 2018)

Figure 1a ***Set of maps with tablet***

Figure 1b ***Tablet with a map***

The maps have been tested by a wide range of users - both in terms of age and the degree of visual impairment. The maps were tested both in schools for pupils with visual impairments and in organizations for people with visual impairments.

The main outcomes of testing were the following:

- For people with severe visual impairment, the contrast should be considered - maps were printed in blue, yellow and red, but after the first testing, the yellow colour was replaced with white.
- By blind people - perhaps the most interesting outcome was a finding we had been aware of from the beginning of the project. With 3D printers, maps can be printed with greater accuracy and fewer distances between two edges or two points, in comparison to traditionally produced maps.

  “Tactile graphics is understood as a special scientific discipline dealing with graphic presentation for the blind persons. The fundamental elements of tactile graphics are relief point, relief lines and relief pattern (texture). It is not allowed to exceed the minimum dimensions in the graphic realization of tactile maps. The tactile graphic elements, their mutual distances and other fundamental parameters are defined as follows by Jesenský: relief point – minimum diameter at the base of 1.2 mm, minimum height of the relief point 0.75 mm, minimum spacing of 1.2 mm at the base and minimum spacing in the top 2.4 mm; relief line – preferably a parabolic shape with a height to width ratio of 3:2; relief pattern – the width of the baseline depends on the used technology, the smallest width of two relief pattern and two embossed edges, 3 to 5 mm. Additionally, it is important to adapt the suitable size of the map according to user needs. This is the main reason why it is

really important to implement user studies into the research dealing with tactile cartography and tactile map production." (Vondráková, Růžičková, & Barvíř, 2018)

- For both groups of respondents were linking tactile maps with voice guidance, instructions, and tasks, which is equipped with our software for tablets motivating and interesting.

Conclusions

Spatial orientation is an integral part of our lives and at the same time it is one of the areas that is the most significant sending to people with severe visual impairment as a result of loss of visual perception.

Spatial orientation and independent movement have long been seen in terms of the need for long-term training and remembering the route. From the beginning everything was based on the individual's abilities and verbal description associated with the experience. Then we began to think about how to translate space into a tangible form, and we gradually moved from plans and maps engraved in clay or sand, to those made of various felt and materials glued to each other. However, this is not enough in modern times and is also unnecessary becase we now have a large number of available 3D imaging methods. In our paper, we focused on two basic things - perception of space, typhlography and the connection of these two areas from the perspective of people with visual impairments and experts, and then a brief delimitation of the project dealing with audiotactile maps.

Our intention in the investigation was to probe a selected area of interest and to identify interesting aspects that could be explored within an applied research program. Obviously, tactile graphics have an ideal information potential especially in the area of spatial orientation and limited mobility. The aspects identified above can be a useful guide for designing applied research.

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РОЛЬ ВЫБРАННЫХ РАБОТНИКОВ УЧЕБНОГО ЗАВЕДЕНИЯ В ИНКЛЮЗИВНОЙ СИСТЕМЕ ОБРАЗОВАНИЯ ЧЕШСКОЙ РЕСПУБЛИКИ

The Role of Selected School Staff in the Inclusive Education System of the Czech Republic

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Abstract. *The inclusive trends of the mainstream of the education system in the Czech Republic not only affect legislative and economic changes, but the quality education platform is also determined by the arrangement of normal conditions in such a way as to create adequate space for all participating individuals. The key role of quality education in inclusive education is played by both the guidance system and the pedagogical and non-pedagogical staff of individual schools. Qualitatively Oriented Research of the Student Grant Competition of the Palacký University in Olomouc "Research of inclusion in individuals with special needs" (IGA_PdF_2019_024) builds on several years of research of the Institute of Special and Educational Studies. From the methodological point of view the qualitative design of the research was chosen. The research uses qualitative methods of data collection - in the form of semi-structured interviews. The individual data obtained from the research sample were transcribed and the data processed using the open coding technique in R Core (R Core Team, 2019). The research sample consisted of special educators, educational advisors and class teachers at the second stage of primary schools in the Czech Republic and contained interviews from 20 respondents in each category. Although the results of the research have shown the overall coherence of the system of care for individuals with special educational needs, this is largely influenced by the lack of awareness among individual school staff about the competences of all stakeholders in education. The individual settings of individual schools make it difficult to identify the general characteristics of an ideal model of collaboration between teaching staff, but despite this high variability, the core needs of all groups have been identified, which can be divided into administrative matters, mutual relations and communication.*
Keywords: *inclusion, class teacher, special educator, educational counselor, elementary school, relationships.*

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Введение
Introduction

Система образования Чешской Республики, с учетом законодательных изменений в сфере образования, старается реализовать инклюзивные тенденции в образовании. Как видно по Таблице 1, составленной на основании анализа данных, полученных из статистических ежегодников Министерства образования, молодежи и спорта, все большее число учащихся с особыми образовательными потребностями (в дальнейшем по тексту ООП) получают образование в основном образовательном потоке (т.е. в школах общего типа).

Таблица 1 ***Число школьников с особыми образовательными потребностями в общем образовании в Чешской Республике***
Table 1 ***Number of pupils with special educational needs in basic education in the Czech Republic***

	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019
Школьники с ООП в основном образовании	45 853 (100%)	49 225 (+7,35 %)	53 206 (+8,09 %)	68 419 (+28,59 %)	76 037 (+11,13 %)

Источник: MOMC (2019)

Это все увеличивающееся число школьников с ООП логически влечет за собой необходимость качественной поддержки таких учеников в системе образования. При внедрении мер поддержки школьников с ООП играют роль не только организационные меры, обеспечивающие достижение качественных результатов образования, но также кадровые меры. При этих обстоятельствах необходимо проверять, какую позицию занимают педагогические работники, составляющие согласно Закону № 563/2004 Свода законов о педагогических работниках в редакции более поздних предписаний наибольшую долю в обеспечении качества образования, по отношению к собственному образованию учеников с ООП, и как они в рамках этого образования сотрудничают с акторами, участвующими в образовании.

Предусмотренное исследовательское расследование тесно связано с предыдущими исследованиями Института специальных педагогических исследований Университета Палацкого в г.Оломоуце (Michalík, Baslerová, Růžička et al., 2018; Růžička, Smolíková, Flekačová, Baslerová et al., 2019). Намерение заключается в том, чтобы расширить исследовательскую базу за счет подходов, роли осведомленности, потребностей, взглядов и оценки актуальной школьной системы с точки зрения классных руководителей,

учителей-консультантов по воспитанию и специальных педагогов на второй ступени школ общего образования (5-9 классы) в Чешской Республике. Несмотря на факт, что темой школьных работников занимаются многие отечественные специалисты, необходимо постоянно отслеживать и оценивать быстро меняющуюся концепцию совместного образования с точки зрения отдельных работников (Langer, 2016; Růžičková et al., 2018; Michalík, Baslerová, Růžička et.al., 2018; Růžička, Smolíková, Flekačová, Baslerová et al., 2019). Таким образом, целью настоящего исследования является отражение изменений в системных настройках отдельных школ.

Методология
Methodology

Главной целью исследовательского расследования являлось определить, проанализировать и описать позиции педагогических работников (классного руководителя, учителя-консультанта по воспитанию и школьного специального педагога) в контексте образования учеников с особыми образовательными потребностями на второй ступени школ общего образования в Чешской Республике.

Частичные задачи исследования касались a) анализа специфик коммуникации и взаимоотношений, b) административных работ, связанных с данной работой c) специфик трудовых ролей по всем категориям исследовательской выборки.

Для выполнения плана исследования был выбран качественный дизайн исследования. Для исследовательского расследования был применен метод сбора данных в форме полуструктурированных интервью. Решение о выборке респондентов и ее распределении было принято на основании встреч двух фокус-групп, в которых приняли участие как отдельные сотрудники школ общего образования, так и эксперты из академического сообщества. Выборка исследования включала: специальных педагогов, учителей-консультантов по воспитанию и классных руководителей на второй ступени школ общего образования (5-9 классы) в Чешской Республике, причем в каждом крае (в соответствии с территориально-административным делением ЧР) в исследовании должен был участвовать всегда один школьный специальный педагог, классный руководитель и учитель-консультант по воспитанию. Данные исследования содержали высказывания 20 респондентов от каждой категории (т.е. всего 60 респондентов).

Организация, календарный план и отдельные этапы исследования охватывали период с марта 2019 года по январь 2020 года:

1-й этап: Изучение литературы, формулировка основных теоретических положений (F1)
2-й этап: Подготовка исследовательского проекта, встречи фокус-групп (F2)
3-й этап: Формулировка вопросов для интервью и обращение к респондентам (F3)
4-й этап: Проведение интервью с отдельными респондентами (F4)
5-й этап: Анализ и интерпретация результатов отдельных частей расследования (F5)
6-й этап: Качественная обработка результатов (F6)
7-й этап: Формулировка выводов исследования (F7)

В рамках фокус-групп были определены тематические области и сформулированы открытые вопросы, содержание которых опиралось на действующие стандарты и законодательные документы.

Таблица 2 ***Календарный план исследования***
Table 2 ***Research time schedule***

3/2019	4/2019	5/2019	6/2019	7/2019	8/2019	9/2019	10/2019	11/2019	12/2019	1/2020
F1	F1									
	F2	F2								
	F3	F3								
			F4	F4	F4					
						F5	F5			
								F6	F6	
									F7	F7

Интервью были записаны на диктофон, а затем транскрибированы. Для анализа данных был применен метод открытого кодирования (Strauss & Corbin, 1999) с помощью проекта RQDA (R Core Team, 2019). Анализируемый текст был с применением программного обеспечения разбит на единицы, которым был присвоен определенный код. Затем была осуществлена категоризация (Hendl, 2016). Результаты затем обрабатывались техникой «раскрытия карт», причем отдельные категории были структурированы в тематические блоки специфической фигуры или линии. Полученные данные оценивались с помощью элементов контент-анализа, и был добавлен сопроводительный текст (Švaříček & Šeďová, 2014).

Спецификация исследовательской выборки, инклюзивные/ эксклюзивные критерии были определены по встречам фокус-групп. Инклюзивные критерии исследования:

а) в школах должен работать школьный специальный педагог с минимальной нагрузкой 0,5 ставки;

b) школьный специальный педагог должен иметь опыт работы в этой области как минимум один календарный год;
c) в отдельных школах должны быть трудоустроены всегда все 3 актора исследовательского расследования. Эксклюзивные критерии исследования:
   a) исследование не будет осуществляться в школах, созданных не Министерством образования, молодежи и спорта, а другим органом,
   b) опыт респондентов в области совместного образования не будет составлять менее 5 лет.

Результаты качественной интерпретации – классный руководитель
Results qualitative interpretation results – class teacher

Специфики роли классного руководителя и содержание его работы. Из анализа интервью вытекает, что составной частью работы классных руководителей в контексте образования учеников с ООП в определенной степени является депистаж (скрининг), диагностика, сотрудничество с консультационным центром данной школы и консультационной службой для школ, педагогическое вмешательство, внедрение и оценка мер поддержки (в том числе связанные административные работы) и методическое руководство.

При депистаже и диагностике большую роль играет опыт работы классных руководителей в области работы с учениками с ООП. Классные руководители, которые занимаются депистажом, используют особенно методы наблюдения, анализа работ школьников и разговор. Наблюдение имеет длительный характер, причем его интенсивность выше в начале учебного года.

В диагностике классные руководители принимают участие в особенности так, что они помогают консультационной службе; с точки зрения данной помощи они реализуют наблюдение школьника и анализ его работ, причем они отслеживают аспекты, определенные названной службой. Содержанием являются, в особенности, сведения о процессе обучения, проявлениях школьников в коллективе и вне коллектива учеников. Не смотря на факт, что по вопросу диагностики и депистажа все учителя одинаково говорили, что они сотрудничают с консультационной службой, данная коммуникация не всегда является непосредственной, т.е. учитель при общении с консультационной службой использует посредника (учителя-консультанта по воспитанию, школьного специального педагога, директора школы, родителя ученика с ООП). Не все учителя данного посредника воспринимают положительно, в некоторых ситуациях,

следовательно, классный руководитель чувствует себя отрезанным от событий и не уверен в том, что его мысли будут интерпретированы надлежащим образом. Тех, кто с консультационной службой для школ общаются напрямую, устраивает, как правило, частота коммуникации 1 раз в месяц, а по потребности в тот момент, когда появляется „проблема“. Время от времени классные руководители осуществляют педагогическое вмешательство так, как это изложено в Постановлении № 27/2016 Свода законов, об образовании школьников с особыми образовательными потребностями и школьников одаренных. О том, будет ли у ребенка осуществляться педагогическое вмешательство и в каком объеме, принимает решение консультационная служба. Но в большинстве случаев речь идет о подготовке к урокам, включая выполнение домашних заданий, и о поддержке развития компетенций школьника с ООП.

Относительно внедрения в обучение и оценки мер поддержки детей с ООП обнаруживается у классных руководителей разнообразие в ответах. Некоторые классные руководители во внедрении мер поддержки участия не принимают, другие берут на себя полную ответственность за меры поддержки, а некоторые разделяют эту ответственность, например, с ассистентом педагога или же с учителем-консультантом по воспитанию. Классные руководители понимают оценку мер поддержки как получение обратной связи для выяснения, развивается ли ученик в соответствии с его потребностями. С точки зрения документации по мерам поддержки классные руководители принимают участие в разработке плана педагогической поддержки и индивидуального учебного плана (больше в разделе по административным работам).

Относительно методического руководства ответы существенно отличаются. Некоторые классные руководители сообщают, что методическое руководство не является содержанием их работы. Те, кто выполняют методическое руководство, ведут других педагогов в школе, родителей учеников с ООП и ассистентов педагога ученика с ООП. Почти все одинаково отмечают, что это не чисто методическое руководство, а скорее они индивидуально передают информацию данным акторам в недирективной форме. Классные руководители осознают, что основной предпосылкой для успешного образования школьника с ООП является соответствие между учителем и ассистентом педагога. Наладка данного «соответствия» является более интенсивной в начале учебного года; ее содержанием является определение отдельных компетенций и содержания работы ассистента педагога. Некоторые классные руководители считают проблематичным, если ассистент педагога на своем предыдущем рабочем месте занимал должность, равную или выше должности классного руководителя. Сами учителя в некоторых случаях ищут методического

руководства с чувством, что у них самих нет достаточных компетенций в сфере образования школьников с ООП.

С точки зрения потребностей, для классных руководителей является принципиальным методическое руководство в области образования школьников с ООП. Для их работы им нужны, в особенности, конкретные и практические рекомендации и обратная связь. Некоторые классные руководители считают необходимым условием дальнейшее образование в области специальной педагогики и психологии, другие указывают на сложность ориентации в предложениях по аккредитованным курсам и обучению.

Специфики коммуникации и взаимоотношений в роли классного руководителя. Внутри школы чаще всего осуществляется коммуникация с учителем-консультантом по воспитанию, школьным специальным педагогом, и другими педагогами. Вне школы это коммуникация с внештатными специалистами и родителями. Коммуникация с отдельными акторами является более интенсивной в начале учебного года и в полугодие, или же она исходит из актуальных потребностей отдельных акторов, причем самым подходящим с точки зрения классного руководителя является общение личное.

Со школьным специальным педагогом классные руководители чаще всего обсуждают методы, формы, содержание образования, в том числе стратегии реэдукации и их влияние на обучение по отдельным предметам. Частота и интенсивность зависит, в особенности, от степени мер поддержки, причем действует правило, что чем выше применяется у ученика степень мер поддержки, тем чаще классный руководитель обращается к специальному педагогу. Классные руководители иногда воспринимают школьного специального педагога как медиатора при коммуникации с родителями. Некоторые классные руководители чаще разбирают образование школьников с ООП с учителем-консультантом по воспитанию, чем со школьным специальным педагогом, причем главным образом по той причине, что учитель-консультант по воспитанию работает в данной школе определенное количество часов и обычным учителем.

При условии, что классный руководитель не может опереться на мнение учителя-консультанта по воспитанию или специального педагога, он обращается в зависимости от характера своих потребностей непосредственно в консультационную службу. Некоторые классные руководители сообщают, что они не общаются ни с какими специалистами вне школы. Остальные указывают широкий круг физических лиц или учреждений (государственных и негосударственных, и некоммерческих организаций) из сферы здравоохранения, социальных услуг и т.п.

Классные руководители воспринимают свою позицию в школьном коллективе положительно. В ходе анализа ответов о школьном климате классные руководители отмечают факт, что важную роль играет возраст педагогов. Младший коллектив воспринимается более благоприятно, чем коллектив старших учителей, у которых чаще встречается синдром выгорания.

Специфики административных работ в роли классного руководителя. Классные руководители обрабатывают документы, касающиеся внедрения и оценки мер поддержки, то есть как план педагогической поддержки, так и индивидуальный учебный план. Оба документа они оценивают регулярно 1 раз в полгода, некоторые даже 1 раз в четверть года. В некоторых случаях классные руководители не имеют представления о том, какую документацию обрабатывают школьный специальный педагог и учитель-консультант по воспитанию относительно образования учеников с ООП. Некоторые, однако, с другой стороны, отмечают параллельную двойную обработку тех же документов (или их частей) учителем-консультантом по воспитанию или школьным специальным педагогом. Такая параллельная обработка одного документа вызвана, в особенности, индивидуальной установкой данной школы.

Результаты качественной интерпретации – учитель-консультант по воспитанию
Results of qualitative interpretation – educational advisor

Специфики роли учителя-консультанта по образованию и содержание его работы. Все учителя-консультанты по воспитанию на второй ступени школ общего образования (5-9 классы) работают в то же время по неполной ставке обычными учителями, некоторые даже в качестве классных руководителей. У других ставка расширена, напр., на должность советника по вопросам будущей карьеры учеников или же они входят непосредственно в состав руководства школы (главным образом, заместители директора школы). В содержание работы учителя-консультанта по воспитанию в отношении к ученикам с ООП входит как депистаж, так и диагностика, документация, связанная с мерами поддержки отдельных школьников, собственное вмешательство, сотрудничество с консультационной службой и методическое руководство.

На депистаж оказывает влияние вышеприведенное накопление ролей (должностей), большую роль играет и специальность учителя, в особенности речь идет об учителе математики или же чешского языка (особенно, если имеются в виду специфические расстройства обучения). С

точки зрения диагностики используют чаще всего метод наблюдения и интервью.

Из анализа высказываний учителей-консультантов по воспитанию вытекает, что они воспринимают свою роль в воспитательно-образовательном процессе учеников с ООП как роль координирующую или консультативную и что они отвечают, главным образом, за процесс установки мер поддержки (включая связанные административные дела). С точки зрения временной последовательности можно, напр., процесс определения мер поддержки 2 – 5 степени проанализировать следующим образом:

Рисунок 1. ***Процесс установки мер поддержки (МП) с точки зрения учителя-консультанта по воспитанию в данной школе***
Figure 1 ***The process of setting up support measures from the perspective of educational counselor***

Учителя-консультанты по воспитанию занимают позицию посредника в коммуникации с консультационной службой для школ. Данное сотрудничество они в общем оценивают положительно, его частота – нерегулярная и исходит из потребностей учителя-консультанта.

Вмешательство учителя-консультанта по воспитанию по отношению к ученикам с ООП связано опять-таки с накоплением его должностей. Некоторые учителя-консультанты одновременно в качестве классных руководителей осуществляют педагогическое вмешательство (однако, с позиции учителя, не учителя-консультанта по воспитанию), другие, которые не принимают непосредственное участие во вмешательстве, часто как минимум консультируют специфические расстройства школьников и методически помогают справиться с некоторыми сложными ситуациями. Как самое сложное они в настоящее время воспринимают педагогическое вмешательство у школьников с отличающимся родным языком.

Методическое руководство осуществляют чаще всего те, кто находятся в то же время в составе педагогического совета или прямо руководства школы. Учителя-консультанты по воспитанию воспринимают методическое руководство, скорее, как консультации индивидуального характера. Данные консультации они проводят, в особенности, с ассистентами педагога, учителями, руководством школы и родителями

ученика с ООП. Ассистентов педагога они часто вводят в работу школьной системы и информируют их о спецификах данной школы. Учителей они методически сопровождают при условии, что они сами от них такого методического сопровождения потребуют.

Потребности учителей-консультантов по воспитанию отражаются в области дальнейшего образования – они проявляют интерес к консалтингу по карьере, интересует их отчетность, коммуникация, законодательство и вообще инклюзивное образования. В рамках внутренней установки школы некоторые учителя-консультанты по воспитанию предупреждают о необходимости сокращения рабочей нагрузки (ставки), необходимости освобождения от обязанности смотреть за детьми в коридорах или о необходимости бóльших временных возможностей для выполнения своей работы.

Специфики коммуникации и взаимоотношений в роли учителя-консультанта по воспитанию. В рамках настоящего расследования мы сосредоточились на вопросах, касающихся коммуникационного потока внутри и вне школы.

Учитель-консультант по воспитанию об учениках с ООП общается на уровне школы с классным руководителем, школьным специальным педагогом, школьным психологом, методистом профилактики и руководством школы. Коммуникация с учителями осуществляется индивидуально и исходит из потребностей акторов. Интенсивность высока в начале учебного года и в полугодии и часто она связана с административными вопросами. Чаще всего классные руководители обращаются к учителю-консультанту по воспитанию из-за проблемного поведения школьника, с целью консультаций формального и административного характера (относительно установки мер поддержки). Частота встреч учителя-консультанта по воспитанию и школьного специального педагога индивидуальная, однако, очень часто регулярная. Содержанием являются консультации по актуальным проблемам школьника с ООП. С школьным психологом учитель-консультант по воспитанию встречается так же индивидуально по необходимости, в особенности, в контексте образования школьников с психическими или же психиатрическими расстройствами.

При коммуникации вне школы учитель-консультант по воспитанию общается, главным образом, с консультационной службой для школ, преимущественно лично, причем идеальной является частота 1 раз в месяц. Учителя-консультанты по воспитанию находятся в контакте также с психологами и персоналом других школ. По вопросам методического руководства и проведения обучений для персонала они общаются, главным образом, с Национальный институт дополнительного образования. Далее

они общаются с врачами (психиатр, участковый врач) и негосударственными и некоммерческими организациями. С учителем-консультантом по воспитанию родители школьника с ООП разговаривают как с координатором административного процесса определения мер поддержки ученика с ООП.

Если учителям-консультантам по воспитанию нужна помощь с установкой коммуникационного потока, то речь идет, в особенности, о помощи со стороны руководства школы (директора, заместителя директора), причем как при решении проблем внутри школы, так и вне ее.

Учителя-консультанты по воспитанию воспринимают свою позицию очень индивидуально, из некоторых высказываний вытекает, что на их позицию в рамках школы оказывает влияние, особенно, восприятие инклюзии как таковой. Если учителя воспринимают инклюзию как обычное явление школьной системы, то они лучше воспринимают и учителя-консультанта по воспитанию. Вообще, однако, сам учитель-консультант воспринимает свою позицию несколько противоречиво, в частности потому, что учителя воспринимают его частично как часть состава руководства школы и в тоже время как часть учительского состава.

Специфики административных действий в роли учителя-консультанта по воспитанию. Учителя-консультанты по воспитанию без исключения сотрудничают с классными руководителями и школьным специальным педагогом в области создания индивидуального учебного плана (ИУП), как минимум в роли консультанта по формальным реквизитам документа. При создании ИУП и плана педагогической поддержки они положительно воспринимают роль школьного специального педагога, особенно, в областях профессиональной компетентности по терминологии специальной педагогики и по профессиональной ориентации в области специальной педагогики.

Учителя-консультанты разбираются в административных делах, оформляемых школьным специальным педагогом, что понятно особенно потому, что некоторые учителя-консультанты по воспитанию выполняют те же самые административные действия, или же относительно некоторых из них они со школьным специальным педагогом сотрудничают.

Результаты качественной интерпретации – школьный специальный педагог
Qualitative interpretation results – school special teacher

Специфики роли школьного специального педагога и содержание его работы. С точки зрения содержания работы школьные специальные педагоги осуществляют диагностику и депистаж у школьников с ООП,

сотрудничают с консультационной службой, устанавливают и оценивают меры поддержки (в том числе связанные административные работы), осуществляют действия прямого вмешательства и занимаются методическим руководством.

В контексте диагностики и депистажа школьные специальные педагоги делятся на две группы, первая в диагностике не участвует вообще, другая в большинстве случаев диагностику выполняет по требованию педагогов, классного руководителя, родителей или же консультационной службы. Из числа диагностических методов они используют, в особенности, наблюдение (в классе и вне его), тестирование (напр., тест право-левой ориентации, тесты крупной и мелкой моторики, рисования, чтения, письма, счета), разговоры (с учеником, коллегами), изучение документации и дидактические тесты. Диагностику некоторые из них осуществляют и в том случае, когда ученика с ООП диагностировали уже в консультационной службе. Мотивом являются собственные выводы и мнение по данному вопросу. В случае если они не принимают участия в диагностике, в качестве причины они приводят недостаток опыта, образования или компетентности в диагностике.

Сотрудничество с консультационной службой некоторые школьные специальные педагоги считают неизбежной, они интенсивно решают, в особенности, административные дела, проблемные ситуации и стратегии вмешательства. Некоторые школьные специальные педагоги контакты с консультационной службой не поддерживают, при таких обстоятельствах, однако, с ними сотрудничает учитель-консультант по воспитанию.

Непосредственная работа по вмешательству с учениками с ООП осуществляется, как правило, в групповой форме в рамках специально созданного в школе предмета специально-педагогического ухода. Это, как правило, группы 3-5 школьников. Недостатком таких групп является часто возрастное разнообразие учеников или их различные потребности. Частоту вмешательства у отдельных учеников определяет консультационная служба, в большинстве случаев это, однако, один час в неделю. Вмешательство осуществляется в рамках школьных занятий ученика (чаще всего для этого используют уроки музыки, физкультуры и трудового обучения). В рамках вмешательства школьные специальные педагоги стараются применять преимущественно другие, чем классические методы обучения, напр., стимулирующие упражнения, рабочие листы, компьютерные приложения и т.п.

Школьные специальные педагоги методически направляют в первую очередь других педагогов, ассистентов педагога и родителей. По отношению к учителям методическое руководство осуществляется в форме консультаций, исключительно школьные специальные педагоги читают

лекции для коллег, некоторые школьные специальные педагоги, однако, отмечают, что методическое руководство находится в руках учителя-консультанта по воспитанию. Школьные специальные педагоги методически направляют, главным образом, ассистентов педагога. Содержанием данного руководства являются, в частности, конкретные возможности работы со школьником с ООП. Большинство школьных специальных педагогов оценивают сотрудничество с родителями как полезное, с не сотрудничающими родителями школьников с ООП школьные специальные педагоги почти не встречаются.

С точки зрения потребностей школьного специального педагога, они находят недостатки особенно в области дополнительного образования, причем они оценили бы, в особенности, увеличение своих компетенций в области диагностики и законодательства. Важной они считают также возможность делиться опытом с другими специалистами/коллегами.

Специфики коммуникации и взаимоотношений в роли школьного специального педагога. Школьный специальный педагог чаще всего общается на уровне школы с классными руководителями, учителем-консультантом по воспитанию и другими педагогами. С точки зрения наружной среды он общается с кругом внештатных специалистов и родителей.

Сотрудничество с классным руководителем исходит из актуальных потребностей акторов коммуникации. С некоторыми оно осуществляется нечасто (напр., 1 раз в год, 1 раз в месяц – главным образом на совещаниях), с некоторыми общение происходит интенсивно (несколько раз в неделю, или же ежедневно). На уровне школы школьные специальные педагоги находятся в тесном сотрудничестве с учителями-консультантами по воспитанию, они указывают регулярные встречи (иногда 1 раз в неделю, или же 1 раз в месяц). Помимо регулярных сведений о ходе школы, самыми частыми темами являются проблемы воспитания и образования, семейная среда школьника и сотрудничество с ассистентом педагога. Из числа внештатных специалистов сотрудничество осуществляется с консультационной службой для школ, с органом социально-правовой защиты детей, психологами, врачами, полицией и судом. В зависимости от конкретных потребностей учеников с ООП вступают в сотрудничество и другие организации, напр., организации, занимающиеся работой с лицами с расстройствами аутистического спектра или организации, занимающиеся работой с людьми с ограниченными возможностями.

Свою позицию в школьном коллективе большинство школьных специальных педагогов воспринимает нейтрально. По некоторым из них коллеги не имеют представления об их работе в школе, что может быть вызвано и недостаточным их вводом в коллектив со стороны руководства

школы. Школьные специальные педагоги, высказывающиеся по школьному климату, воспринимают его положительно, только в одном случае указывалось, что среда является очень стрессовой. По мнению некоторых из них руководство школы представляет собой существенный фактор, влияющий на уровень школьного климата.

Специфики административных действий в роли школьного специального педагога. С административной точки зрения школьный специальный педагог принимает участие в обработке документации, связанной с поддержкой учеников с ООП. Помимо разработки индивидуального учебного плана (ИУП) и плана педагогической поддержки (ППП) школьный специальный педагог обрабатывает и другие виды документации, такие как, например, заявления и анкеты для консультационной службы, согласия законных представителей, документы, связанные с основной диагностикой, записи по познавательному/ контрольному посещению уроков учителей, материалы по специально создаваемым в школе предметам специального педагогического ухода, отчетность для Министерства образования, молодежи и спорта ЧР, или же он ведет свою собственную документацию по ученикам и занятиям с ними.

Некоторые из них считают объем некоторых документов (ИУП, ППП) чрезмерной административной бестолковой нагрузкой, но тем не менее, в их важности и легитимности в системе они убеждены. В большинстве случаев административная работа составляет 30-40% от общей нагрузки школьного специального педагога. Некоторые воспринимают чрезмерную нагрузку на учителя-консультанта по воспитанию в процессе административных работ, связанных с учениками с ООП, как непомерную.

Выводы
Conclusions

Из содержания работы отдельных педагогических работников вытекает, что все акторы участвуют в образовании учеников с ООП в отдельных школах. На второй ступени школ общего образования в процессе депистажа принимают участие, в особенности, классный руководитель и учитель-консультант по воспитанию (однако, только при условии, что он является также классным руководителем), собственную диагностику классные руководители и учителя-консультанты по воспитанию воспринимают, скорее, как оказание помощи при диагностике консультационной службе. Школьный специальный педагог участвует в диагностике учеников в том случае, если речь идет о специфических расстройствах обучения или же расстройствах внимания. Учитель-консультант по воспитанию общается с консультационной службой чаще

всех, часто его роль воспринимается как координационная во всем процессе образования школьников с ООП. Наиболее полезным подходом представляется, если по внедрению и оценке мер поддержки (в том числе по административным работам) сотрудничают и классный руководитель и учитель-консультант и школьный специальный педагог. Однако практика показывает, что это не всегда так. Относительно методического руководства самым активным оказывается особенно школьный специальный педагог, потому что другие два актора понимают данную деятельность не как методическое руководство, а скорее, как индивидуальные разговоры, причем особенно по той причине, что они в некоторых случаях чувствуют себя не полностью компетентными для выполнения методического руководства.

Роль специального педагога в каждой школе воспринимается индивидуально, на что оказывает влияние в особенности руководство школы, и это вызывает частичные неопределенности в понимании его роли как со стороны учителей, так и родителей.

В области коммуникации очевидно, что ее интенсивность и частота выше особенно в начале учебного года и в полугодии, в особенности в контексте административных действий, связанных с внедрением мер поддержки и их оценкой в половине учебного года в связи с возможными изменениями в ее установке. Классные руководители и учителя-консультанты по воспитанию воспринимают свою позицию в коллективе как стандартную, или же оценивают ее положительно; с точки зрения школьного специального педагога очевидно, что его присутствие, включая содержание его работы, проникает в сознание школьного коллектива медленно. Одной из возможных причин может быть недостаточный его ввод в школьную среду со стороны членов руководства, дальнейшей из возможных причин может быть недостаточная мотивация педагогических работников к инклюзии вообще.

С точки зрения административных дел очевидным является недостаточное определение содержания работы отдельных работников. Если предположим, что не совсем ясно, кто административно отвечает за отдельные документы, встречаются замечания по поводу параллельной обработки того же документа (или его части) двумя сотрудниками.

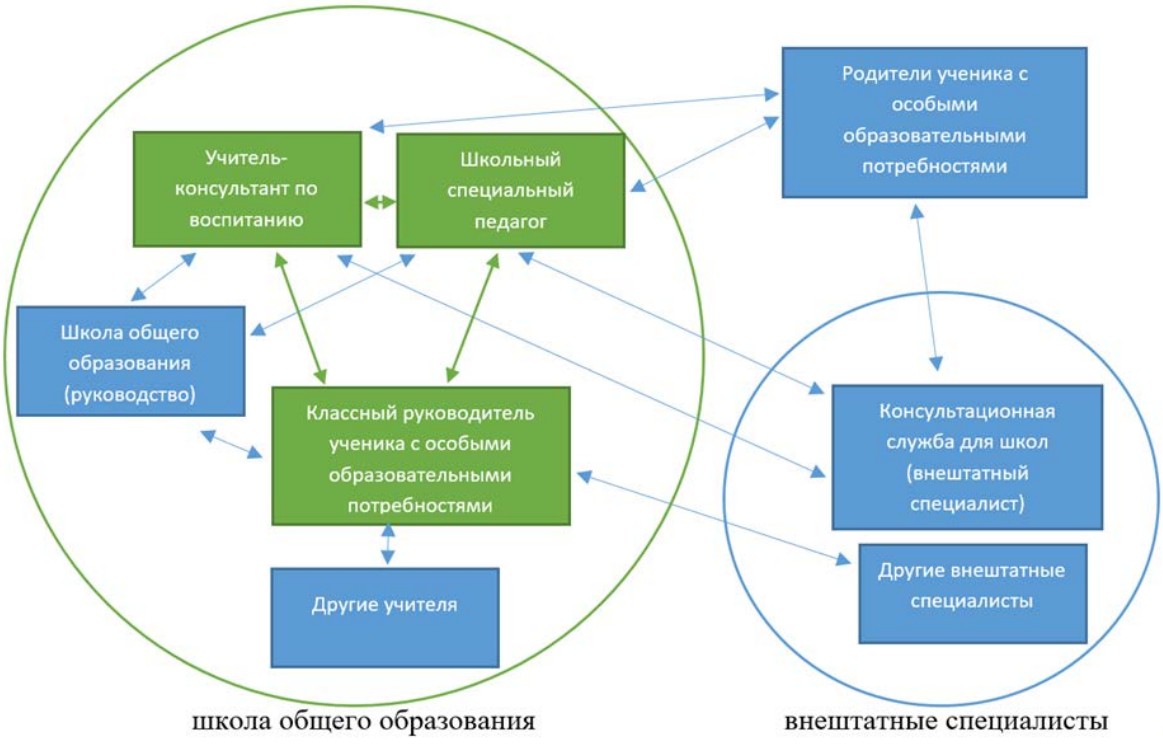

Рисунок 2. ***Наиболее частые связи между отдельными участниками в образовании ученика с особыми образовательными потребностями***
Figure 2 ***The most frequent links between individual participants in the education of pupils with special educational needs***

Анализ интервью доказал определенную некогерентность в общей системной установке, допускающую индивидуальные разницы в установке отдельных школ. На основании полученных данных можно проанализировать наиболее частые связи между отдельными участниками образовательного процесса. Они выявляют хотя и проработанную, но очень сложную систему образовательного процесса, в особенности передачи принципиальной информации, касающейся образования учеников с особыми образовательными потребностями. Несмотря на то, что существуют данные различия в установке школ, ключевым условием успешного инклюзивного образования является качественная коммуникация и сотрудничество не только педагогических работников друг с другом, но и с руководством школы.

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Summary

The analysis of the interviews showed some incoherence in the general system settings that allow for individual differences in the settings of individual schools. Generally speaking, the position of a school special educator is not yet firmly anchored in the education system. In particular, it shows that in some cases, for example, administrative matters are duplicated by other staff. Another example, classroom teachers do not have an overview of the work of a school special educator. The issue of diagnostics and screening is perceived rather as ancillary activity, as most pupils with special educational needs have already been diagnosed earlier. All research staff consult on education issues for pupils with special educational needs both at school and outside the school (in particular external experts). From the position of educational counselor and class teacher, methodological guidance is understood rather as the transfer of information, in schools, methodological guidance is provided by a school special educator.

The intensity and frequency of communication between individual actors in the educational process is higher at the beginning of the school year and in the middle of the school year. Despite the fact that there are individual differences in the settings of individual schools, it is clear that all teaching staff are involved in the education of pupils with special educational needs. The analysis of the interviews shows that the basic condition for successful inclusive education is good communication and cooperation not only with teachers, but also with their leadership.

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COOPERATIVE STRATEGIES FOR CHILDREN WITH AUTISM SPECTRUM DISORDERS IN INCLUSIVE ROBOTICS ACTIVITIES

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Abstract. *A qualitative, action research study has been conducted to investigate cooperative learning strategies for children with ASD and typical development during educational robotic activities. The participants were 4 children, 2 with ASD and 2 with typical development, around the ages of 12-14. The sessions were held at "School for all: Tokei Maru" in Thessaloniki, once a week, for 3 months. Observation protocols, researcher's diary, and interviews were used for data collection. Children with ASD, although they had a strong motivation to participate in robotic activities, exhibited disruptive behaviors. The cooperative learning strategy was not effective. Self-regulation strategies have proven helpful in limiting the disrupting behaviors of children with ASD and in supporting cooperative learning.*
Keywords: *inclusion, lego type robots, ASD children, cooperative strategies self regulated strategies.*

Introduction

Children with Autism Spectrum Disorder (ASD) encounter obstacles in communication and socialization. Their opportunities to be engaged in social interactions and friendliness relationships are limited due to their difficulties in understanding other's thoughts, desires, and feelings, in initiating the communication and in applying effective social and communication strategies (Rogers, 2000; Mc Connell, 2002; Owens, Gordon, & Baron-Cohen, 2008).

Most of the intervention programs, which were addressed to children with ASD aim at improving social skills and social interaction (Walton & Ingersoll, 2013). In recent decades, there is a significant interest in investigating how the educational or social robotic programs would support the development of social skills and interactions of autistic children. Particular interest has been developed in investigating how children with ASD would be supported by cooperation during their participation in inclusive educational robotic activities. Hinchliffe and his colleagues (2016) in Australia, investigated the effects of the participation of children with ASD in inclusive, after school robotics clubs. According to their

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findings, 7-10 years old children with ASD demonstrated an increased awareness of peer social networks, experienced greater benefit in terms of their integration and acceptance into the social network of the club, compared to their same-aged peers (Hinchliffe, Saggers, Chalmers, & Hobbs, 2016). Effective collaboration strategies for inclusive robotic activities are being investigated, in recent decades, as robots have also a great educational value. A number of methods, based on the framework of social constructivism, such as cognitive mentorship and scaffolding, provide opportunities to develop communication, social, meta-cognitive, problem-solving or critical thinking skills in cooperative learning environments (Ching - Ching, Pei-Li, & Kuo-Hung, 2013). In robotic activities all students work together in all aspects, designing, assembling, programming, testing, debugging, and modifying. Children, working together, need to use social skills such as integrating others' ideas, negotiating and coordinating viewpoints, and seeking agreement. Effective collaboration is under scripted but switchable roles (Denis & Hubert, 2001; Wang & Zhong, 2018).

Cooperative learning (CL) has been shown to increase levels of social engagement in inclusive school environments. Peers involved in CL interventions with students with disabilities have displayed significant increases in social acceptance to peers not involved in CL groups (Grey, Bruton, Honan, McGuiness, & Daly, 2007). Specific cooperation learning (CL) strategies help children with ASD to interact in a team and therefore to gain opportunities to improve their social skills (Leman, 2015; Reynolds, Bendixen, Lawrence, & Lane, 2011). Research concerning cooperative strategies for children with ASD in inclusive robotic activates has to be investigated as the benefits have been documented from Australia (Hinchliffe et al., 2016). Self-regulation strategies help children with ASD to regulate their behaviors. Are processes that would be activated by students to focus and sustain cognitions and behaviors, which are systematically oriented toward the attainment of their goals (Reid, Mason, & Asaro-Saddler, 2013). Action research has brought out the need of self-regulated strategies to help children with ASD to organize their behaviors in robotic activities (Nanou, Chenine, & Oikonomou, 2019). The aim of this study was to investigate the effects of cooperative learning strategies in combination with Self-regulated strategies in children with ASD as they cooperate with typical peers in inclusive robotic activities.

Research Methodology

Action research has been chosen as the most appropriate research methodology for investigating effective cooperative learning strategies in an authentic learning environment. Action Research, through creative interaction and authentic experience, leads to theoretical and practical knowledge (Magos, &

Panagopoulou, 2008; McNiff, 1999). The action research is executed through a series of research circles. The end of the first research circle is the beginning of the second. Every circle involves specific stages:

a) plan,
b) action,
c) observe,
d) reflect.

Place and time of research. The action research lasted 3 months (16/1/2017 to 16/3/2017) with frequency once a week. The day, time, and duration were always the same (60'). The place was the "School for all: Tokei Maru" a non-formal, after school learning inclusive environment, in Thessaloniki, Greece

Participants. 4 children, 2 with ASD at level 1 according to DSM 5, Giannis and Fotis, and 2 children of typical development, 12-14 years old, participated in robotic activities (DSM 5, 2013). As revealed by the parents' interviews, prior to the first meeting of the robotics group, the ASD children exhibited the following characteristics: Giannis expressed himself syntactically well, but his speech was monotonous quirkiness. His intonation often was the cause of negative comments by his peers. He faced significant difficulties focusing on one particular activity, in interpersonal relationships and social intercourse and therefore he seems to have no friends. Fotis, has advanced cognitive skills, limited and selective oral speech and difficulty in visual contact. He found difficulties to socialize and preferred individual play. He didn't work with peers, didn't ask for help, or offer help to peers and had difficulty in adhering to instructions and rules. Robotics was the favorite hobby of both Giannis and Fotis.

The typical development participants were selected by a list of children, who were interested to join robotics activities in School for all "Tokei Maru". The selection criterion was their previews experience in collaboration with children with ASD at level 1. The two children that they have chosen to participate had the previous years in "School for all: Tokei Maru" cooperate well with children with ASD.3 special pedagogues, volunteers, were participated in an action research study. One of them has been specialized in coding and robotics and was the coordinator. The other two were external observers

Teaching methodology –Strategies

The researchers planned to divide the participants in 2 groups - pairs, so as each pair to include one child with ASD and one typical peer. The pairs were selected by the coordinator. In each session they had to collaborate under scripted and switchable roles to assemble 5 steps, as imprinted in the manual building instructions. Think Share Pair cooperative strategy planned to be used in robotic activities. The challenge for each pair was to discuss and take decisions about

specific roles and the way they switched them during their assembling cooperation. The coordinator, the special pedagogue, planed to challenge children to think of their role and then to share with their pair. Then the pairs had to discuss their decisions and reform their decisions in the light of the other pair ideas (Lyman & Frank, 1987). So a specific self-instruction strategy to support the usage of CL planned to be used. Self-instruction strategies have been proved helpful (Wehmeyer et al., 2003) Social stories were used to teach children the component of SMS strategy. The components of the strategy were presented in a power point presentation with pictures ready to read from all children with the aim to present to prepare more precise the children with autism to use them during activities. Social story approach is extremely effective for social skill education of children with ASD (Gray, 1998). Additionally the components presented and posted to make it accessible to children in the "School for all: Tokei Maru" so that the SMS strategy can be seen by all children when needed. The strategy had three components: S = staring in my pair's position, M= Manage assembling with my pair, S= Share to the others. The components of SMS strategy and the pictures they have been used are presented bellow (Figure 1).

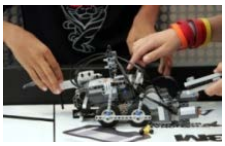
SMS Strategy Components		
S	M	S
Staring at my pair's opinion 	Manage with my pair 	Share to other pair 

Figure 1 ***SMS self-instruction strategy to support cooperative learning (CL)***

Data Collection

For data collection have been used:

1) Parents' semi-structured interviews, before action research, in order for the researchers to be informed about the child's psychological characteristics,
2) research diary which was completed after each session by the coordinator researcher,
3) Strategy Deviation Assessment Protocol (SDAP). SDAP assess the use of strategy components. It is a descriptive assessment scale which was developed for the purpose of the study. It is based on assessment Protocols that was used to asses social skills during school lessons by children with Learning disabilities (Drosinou, 2009). The assessment

criteria of SDAP were the 3 components of the strategy SMS. Strategy components use were assessed with 0 point= use and -1 = no use. The main point of 3 components strategy use of SMS strategy in 5 steps was given the main deviation of strategy use in every session. The usage of SMS strategy components by the ASD children was assessed by the 2 external observers in every session. The results of strategy use at every session, discussed for feedback between the researchers. The participant and external observers evaluate the process and redefine any changes. The changes that have to be done define the circles of the action research.

Findings
Process of the action research

1st circle: Action at the 1st session, Giannis and Fotis faced difficulties to be engaged in discussions concerning their role in assembling. Fotis was very impatient. He didn't even look at his partner while he was trying to assemble. According to the coordinator researcher's diary, both Fotis and Giannis exhibited non-creative forms of interaction such as negative verbal comments and gestures. "The typical children bothered by disrupted behaviors and after 2 steps in assembling the pedagogists decided to interrupt the assembling to discuses and present the SMS Strategy. A social story of SMS components, through power point, presented in the interactive table. After the presentation children continue to assemble the next 3 steps. Every session proceeded with The mean of the SMS use was -4,0 at the first 2 sessions for both children. Gradually children improve their focus and cooperation but they really didn't ask opinions and they use to manage the robot themselves. It is important that typical children found more difficult sometimes, as the coordinator write, to find the parts and assemble the robots than children with ASD.

Observe: According to the participant-researcher's diary and the SDAP protocols, children with ASD at the first 5 sessions presented deviation of strategy use with a gradually improvement from -4,0 to -3,5 points. Fotis and Giannis, in both groups although they were both improve their cooperation skills during the 5 sessions remained with a negative sign in the implementation of the SMS strategy (figure 2). According to the diary of the coordinator children and especially Fotis at the 1st and 2nd session was started to use the first component and wait for his partner opinion but, although he was agreed about his role (e.g. finder role) then he used to change his mind, change roles holding the patterns or trying to work on the roles himself. Both pairs shared practices only at 4th and 5th sessions. But they preferred to be competitors than cooperating with the other team. But the problem was that both children with ASD were able to

solve problems in assembling but they were disrupted the cooperation climate while they had to share with the other pair.

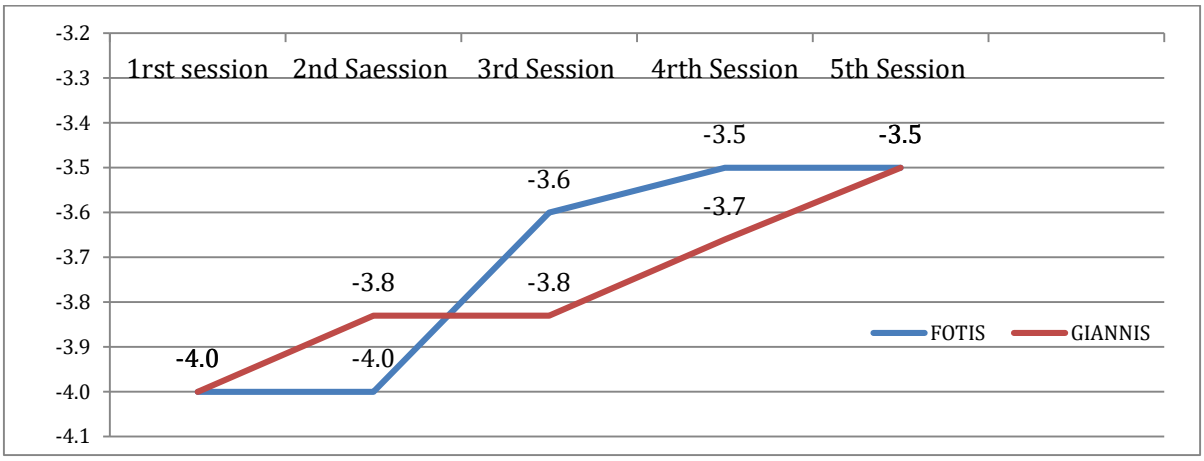


Figure 2 ***SMS Deviation of ASD children during the first 5 sessions***

Reflect Their disrupted behaviors made the researchers worry. Additionally the researchers discussed ways to change attitudes of typical children to be more positive. How researchers would help ASD children to So the plan a new circle of Active research with extended goals.

2nd circle Plan: In the next sessions, children were taught to use in combination with SMS strategy more specific self- instruction and self assessment strategies. It was planned to be taught to ask themselves «Does my behavior help my team to assemble?" After every step they had to check if they have helped their team and hear of the opinion of their pair. *Observe:* According to the participant-researcher's diaries F was teasing the others or hitting his hand on the table. Then he was motivated to apply self regulated strategies and ask himself about his behavior. Children were motivated through coding processes and especially through the touch and ultrasonic sensors coding. During the 12 sessions assembling and coding aims have been achieved. As found be SDAP, the two children with ASD Fotis and Giannis in the two groups improved their cooperation skills and deviation from the strategy use significantly reduced (-1,3 and -1,83). *Reflect*: Specific Self-regulation strategies and SMS strategy helped children with ASD to be more effective in cooperation. According to the coordinator researcher's diaries children were really motivated though the coding activities of EV3 robot and they were really find helpful to concentrate on SMS components in order to be positive and more engaged in these activities. Otherwise the process was disrupted and they were feeling disappointed.

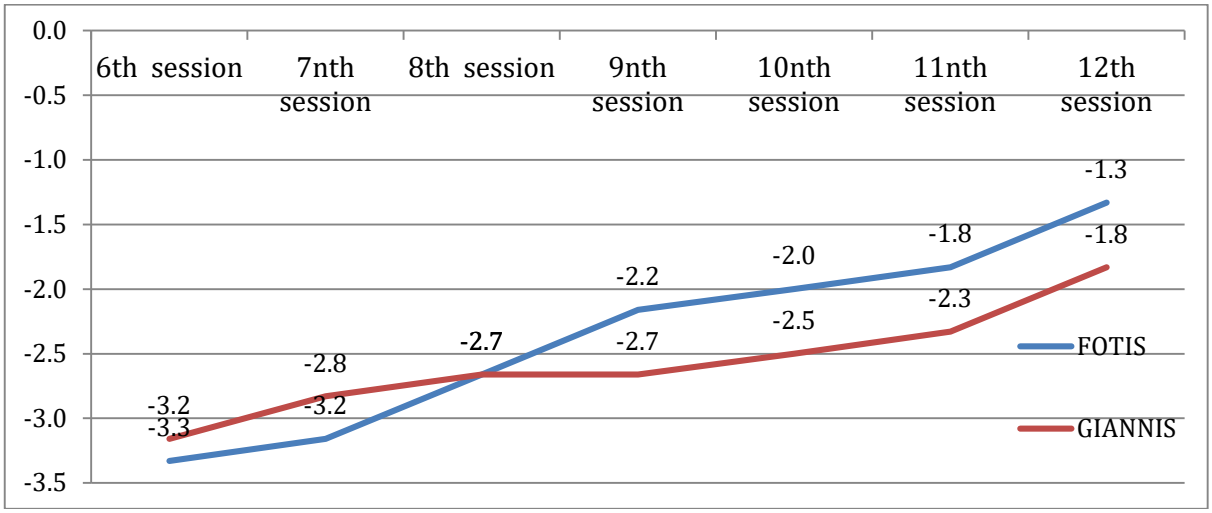


Figure 3 ***SDAP average of SMS strategy deviation from 6th to 12th session***

During all sessions from 1st to 12th the deviation from strategy use was decreased. At the first session deviation from SMS strategy was -4 for both children at the 5th became -3,5 and at the 12th -1,3 (Fotis) and -1,8 (Giannis) (Figure 4).

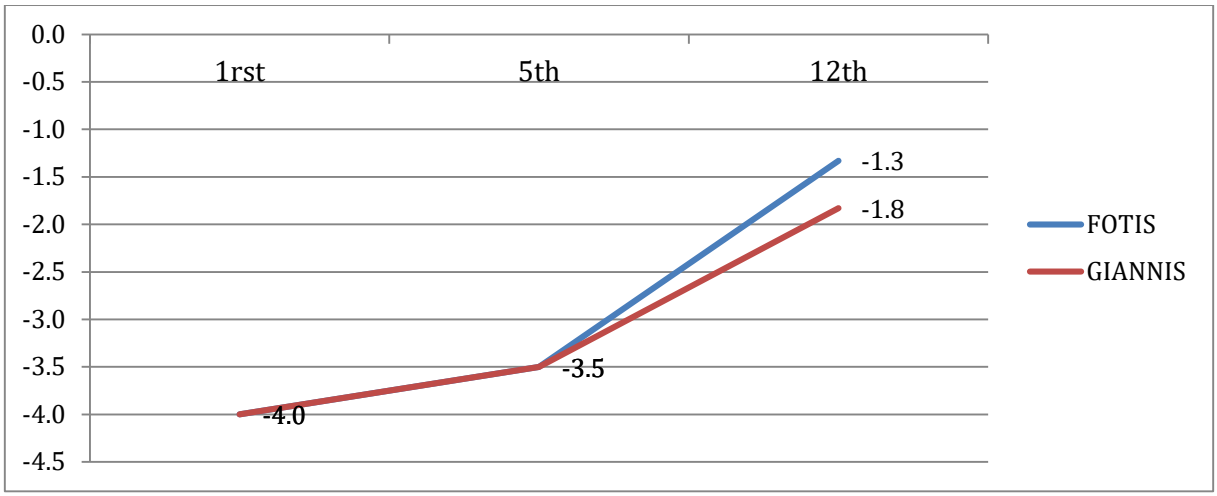


Figure 4 ***SDAP average of SMS strategy deviation at 1st,5th and 12th sessions***

Conclusions

PTS cooperative strategy was not helpful for children to decide and take specific roles in assembling without self regulated and self assessment strategies. The SMS strategy and specific self regulated strategies that have been implemented using social story teaching approach although proved helpful in creating a climate of co-operation between typical and ASD children had

difficulties in agreement about their roles in assembling. As previous research indicated students' interaction during brick assembling were mostly conversations on trivial tasks such as seeking bricks (Ching-Ching, Pei-Li, & Kuo-Hung, 2013). Specific roles addressed by coordinator during assembling were effective in inclusive group (Nanou et al., 2019). Extending work on children's with ASD Cooperative Learning strategies this study found that specific strategies improved social behavior and cooperation with typical peers (Grey et al., 2007). Disrupted behaviors of ASD children bothered typical peers. Cooperative learning intervention in inclusive settings are of great importance for the development of social skills of children faces difficulties in cooperation.

Limitations and Future Research. Future research could investigate more effective self regulative strategies to foster cooperative ones in inclusive robotic activities. Empirical research on this field would lead to more effective inclusive practices in robotic activities. Typical children reactions had to be investigated in future research.

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IMPROVEMENT OF PHONOLOGICAL SKILLS – IMPROVEMENT OF READING

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Abstract. *The article "Improvement of Phonological Skills – Improvement of Reading" underlines the importance of phonological awareness in the development of reading skills. Several studies show that reading is a very complex skill that involves cognitive processes, intellect and other variables, but the key factor for the development of good reading skills is a good level of phonological awareness.*
Before the intervention a special material was created, which was systematically ordered according to the current level of each child's phonological awareness abilities. Children were evaluated before and after the intervention.
The aim of this research is to evaluate the possibility to develop good phonological analysis and synthesis skills for six to seven years old children with phonematic perception disorder.
The research methods used in the study are the analysis of scientific literature, the gathering of primary data with specially designed evaluation material, the analysis of gathered primary data, and the observation of child's performance during the training sessions.
Keywords: *phonological awareness, reading skills, 6-8 years old children.*

Introduction

Reading is a complicated process that involves perception, the knowledge of a language, memory, thinking and the intellect (Sternberg & Sternberg, 2016). Throughout the history one can find different opinions of what it means to be a skilled reader, but as the need for reading grows together with the development of writing, one can say that reading is the ability to translate written symbols into phonemes. L. Vigotsky (Vigotskis, 2002) states that the phoneme is a particular sound that has a meaning and function in the language.

Before a child begins to read, he learns to speak and before he learns to speak, he grows up with caring people who communicate with him. Communication is a mutual interaction with the purpose to exchange information (Urževica, 2010). The prototype for communication is the speech of a human being (Vigotskis, 2002). The main purpose for writing is to communicate, so the ability to read is actually the ability to communicate. One can state it differently – reading

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and writing are the forms of speech together with talking and listening (Lūse, Miltiņa, & Tūbele, 2012). While living in the modern society where one comes across written texts daily, it is hard to imagine that only part of all spoken languages has its written form (Sedivy, 2019) but there is no society without a language. Although every child is born with the ability to use the language, it only refers to the spoken one. The written form of the language has to be taught (Woolfolk, 2016; Bornstein & Lamb, 2015; Tūbele, 2008). According to UNESCO gaining reading skills is one of the basic rights of a human being (Moterri & Frandell, 2013). It is a basic skill for living in the modern society (Carreras, Armstrong, & Danubeita, 2018) and it is the primary source of formal education (Chou, Cheng, & Cheng, 2016). The level of individual literacy skills will determine the quality of life, educational possibilities and the level of self-esteem (Riley, 2001). In the era of information technology, literacy skills are even more important than ever before, because of the growing requirements not only to read, but to extract knowledge from large amounts of written information.

Theoretical framework

Summarising several authors (Carreras et al., 2018; Kauliņa & Tūbele, 2012; Lūse et al., 2012; Schleicher, 2019; Sternberg & Sternberg, 2016; Tūbele, 2008; Tūbele & Lūse, 2012; Woolfolk, 2016; Zmitričenoka, 2007) one can define the skill of reading as the ability to decode written symbols into the words of the language, the ability to understand these symbols, the reaction of speech to the written text, the receptive communication, the tool of critical thinking, decision making and knowledge acquisition. Reading skills are closely related to cognitive abilities.

The basic components of reading are cognitive processes, language comprehension, phonematic awareness, phoneme awareness, grapheme awareness and the technique of reading. Phonological awareness can be defined as the ability of a person to identify, distinguish and manipulate with the phonemes of language as well as the ability to notice the differences between phonematically similar words, words that are spoken incorrectly and the ability to produce rhymes (Berk, 2013; Charlesworth, 2014; Kaderavek, 2011; Sedivy, 2019; Tūbele, 2019; Tūbele & Lūse, 2012; Tūbele, 2002; Wagner & Torgesen, 1987). Thus, phonematic awareness consists of phonematic perceptions (knowledge about the phonemes of language, the ability to pronounce them and differentiate between them), phonematic analysis (the ability and skill to distinguish separate phonemes and sequence them in the correct order) and synthesis (the ability and skill to merge phonemes into syllables and larger units in order to compose meaningful words of language). Phonological awareness is closely related with phonematic hearing and phonematic notion that lays source

of phonological analysis. Phonematic hearing or notion can be defined as the ability to hear single phonemes, recognize and distinguish them from each other and form larger units of language (Lūse et al., 2012; Ptičkina, 1997).

Several studies (Lopez-Escribano, Ivanova, & Shtereva, 2018) show the importance of other aspects, rather than phonological awareness only and are taking into consideration rapid automatized naming. During the research (Stappen & Reybroeck, 2018) where rapid automatized naming was evaluated separately from phonological awareness, the researchers discovered that the first one is rather an important indicator of the access speed of lexicon than the skill that could be trained. There are scientists (Fisher & Frey, 2014) which state the importance of vocabulary knowledge as important aspect of reading. Although it is true that one can understand written text well enough if 95 percent of words are known (Sternberg & Sternberg, 2016), good vocabulary at age five in itself does not guarantee good reading skills at age seven (Gillon, 2017).

Many researches have shown strong relation between phonological awareness and reading skills. G. Gillon (Gillon, 2017) names 16 researches where a positive link was found between delayed development of phonological awareness and low reading skills. Other longitudinal researches state that good phonological awareness in early childhood results in good reading skills later (Kaderavek, 2011; Kenner, Terry, Friehling, & Namy, 2017; Tūbele & Lūse, 2012; Tūbele, 2019). Although phonological processing develops unconsciously (Kenner et al., 2017) it is not only the result of cognitive processes maturity (Goswami, 2007). Phonological processing develops strongly when one learns to read (Karule, 1997; Wagner & Torgesen, 1987). Persons without literacy skills are unable to distinguish phonemes from spoken words (Lightfoot, Cole & Cole, 2009). Once the skill of phonological analysis has been gained, it becomes the foundation of person's language perception, i.e., one does not separate words between different language forms (Goswami, 2007), he can distinguish every phoneme and order them in the right sequence. Several researches have proved positive impact from phonological awareness training (Gillon, 2017; Goswami & Bryant, 2016; Guanze, 2010; Lightfoot et al., 2009; Tūbele, 2019). So, one can say that even if there are delays in phonological awareness and because of that – the ability to learn reading is delayed, there is a possibility to train both.

In order to understand whether there are any delays in phonological awareness, one must characterize normal development. Several studies have analysed phonological awareness development in different age groups. Depending on age group, language, performed training and the complexity of test task, some common similarities where found. The summary of different researches (Gillon, 2010; Goswami & Bryant, 2016; Irbe & Lindenberga, 2015; Kaderavek, 2011; Karule, 1997; Kenner et al., 2017; Lightfoot et al., 2009;

Tūbele, 2019; Tūbele & Lūse, 2012) of the development of phonological awareness can be seen in the table (Table 1).

Table 1 ***Development of phonological awareness skills***

Age	Phonological awareness skills
3 years	Can perform simple rhymes and nursery rhymes; Can distinguish two equal names called in word sequence; Can distinguish phonematically spare word in three words sequence; Knows how to make compound words if they consist of direct words; May perform simple phonematic synthesis from sounds with pictures.
3 – 4 years	Knows how to make compound words that are not obvious; Can select words that rhymes; Comes up with rhyme words; Can divide into syllables phonematically simple words; Knows how to pronounce all phonemes from mother tongue (with some exceptions); Protests on errors of pronunciation.
4 – 5 years	Can divide compound words into their components; Can perform rhymes that are not obvious; Can divide into syllables phonematically not so simple words; Comes up with new names that has similar syllable structure or words that has the same syllable in common; May perform phonematic synthesis from different syllables; Can name onset and rime (first sound and ending sounds of syllable); Can name words without onset; Can distinguish words with the same onset or rime.
5 – 6 years	Can divide any compound words into their components; Can distinguish between all sounds in phonematically simple words, and put all phonemes in right sequence; Can distinguish words with the same sounds at the same sequential position; With help of picture can call missing phoneme from any position; Knows how to make syllable from given two or three sounds.
6 – 7 years	Can distinguish between all sounds in phonematically not so simple words (words with 2 consonant blends at the beginning or middle of word), and put all phonemes in right sequence; Comes up with phonological neighbours or relatives to word; Likes crosswords and sound games with rules; Can perform phonological synthesis from three to four sounds that makes one syllable; Comes up with words that are made from separate phonemes without consonant blends; With help of picture can call more than one missing phoneme at any given position. One missing phoneme can be determined without help of picture.
7 – 8 years	Can manipulate with any phoneme in known words even with complex consonant blends; Can name all missing phonemes in any position without help of picture, understands complex consonant blends at the end of word; One has developed metalinguistics of language.

All the abilities are sequentially related to one another, i.e., skills that a child can perform at the age of three will lay the foundation for skills at the age of four etc. Several researches (Gillon, 2017; Lightfoot et al., 2009) have emphasized that

the ability to distinguish phonemes at the age of five to six will strongly predict the ability to decode sound and letter at the age of seven and reading skills at the age of nine. Consequently, phonological awareness is crucial in the development of reading skills.

Methodology

For the purpose of this research authors gathered primary data with specially designed evaluation material. Children were evaluated before and after the training. In the evaluation process phonematic analysis and synthesis and simple non-word reading skills were detected. During the first and last evaluation different control words were used. The last evaluation included words that were not used at the first evaluation and during the training.

According to table 1and after primary data analysis from the first evaluation, for the purposes of research the authors summarized suggestions found in literature (Anthony & Francis, 2005; Guangze, 2010; Gillon, 2017; Irbe & Lindenberga, 2015; Karule, 1997; Lightfoot et al., 2009; Ptičkina, 1997; Tūbele & Lūse, 2012) and created a system for phonological awareness training tasks. The training material was created for research purposes and it was divided into three major parts and subparts as described in the table (Table 2).

Table 2 ***Training area and designed materials***

Training area	Designed materials
Training for phonological notion	Logopedic dictation; Listening to a word in a word row; Listening to a particular sound in a sound row; Repeat syllables; Name a word with a specific sound.
Training for phonological analysis	Distinguish words; Distinguish syllables; Distinguish onsets, rimes; Distinguish first, last sound; Distinguish any sound; Distinguish any sound in correct sequence.
Training for phonological synthesis	To make compound words; Sounds: first – two sounds in syllable, second – three sounds in syllable where consonant exchanges vowel, third – three and more sounds in syllable in any combination; Syllables: first – two open two letter syllables in two syllable words, second – open and closed two letter syllables in different combination in two or three syllable words, third – open and closed two or more letter syllables in different combination.

All three training areas are closely related and can be trained simultaneously but one should follow the level of difficulty through training.

During training following suggestions were taken into consideration. A. Karule (Karule, 1997) suggests practicing out loud first and only then using one's inner voice. A. Ptichkina (Ptičkina, 1997) suggests starting the analysis of word phonemes with long vowels and consonant sounds that can be stretched or extended during speech, then short vowels and diphthongs and then all other phonemes. In order to distinguish separate phonemes, A. Karule (Karule, 1997) and A. Ptichkina (Ptičkina, 1997) recommends use of sound cards in three colours – red for vowels, blue for voiced consonants and black for non voiced consonants. To guarantee that the child can see the actual number of sounds or letters research authors used boxes or stripes that symbolise sounds or corresponding letters.

Research results

The research took place in two preschool and primary school groups. There were 33 children participating in the training. All children had phonological perception disorder. All children received training once a week for 30 to 40 min during the period of four months. During every training session the authors were at the position of speech therapist and observer. Every training session contained all three training areas. In every session feedback from children was gathered. Since the children were already familiar with letters, they were used as support for distinguishing individual phonemes. The results of evaluation can be seen in the following figures (Fig. 1 and Fig. 2) both figures represents percentual amount if errors at eliciting sounds before and after intervention.

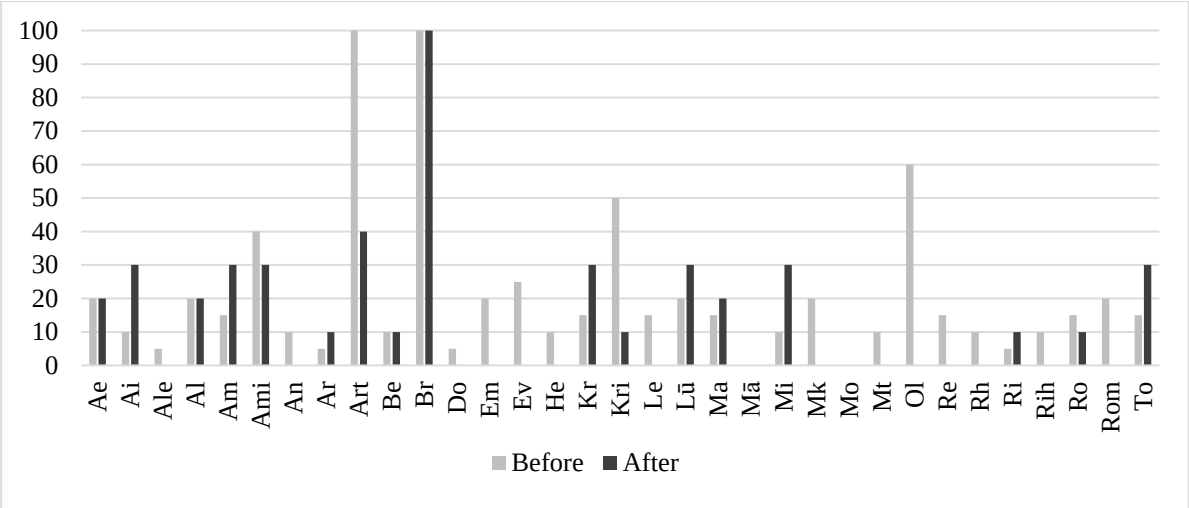

Figure 1 ***Percentual amount of errors at eliciting first sound before and after intervention***

As one can see in figure (Fig. 1), overall level of phonematic ability has improved. Children that showed lower results at the last evaluation actually made constant mistakes in words with long vowels, i. e., intervention tasks were not enough to correct the level of phonematic perception disorder as such.

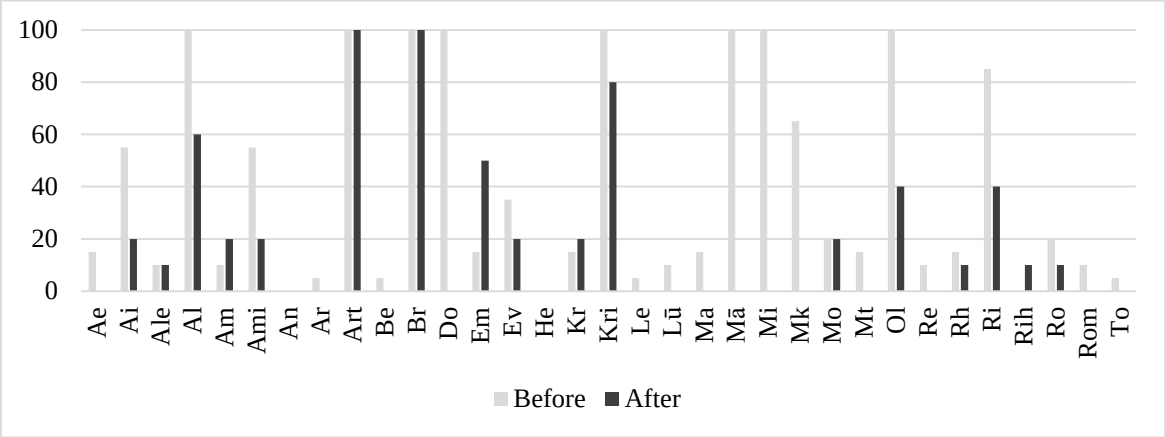

Figure 2 ***Percentual amount of errors at eliciting last sound before and after intervention***

As one can see in figure (Fig. 2), overall level of phonematic ability has improved. Child “Br” didn’t show any improvement during the last evaluation. He was lacking improvement in other subjects outside study as well. Child “Art” has improved his phonematic analysis ability – during the first evaluation he could not call any first or last sound, he called the first syllable, during the last evaluation he could name a rime of words last syllable but still could not elicit one last phoneme.

It was not possible to evaluate non-word reading speed and correctness for all children, but for those who participated in this evaluation, the reading speed and correctness improved from around 1 min for 12 nonwords with 6 errors to approximately 48 seconds and 4 errors for the same amount of non-words.

Conclusions and discussion

Although phonological awareness is biologically determined as other cognitive processes, it is possible to improve phonematic analysis and synthesis results by carefully selecting appropriate intervention material and methods. One can discuss the level of improvement for children that develop typically and children with developmental delays or disorders. As it was stated in theoretical framework – phonological awareness can be improved. This statement was proved to be true for the majority of the selected children. The children, who did not succeed in phonological analysis skill, did not show improvement in other

areas outside study either. These children should receive detailed evaluation of their cognitive capabilities.

During the research one of the largest problems was the lack of appropriate evaluation methods, therefore the creation and approbation of these methods is going to be the main task of the next research.

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DIGITĀLO TEHNOLOĢIJU IZMANTOŠANA BĒRNU RUNAS UN VALODAS KOREKCIJAS DARBĀ PIRMSSKOLĀ

Use of Digital Technologies in Children's Speech and Language Correction Work in Preschool

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Abstract. *In today's society, a child lives in a technology environment since birth, and it changes children's perception and learning habits, determining the necessity to use digital technologies that are interesting for preschool children, motivates them to perform speech and language corrective actions consciously, and enables the development of self-control of speech.*
The objective of the paper is to stimulate discussion on the possibilities of using digital technologies in the correction of children's speech and language in preschool, based on the analysis of theoretical literature and the availability of means used in speech therapy correction.
Methods - literature analysis, survey of practicing speech therapists.
The results suggest that choice of means is determined by speech therapists' personal attitude toward digital technologies, which is influenced by respondents' experience and availability of technologies within the educational institution.
Keywords: *corrective means, digital technologies, language correction.*

Ievads
Introduction

Lai gūtu panākumus 21. gadsimtā, bērniem ir svarīgi attīstīt jaunas prasmes, kas viņiem vajadzīgas, lai tehnoloģijas varētu apvienot ar kvalitatīvu mācīšanos izglītības iestādē un paplašinātām mācībām ārpus tās. Tehnoloģiju pieejamība jebkurā vietā un laikā var atbalstīt dziļākas mācību iespējas un veicināt integrētāku mācību pieeju, palīdzēt novērtēt un uzraudzīt bērnu progresu, vienlaikus veidojot personalizētu pieredzi (Ching, Shuler, Lewis, & Levine, 2009). Digitālo tehnoloģiju izmantošana, dažādi digitāli risinājumi var palīdzēt attīstīt sadarbību starp pedagogu un bērnu, pārveidot mācīšanās procesu, pilnveidot mācību vidi. Svarīgi domāt par to, kā tehnoloģijas tiks izmantotas

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izglītības procesā, lai veicinātu mācīšanos, noteiktu prasmju un iemaņu apguvi (Kirkwood & Price, 2014). Pirmsskolas izglītības aspektā tiek uzsvērts, ka vairākās tematiskās jomās datori var pozitīvi ietekmēt to, kā bērni mācās un domā, kā arī viņu metakognitīvo prasmi, un tiek norādīts, ka mūsdienās aktuālāks jautājums par to, vai tehnoloģijas var palīdzēt bērniem apgūt zināšanas, ir jautājums par to, kā ar tehnoloģiju palīdzību to vislabāk sasniegt (Bowman, Donovan, & Burns, 2000). Pētnieki (Siraj-Blatchford & Siraj-Blatchford, 2006) norāda, ka apzināta komunikācija un sadarbība, metakompetences un jaunrade ir bērnu mācīšanās jomas, ko var attīstīt, izmantojot digitālās tehnoloģijas Tiek uzsvērta arī nepieciešamība pēc atbalsta, izmantojot mijiedarbību ar pieaugušajiem un vienaudžiem, kā arī bērnu vajadzībām piemērota programmatūra.

Raksta mērķis – balstoties uz teorētiskās literatūras un logopēdiskajā korekcijā izmantojamo līdzekļu pieejamības analīzi, rosināt diskusiju par digitālo tehnoloģiju izmantošanas iespējām runas un valodas korekcijas darbā pirmsskolā.

Metodes – literatūras analīze, praktizējošo logopēdu aptauja.

Literatūras analīze
Literature analysis

Mijiedarbība ar tehnoloģiju veicina četras mācību jomas: darbības prasmju apgūšanu, izpratnes un zināšanu par pasauli veidošanos, izpratni par tehnoloģijām ikdienas dzīvē (Plowman, McPake, & Stephen, 2008). Mūsdienu pirmsskolas bērni vēlas ātru mijiedarbību un grafisko vidi, nebaidoties izmēģinājumu ceļā izmantot jaunas viedās tehnoloģijas, tādejādi attīstot specifiskas tehniskās iemaņas (Kaimara et al., 2019). Mijiedarbība ar tehnoloģiju veicina darbības prasmju apgūšanu, izpratnes un zināšanu par pasauli veidošanos, izpratni par tehnoloģijām ikdienas dzīvē (Plowman, McPake, & Stephen, 2008). Rezultātā kognitīvās darbības vairs nenotiek secīgi, bet paralēli. Un tradicionālā izglītība tam nav gatava, agrāk izmantotās metodes un paņēmieni šiem bērniem liekas neinteresanti, garlaicīgi (Bennett, Maton, & Kervin, 2008).

OECD *(Organisation for Economic Co-operation and Development)* Starptautiskās skolēnu novērtēšanas programmas PISA 2012 (65 dalībvalstis) ietvaros tiek analizēti jautājumi par informācijas un komunikācijas tehnoloģiju izmantošanu matemātikā, lasīšanā un problēmu risināšanā, ietverot bērnu atbildes par sevi, savām mājām, skolu un mācību pieredzi, vecāku iesaiste bērna mācībās skolā un atbalsts mājās. Tiek secināts, ka digitālās tehnoloģijas var uzlabot mācīšanu un mācīšanos dažādos veidos, dodot iespēju bērniem būt aktīviem mācību procesa dalībniekiem, jo ir iespējams pielāgot mācību tempu, sniegt atgriezenisko saiti, kā arī atbalstīt kopīgo mācīšanos, kas ir efektīva, jo notiek sadarbībā ar citiem bērniem un skolotājiem (OECD, 2014). Tiek norādīts (Misják & Berecz, 2018), ka ar tehnoloģiju palīdzību vieglāk noturēt bērnu

uzmanību, efektīvi mācīties, iespējams aktivizēt bērnu redzes uztveri, bet ar skaņas efektiem un spēles norādījumu izrunāšanu stimulēt klausīšanās prasmes attīstību.

Pareizi organizēta mācību vide, kurā mijiedarbojas saturs, tehnoloģijas un izglītojamais, ļauj īstenot personificētu pedagoģisko un korekcijas darbu, ievērojot bērna individuālās vajadzības, intereses, attīstības dinamiku un problēmas, sniedzot nepieciešamo atbalstu, ievērojot individuālo darba tempu un attīstot pašregulāciju (Spector, 2014). Digitālās tehnoloģijas var veicināt agrīnas lasītprasmes apguvi, matemātiskās prasmes, attīstīt pozitīvu attieksmi pret mācīšanos (Jackson, Eye, Fitzgerald, Witt, & Zhao, 2011), veicināt vizuāli telpisko spēju attīstību (Li, Atkins, & Stanton, 2006). 3-4 gadus veciem bērniem, darbojoties ar dažādām tehnoloģijām, uzlabojas to pielietošanas prasmes, un izglītošanas procesā svarīga ir pieaugušā līdzdalība un izpratne par veidiem, kas varētu atbalstīt bērnus to mijiedarbībā ar tehnoloģijām. Bērni mācās neatkarīgi no viņu vecāku vai skolotāju līdzdalības, bet, mācoties konkrētam mērķim, šī līdzdalība un atbalsts ir nepieciešami (Alexander, 2008). Jāapzinās, ka digitālās tehnoloģijas ir viens no pedagoģiskajiem līdzekļiem un nevar pilnībā aizstāt mijiedarbību skolotājs – bērns. Mācības vispirms notiek ar starppersonisku mijiedarbi, pēc tam seko personiskas konsultācijas, pirms izglītojamais var rīkoties neatkarīgi. To raksturo kā pāreju no vadošās mijiedarbības (jeb citu palīdzības) uz pašmotivētu (pašpalīdzību) darbību (Vygotsky, 1981).

Izmantojot tehnoloģijas, pirmsskolas pedagogam jābūt atbilstošai kompetencei un izpratnei, kad, kādā veidā un cik ilgi organizēt pedagoģiskās darbības, izmantojot tehnoloģijas. Literatūrā (Wu, Fowler, Lam, Wong, Wong, & Loke, 2014) tiek uzsvērts, ka tehnoloģiju izmantošana pirmsskolā var ietekmēt bērnu gan pozitīvā , gan negatīvā veidā, jo pirmsskolas vecumposmā notiek ļoti strauja attīstība visās jomās. Ilgstoši lietojot digitālās tehnoloģijas, mazinās bērnu kustību aktivitāte, palielinās aptaukošanās un muskuļu, skeleta problēmu risks (Bremer, 2005), var veidoties atkarības risks, paaugstinot agresīvas un vardarbīgas uzvedības rādītājus(Subrahmanyam et al., 2000). Bieža un ilgstoša digitālo tehnoloģiju lietošana var kavēt pirmsskolas vecuma bērnu sociālo prasmju attīstību (Jackson et al., 2011).

Lai nodrošinātu tehnoloģiju lietošanu veselīgā un lietderīgā veidā, svarīgi iesaistīt vecākus un skolotājus kā sadarbības partnerus, pētīt stratēgijas, ko pieaugušie izmanto bērnu digitālo aktivitāšu regulēšanai (Van den Bulck & Van den Bergh, 2000).

Sākotnēji stratēgijas izdalīja saistībā ar TV skatīšanos, un tās ir:

- aktīvā vai pamācošā (instructive)
- ierobežojošā (restrictive)
- kopīgās skatīšanās (co-viewing) (Nathanson, 1999).

Šīs stratēģijas tika pārnestas uz videospēļu spēlēšanu, un pēdējā tika nosaukta par kopīgas spēlēšanas stratēģiju *(co-playng)* (Miltuze, Sebre, & Vedeņejeva, 2018). Šo stratēģiju iespējams izmantot arī bērnu runas un valodas korekcijas darbā, jo, kā liecina pētījumi, korekcija, izmantojot e- vidi, bērnam rada interesi, vērojama izaugsmes dinamika, kura pārsniedz vidējos radījumus un atbilst mūsdienu bērnu vajadzībām (Toki & Pange, 2010).

Šobrīd Latvijā bērnu runas darbības aktivizācija un korekcija visbiežāk notiek, izmantojot papīra formāta didaktiskos materiālus, arī rotaļlietas. Bieži materiāli nespēj bērnus ieinteresēt , izsaukt pozitīvas emocijas, vēlmi darboties. Trūkst mērķtiecīgi izstrādātu digitālu materiālu valodas un runas attīstīšanai (Vindece & Usca, 2019). Nepieciešams apzināt reālo situāciju un rosināt diskusiju par jaunu digitālo korekcijas līdzekļu izveidi, kas ļautu organizēt mūsdienu vajadzībām atbilstošu transformējošu pedagoģiskā un korekcijas darba procesu, kas vērsts uz valodas sistēmas attīstību un skaņu artikulācijas nostiprināšanu un veido vienotu sistēmu, sadarbojoties logopēdam, bērna vecākiem un bērnam.

Pētījuma metodoloģija
Methodology

Lai noskaidrotu praktizējošo logopēdu attieksmi pret digitālo tehnoloģiju izmantošanu valodas korekcijas darbā, pieredzi to izmantošanā, tika veikta aptauja. Aptaujā piedalījās 32 respondenti. Respondentiem ir atšķirīgs darba stāžs: 9 respondentiem darba stāžs ir līdz 5 gadiem, 11 respondentiem darba stāžs ir no 5 līdz 20 gadiem, 12 respondentiem darba stāžs ir virs 20 gadiem. Respondentiem dažāds vecums: 9 respondenti ir vecumā līdz 35 gadiem, 7 respondenti vecumā no 35 līdz 44 gadiem, 7 respondenti vecumā no 45 līdz 54 gadiem, 7 respondenti ir 55 vai vairāk gadus veci, 2 respondenti vecumu neuzrādīja. Šāda respondentu kopa atbilst reālajai situācijai valstī: 2017.gadā Latvijā vidējais pedagogu vecums bija 48 gadi, un tam ir tendence palielināties, jo 2013. gadā tas bija 47 gadi (Eurostat, 2019).

Aptaujā iegūtie dati tika kodēti un apstrādāti programmā SPSS 25.0. Sākotnēji tika veikts Kronbaha alfa tests, lai noteiktu anketas iekšējo saskaņotību. Konkrētajā gadījumā α =,831, kas ir labs koeficients.

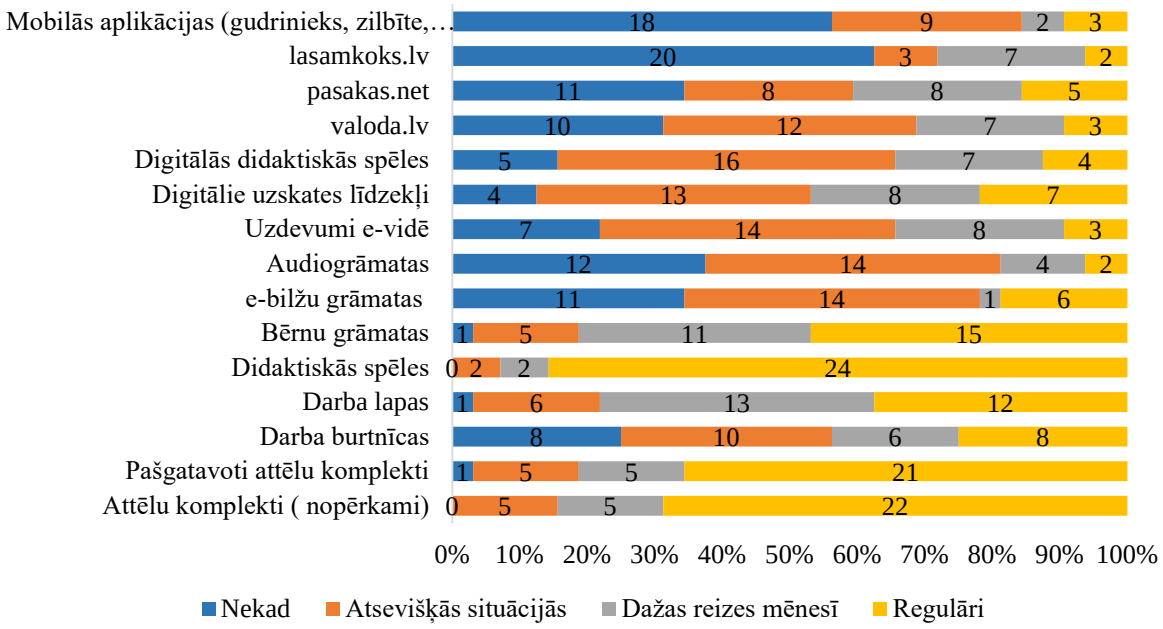
Rezultāti un diskusija
Results and discussion

Aptaujas rezultāti liecina, ka logopēdi priekšroku dod tradicionālajiem mācību līdzekļiem, izmantojot nopērkamus un pašgatavotus attēlu komplektus. Digitālo līdzekļu izmantošana tikai daļai logopēdu kļuvusi par ikdienu. To nosaka iestādes nodrošinājums ar tehniskajiem līdzekļiem, e-vidē izmantojamā materiāla

atbilstība bērnu vecumposmam un logopēda kompetence darbam e-vidē un informācijas lietotprasme, kas ir vienas no galvenajām prasmēm, lai gūtu panākumus, un skolotājiem, kuri uzņemas atbildību par mācīšanu un vada citus, ir jābūt šīm prasmēm, jo pašefektivitāte ietekmē uzdevumu, sasniegumu un noturības izvēli (Schunk, 2003). Tā ir būtiska, lai veicinātu bērnu iesaistīšanos un mācīšanos (Linnenbrink & Pintrich, 2003).

Digitālajā vidē visbiežāk tiek izmantotas e-grāmatas, digitālie uzskates līdzekļi un didaktiskās spēles.

Aptaujas rezultāti liecina, ka logopēdam korekcijas darbam pieejams dators (minēts 28 gadījumos), pusei respondentu interaktīvā tāfele (minēta 17 gadījumos), reti planšete (minēta 4 gadījumos). Nepietiekamais tehniskais nodrošinājums ierobežo digitālo līdzekļu izmantošanu, logopēdam apgrūtināta jaunas pieredzes gūšana, līdz ar to mazinās iespējas novērtēt digitālo tehnoloģiju efektivitāti ikdienas korekcijas darbā (skat. 1. attēlu).

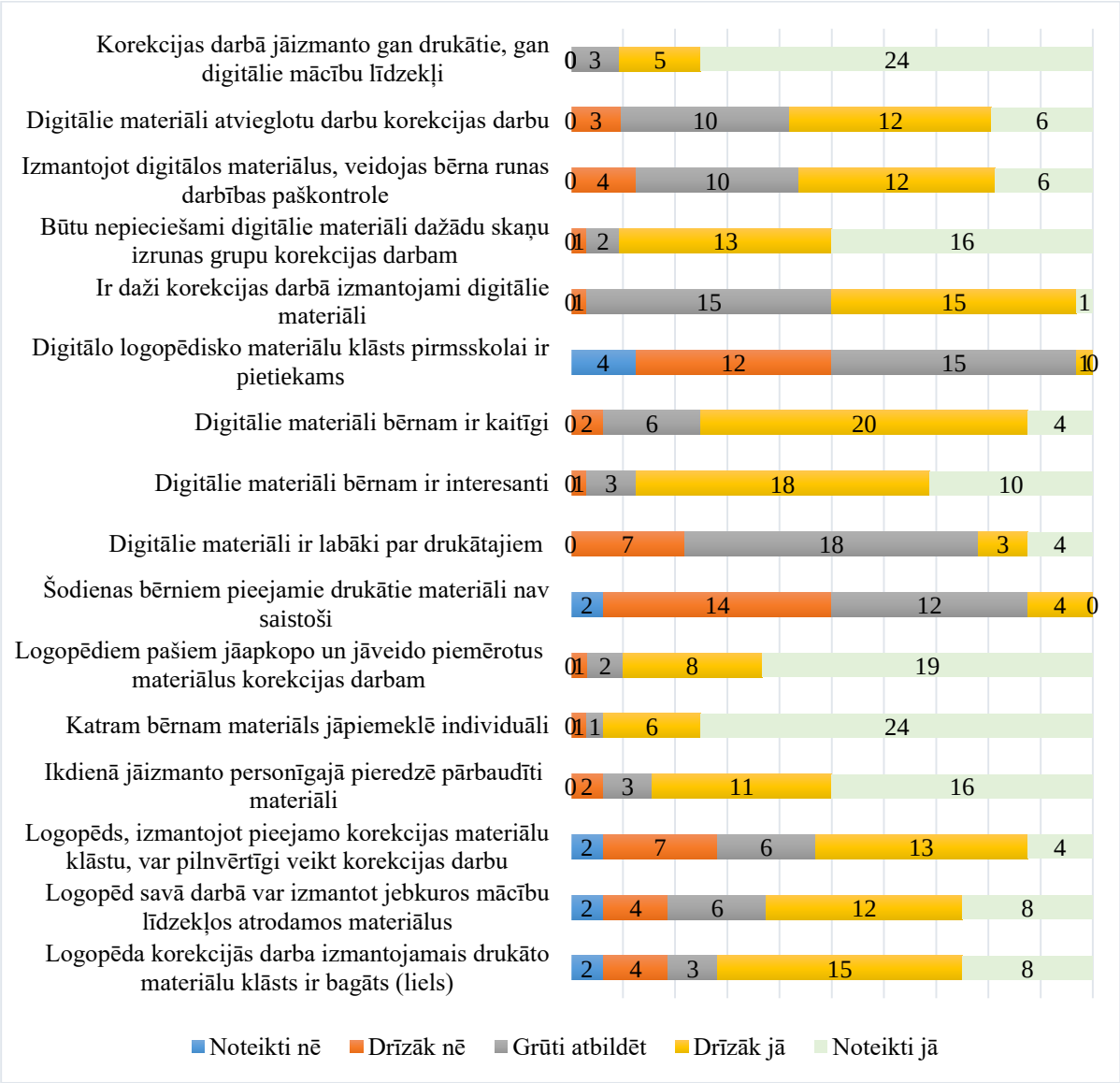


1. attēls. ***Mācību līdzekļu izmantošana korekcijas darbā***
Figure 1 ***Use of Teaching Aids in Correction Work***

Korelācijas starp respondentu darba stāžu, vecumu, izglītības iestādes veidu un tradicionālo vai digitālo mācību līdzekļu izvēli netika konstatētas.

Svarīgs ir logopēdu personiskās attieksmes jautājums. Lielākā daļa respondentu (24 gadījumos) uzskata, ka korekcijas darbā būtu izmantojami gan drukātie, gan digitālie mācību līdzekļi, un digitālie mācību līdzekļi atvieglotu korekcijas darbu, veidotos bērna runas paškontrole (18 respondenti). Tas norāda

uz izpratni, ka digitālās tehnoloģijas ir viens no pedagoģiskajiem līdzekļiem un nevar pilnībā aizstāt starppersonisko mijiedarbi (2. attēls).



2. attēls. ***Mācību līdzekļu izvērtējums praktizējošo logopēdu skatījumā***
Figure 2 ***Evaluation of Teaching Aids from the Perspective of Practicing Speech Therapists***

Rezultātos konstatētas statistiski nozīmīgas atšķirības (p=,012) atkarībā no respondentu darba stāža apgalvojuma *Ikdienā jāizmanto personīgajā pieredzē pārbaudīti materiāli* novērtējumos: jo lielāks darba stāžs, jo vairāk respondenti piekrīt šim apgalvojumam. Apgalvojumu novērtējumu ietekmē arī darba vieta. Statistiski nozīmīgas atšķirības tika konstatētas apgalvojumu *Digitālo logopēdisko materiālu klāsts pirmsskolai ir pietiekams*(p=,016), un *Digitālie materiāli atvieglotu darbu korekcijas darbu* (p=,022) novērtējumos.

Apgalvojumu *Digitālo logopēdisko materiālu klāsts pirmsskolai ir pietiekams* biežāk nepiekrīt pirmsskolas izglītības iestādēs strādājošie logopēdi (Mean Rank 13,21), skolās strādājošie piekrīt biežāk (Mean Rank 21,31). Iespējams tieši tāpēc pirmsskolas izglītības iestāžu logopēdi biežāk piekrīt apgalvojumam *Digitālie materiāli atvieglotu darbu korekcijas darbu* (Mean Rank 19,63) nekā skolu logopēdi (Mean Rank 11,92).

Digitālo ierīču izmantošana ļauj rotaļu veidā iesaistīt bērnu mācīšanās/korekcijas procesā un sniegt viņam atbalstu jebkurā laikā un vietā (Gros, 2016). Rezultāti liecina, ka daudziem logopēdiem ir izpratne par digitālo tehnoloģiju izmantošanas iespējām un to izmantošanu atbilstoši bērnu vajadzībām. Iespējams, ka nespēja atrast piemērotus materiālus korekcijas uzdevumam, kā arī nepietiekamā logopēda kompetence izmantot tehnoloģijas skaidro apgalvojuma *Digitālie materiāli bērnam ir kaitīgi* novērtējumu (20 respondenti drīzāk piekrīt, 4 noteikti piekrīt, 6 nevar atbildēt). Tas norāda uz nepieciešamību veidot atbilstošus mācību līdzekļus (uz to nepietiekamību norāda pirmsskolā norāda 16 logopēdi, uz digitālo materiālu skaņu izrunas korekcijai nepietiekamību – 29 respondenti), kā arī logopēdu profesionālās kompetences pilnveidi. Pētījumi Dānijā liecina, ka digitālo tehnoloģiju izmantošana rada pozitīvu ietekmi, tā kā tās var izmantot, lai variētu un diferencētu mācīšanu un motivētu bērnus. Digitālie mācību materiāli padara mācīšanos reālāku, mācību materiālos tiek izmantoti elementi no reālās pasaules un tādējādi atspoguļo aktuālas tēmas, palīdz saīsināt laiku gan plānošanai un uzdevumu izveidei, gan noteiktas vielas apguvei un izvērtēšanai (Søby, 2014). E mācības un digitālo rīku izmantošana darbojas jau Somijā (*Finnish Excellencein Education*), piemēram, lietotne *Innofactor Skilli* ļauj iegūt precīzus datus par katra bērna mācību sasniegumiem, veiktajām aktivitātēm. Skolotājiem un bērniem ir iespējams nostiprināt sasniegtās prasmes un izvirzīt jaunus mērķus. Uzsvars tiek likts uz izglītojamo iesaisti, patstāvīgu darbību, zināšanu konstruēšanu jeb materiālu interaktivitāti (Misják, Berecz, & Gabor, 2018). Latvijā skolas vecumposmam līdzīga lietotne ir *uzdevumi.lv*, kur skolēni paši var veikt dažādos priekšmetos piedāvātos uzdevumus, krāt punktus, kopā ar skolotāju izvērtēt kļūdas un sasniegumus. Pirmsskolai līdzīgas lietotnes nav. Jāpiekrīt atziņai, ka tehnoloģiju joma attīstās ļoti strauji un pedagoģiskās inovācijas bieži netiek līdzi tehnoloģiskajām inovācijām, līdz ar to izglītībā mūsdienās vērojams nepietiekams pārmaiņu menedžments, skolotājiem trūkst metodikas, prasmju, kas palīdz īstenot pārmaiņas (Rubene, 2016).

Pedagogam jāapzinās, ka centrā joprojām ir saturs un izglītojamā vajadzības, bet digitālās tehnoloģijas ir tikai rīks, kas ļauj logopēdam organizēt mācību procesu radoši, atbilstoši bērna vajadzībām (Kim, Cho, &Lee, 2013; Kaimara et al., 2019), iesaistot viņu savu prasmju, iemaņu un noteiktu zināšanu konstruēšanā, kur pats bērns uzņemas atbildību par veicamo uzdevumu, meklē

jaunus risinājumus, nostiprina zināšanas. Izmantojot šos principus, izglītojamais ir mācību vides centrā un aktīvi darbojas (Marouli, Misseyanni, Papadopoulou, & Lytras, 2016.).

Logopēda darbības pamatmērķis ir runas un valodas korekcija bērnam aktīvi līdzdarbojoties, attīstot pašmotivāciju un paškontroli. Iesaistoties mācību procesā, kas rada interesi, atbilst digitālās bērnu paaudzes vajadzībām, veicina pašmotivētu darbību, bērns mērķtiecīgi piedalās runas un valodas korekcijas darbā, līdz ar to nostiprina apgūto, atkārto runas formas, kuras rada grūtības, apjauš, kas vēl jāapgūst.

Secinājumi
Conclusions

1. Digitālās tehnoloģijas ir viens no pedagoģiskajiem līdzekļiem un nevar pilnībā aizstāt starppersonisku mijiedarbi, tomēr to mērķtiecīga izmantošana var veicināt bērna iesaisti runas un valodas korekcijas procesā, padarīt to interesantu, aizraujošu un lietderīgu pašam bērnam.
2. Latvijā trūkst mērķtiecīgi izstrādātu digitālu materiālu valodas un runas attīstīšanai. Nepietiekamais tehniskais un metodiskais nodrošinājums ierobežo digitālo līdzekļu izmantošanu, logopēdam apgrūtināta jaunas pieredzes gūšana, līdz ar to mazinās iespējas novērtēt digitālo tehnoloģiju efektivitāti ikdienas korekcijas darbā.
3. Nepieciešams veikt starpdisciplinārus pētījumus, kuru rezultātā tiku radīti teorētiski pamatoti un praksē aprobēti inovatīvi pedagoģiskie līdzekļi (lietotnes, materiāli) bērnu valodas korekcijai, kas būtu brīvpiekļuvē.
4. Nepieciešams atbalsts topošajiem un praktizējošajiem logopēdiem darbam e-vidē runas un valodas attīstīšanai

Summary

Today's preschoolers want fast interaction and graphic environment and they are not afraid of trying new smart technologies (Kaimara et al., 2019). A well-organized learning environment, where content, technology and learners interact with each other, allows for implementation of personalized pedagogical and correction work, taking into account the child's individual needs, interests, developmental dynamics and challenges and providing the necessary support, keeping the individual pace with work, and developing self-regulation (Spector, 2014). Digital technologies can enhance acquisition of early reading skills, mathematical skills, develop positive attitudes towards learning (Jackson, Eye, Fitzgerald, Witt, & Zhao, 2011), and promote the development of visually spatial abilities (Li, Atkins, & Stanton, 2006).

In order to find out the attitude of Latvian practicing speech therapists towards the use of digital technologies in the work of speech correction, 32 speech therapists were surveyed. The results of the survey show that speech therapists prefer traditional teaching aids using

commercially available and self-made sets of pictures. Only a part of speech therapists use digital tools on a regular basis. The analysis of theoretical literature and the results of the survey concluded the following:

- Digital technologies are one of the pedagogical tools and cannot completely replace interpersonal interactions, but their purposeful use can enhance the child's involvement in the process of speech and language correction, make it interesting, engaging and useful for the child himself/herself.
- There is a lack of purposefully developed digital materials for language and speech development in Latvia. Insufficient technical and methodological resources limit the use of digital tools, thus reducing the possibilities to evaluate the efficiency of digital technologies in daily correction work.
- There is a need for interdisciplinary research, leading to the creation of theoretically grounded and practically approbated innovative pedagogical tools of free access (applications, materials) for children's speech correction.
- There is a need for support for future and practicing speech therapists to work on children's speech and language development in the e-environment.

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PARENT-TRAINING TO SUPPORT PARENTS OF CHILDREN WITH AUTISM SPECTRUM DISORDERS

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Abstract. *Social inclusion necessitates educational efforts to be made to address everyday problems and difficulties. Researchers and practitioners widely emphasize the importance of training parents of children with special needs. Parents of children with Autism Spectrum Disorder have been successfully taught to improve their parent-child relationship, increase communication skills, and decrease inappropriate behaviors, as well as to reduce their psychological distress. This paper presents the results of a survey carried out within the two-year project EXEC (Extending Social Educators Competences) supported by the European Union.*
Keywords: *social inclusion, autism spectrum disorders, special needs education, parent-training, social educators', professionalization.*

Introduction

Developmental disability represents an alarming global issue for its implications on public health (Moeschler & Shevell, 2014), since poverty and disability are often mutually related (de Chenu, Dæhlen, & Tah, 2016; Flynn, 2019).

Autism Spectrum Disorder (ASD) is a specific developmental disability characterized by social and communication impairments, as well as by restricted interests and repetitive behaviors (American Psychiatric Association, 2013). Its median of prevalence, worldwide, is estimated at 62/10,000 (Elsabbagh et al., 2012).

Over the last few decades, the number of people diagnosed with ASD has increased significantly in those countries where prevalence studies have been conducted (Hansen, Schendel, & Parner, 2015). Furthermore, from recent research it emerges that there is a high rate of clinically significant psychiatric problems among children suffering from ASD. Anxiety and attention deficit hyperactivity disorder are the most frequently detected syndromes (Skokauskas & Gallagher, 2012).

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Corresponding to the increasing number of individuals being diagnosed with autism, there is a growing demand for support to be provided throughout their lifespan (Jariwala-Parikh et al., 2019). Cross-sectional US studies have shown that ASD leads to extensive use of social services and high demands on healthcare (Croteau, Mottron, Dorais, Tarride, & Perreault, 2019). In this regard, it has been observed that the need for high-cost institution-based care may be reduced by developing interventions aimed at enhancing independent living skills and identifying and implementing less costly home and community-based alternatives (Cidav, Lawer, Marcus, & Mandell, 2013). On the other hand, a child with ASD creates several issues for families owing to behavioral crises that follow from changes to routines, as well as community and recreational restrictions.

Over 90% of parents of children with ASD experience situations of stress and anxiety (Nikmat, Ahmad, Oon, & Razali, 2008), and the literature demonstrates that this stress increases according to the level of severity of the child's disturbance (Osborne & Reed, 2009). Nevertheless, parents' behavior plays a fundamental role in facilitating cognitive, adaptive, and social development and adaptation of their children. Families are socializing agents and, as such, influence children's behavior through their actions, attitudes, and practices.

How, then, can one actively involve families as an element in developing interventions directed at children with ASD?

Might parent-training programs offer a means of supporting families to sustain the daily burden and enhance the creation of community-based services?

The importance of training parents is widely emphasized by researchers and practitioners (Wang, Lam, Kim, Singer, & Dodds, 2016), and there are many studies that argue the effectiveness of parent-focused interventions, for example to improve parent wellbeing (Rutherford et al., 2019), although a research effort is needed to determine the optimal parent intervention models.

Parent training

According to Callias, parent training refers to "educative interventions with parents that aim to help them cope better with the problems they experience with their children" (Callias, 1994, p. 918). However, other terms are used to address parent-training such as "parent education" (Schultz, Schmidt, & Stichter, 2011), "in-home training" (Seung, Ashwell, Elder, & Valcante, 2006), and "parent-mediated" (Ingersoll & Wainer, 2013).

There are many practical approaches to parent education for ASD. The main differences concern the program's format, intensity, location, duration, and target age (Steiner, Koegel, Koegel, & Ence, 2012).

According to Bearss, Burrell, Stewart, and Scahill, (2015), there are two broad categories of interventions that invoke the label parent-training: *Parent Support* and *Parent-Mediated Intervention* (PMI). Parent support includes programs intended to provide an indirect benefit to children by providing support to parents and increasing the parent's knowledge about ASD. Parent-mediated interventions, on the other hand, encompass techniques where the parents are agents of change whilst children are the direct beneficiaries of treatment.

Figure 1 shows the taxonomy of parent training in the scope of ASD.

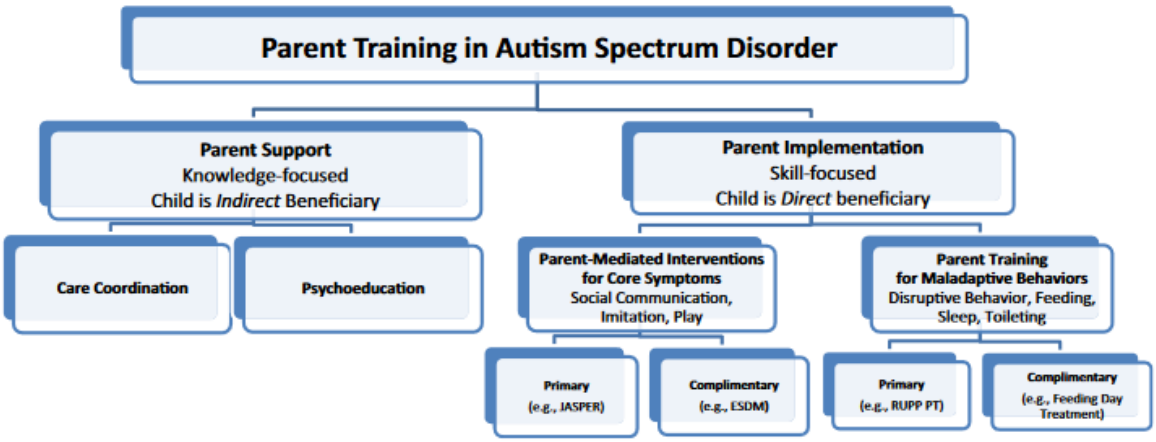

Figure 1 ***Parent training in ASD*** *(source: Bearss, Burrell, Stewart, & Scahill, 2015, p.171)*

There are many programs for parent-training in ASD that have previously been experimented, such as *Understanding Autism and Understanding My Child with Autism* (Farmer & Reupert, 2013), *RUPP ParentTraining* (Bearss, Johnson, Handen, Smith, & Scahill, 2013), and Transitioning Together (Smith, Greenberg, & Mailick, 2014). In this paper, we present the results of a survey carried out within the scope of the two-year project ESEC (Extending Social Educators Competences) focusing on parent-training in ASD, which is supported by the European Union.

ESEC objective and research methodology

The ESEC project began in December 2018 and will end in November 2020. It involves partners from five European countries (Italy, Latvia, Greece, Spain, and Poland), and pursues the general objective of extending the current competence of social educators. More precisely, it will design and experiment an innovative parent-training program for parents of children with behavioral disabilities, focusing on those with ASD.

The expected results from the ESEC project are:

- drawing up evidence-based guidelines for designing, implementing, and running parent training programs in an online environment;
- running a pilot that addresses the key issues, both theoretical and practical, related to parent-training practices in the ASD field.

The project foresees two phases:

- Phase I, that includes desk research on parent-training in ASD, and a survey conducted in each of the participating countries;
- Phase II, that includes the design and running of a parent-training pilot in an online environment, as well as the analysis and discussion of the educational experience in order to provide advice and recommendations to social educators involved in ASD.

As at this time, Phase I is nearing completion, and the design of the online environment and the learning units has been initiated.

The desk research was based on a two-stage procedure. We first searched on online databases (Scopus, TR Web of Sciences, SAGE, Wiley Online Library, IEEE Xplore Digital Library, and Google Scholar), selecting a pool of candidate articles, projects, and initiatives relevant to the project aim. From this research, we used the selected material to support an analysis of the experimented parent-training programs and the current best practices.

The results of the desk analysis have been partially used to inform the discussion in the previous paragraphs. The survey was conducted with the view to understanding the context of the parent-training currently provided in the different participating countries, and to propaedeutically support the needs analysis for Phase II.

Cronbach's alpha test was performed to determine the internal consistency of the survey. Subsequently the Kolmogorov–Smirnov test was used for the data analysis whilst the Kruskal–Wallis test was applied to determine statistically significant differences. Finally, a five-point Likert scale has been employed for the structured interviews (1 for "I completely disagree"; 2 for "I somewhat disagree"; 3 for "I neither agree nor disagree"; 4 for "I somewhat agree"; and 5 for "I completely agree").

Survey results

The comparative analysis of the surveys conducted in the project participating countries is ongoing.

Partial results corresponding to the survey conducted in Italy are presented as follows.

The survey was based on structured interviews carried out on three groups of respondents, namely 108 social educators, social workers, and teachers; 75 parents; and 32 stakeholders.

The survey analyzed two main dimensions:

1. The subjective importance given to parent-training practices;
2. The opinion of respondents regarding the skills (or abilities) and competences necessary for educators involved in parent-training.

The group of 108 social educators, social workers, and teachers was composed of 96 females and 12 males, distributed across 5 age classes, as follows: 18 – 25 years (5); 26 – 35 years (33); 36 – 45 years (14); 46 – 55 years (21); and over 55 years (35). Respondents had different educational levels: secondary school (7), bachelor's degree (44), master's degree (26), other (31). Table 1 and Table 2 report, respectively, the importance attributed by social educators/social workers/ teachers to parent-training practices, and the evaluation of the most relevant skills and competences required in parent-training.

Table 1 ***Evaluation of parent-training practices by social educators/social workers/teachers (Italy)***

Statement	Mean
Satisfaction of the experience	1.57
Training methodology	1.49
Use of online tools	1.17
Socialization with parents	1.55
Effectiveness on parents	1.44
Acquisition of new knowledge	1.58
Impact on your personal awareness	1.62

Table 2 ***Skills or competences needed in parent-training practices according to social educators/social workers/teachers***

Actual (Mean)	Ability/Competence	Importance (Mean)
3.01	Deep expertise in the area to train	4.31
2.68	Abilityto work in a collaborative online environment	3.42
3.21	Competence in teaching parents new skills	4.26
3.73	Skills to accept suggestions/feedback from the parents	4.38
3.35	Competence in teaching parents emotional communication skills	4.42
3.36	Ability to analyze Parent Implementation and Provide Corrective Feedback	4.31
3.42	Strategies for Evaluating Parent and Child Progress	4.41
3.38	Fluency in Presenting Information and Giving Feedback	4.29
3.31	Knowledge of the Empirical and Conceptual Basis of Intervention	4.44
3.50	Teach by using concrete, positive examples; provide supporting materials to illustrate examples	4.44
3.39	Setting goals and selecting strategies for parent education	4.52

A statistically significant difference has been found between the evaluation that teachers and social workers attributed to the statement *Parent-training participation can be increased using online learning-tools* (p=.018). Teachers showed the highest value (Mean Rank 94.75), whereas social workers the lowest (Mean Rank 29.50). Another statistically significant difference concerns the gender of respondents. In general, females rank communication and socialization skills more positively than males. The group of 75 parents of children with neurodevelopmental disorders (especially ASD) comprised 46 females and 29 males, distributed across 5 age classes, namely: 18 – 25 years (4); 26 – 35 years (5); 36 – 45 years (14); 46 – 55 years (26); and over 55 years (26). Respondents held different education levels: secondary school (29); bachelor's degree (3); master's degree (12); other (31). In respect to employment, 16 respondents had no work experience; 3 had less than one year; 5 had from 1 to 5 years; and 51 had more than 5 years. Table 3 and Table 4 show, respectively, the importance attributed by parents to parent-training practices, and their evaluation of the most relevant abilities and competences that educators in parent-training programs should possess.

Table 3 ***Importance attributed by parents to parent-training practices***

Statement	Mean
Satisfaction of the experience	3.12
Contents of the training	3.07
Competence of trainers	3.18
Socialization with other parents	2.84
Beneficial effects	3.00
Acquisition of new knowledge	3.05
Impact on personal awareness	3.07

Table 4 ***Abilities and competences of educators in parent-training programs (parents' opinion)***

Ability/Competence	Mean
Deep expertise in the area to train	4.52
Ability to work in a collaborative online environment	2.91
Competence in teaching parents new skills	4.27
Skills to accept suggestions/feedback from the parents	4.47
Competence in teaching parents emotional communication skills	4.52
Ability to Analyze Parent Implementation and Provide Corrective Feedback	4.41
Strategies for Evaluating Parent and Child Progress	4.25
Fluency in Presenting Information and Giving Feedback	4.09
Knowledge of the Empirical and Conceptual Basis of Intervention	4.13
Teach by using concrete, positive examples; provide supporting materials to illustrate examples	4.29
Setting goals and selecting strategies for parent education	4.04

The group of 32 stakeholders was formed of 22 females and 10 males, distributed between 4 age classes, being: 26 – 35 years (5), 36 – 45 (16), 46 – 55 (7), and over 55 years (4). Respondents had different education levels: bachelor's degree (3), master's degree (22), other (6), and one did not respond. One of them declared from 1 - 5 years of work experience and 31 more than five years. Table 5 and Table 6 show, respectively, the importance attributed by stakeholders to parent-training practices, and their evaluation of the most relevant abilities and competences with which educators in parent-training programs should be endowed.

Table 5 ***Importance attributed by stakeholders to parent-training practices***

Statement	Mean
Parent-training aims at creating or improving competence of participants	4.53
Online learning-tools can increase parents participation	3.03
A parent-training process aims at improving the awareness of participants about their problematic situations	4.47
Parent-training participation can be increased using online learning-tools	3.25
The most important skills of a parent training trainer is the ability to communicate	4.47
Participants should socialize and work together	4.06
Parent training is a program in which parents actively acquire parenting skills through mechanisms such as homework, modeling, or practicing skills	4.25

Table 6 ***Abilities and competences of educators in parent-training programs (stakeholders' opinion)***

Ability/Competence	Mean
Deep expertise in the area to train	4.28
Ability to work in a collaborative online environment	3.44
Competence in teaching parents new skills	4.59
Skills to accept suggestions/feedback from the parents	4.72
Competence in teaching parents emotional communication skills	4.66
Ability to analyze Parent Implementation and Provide Corrective Feedback	4.56
Strategies for Evaluating Parent and Child Progress	4.44
Fluency in Presenting Information and Giving Feedback	4.53
Knowledge of the Empirical and Conceptual Basis of Intervention	4.50
Teach by using concrete, positive examples; provide supporting materials to illustrate examples	4.72
Setting goals and selecting strategies for parent education	4.78

Conclusion

The analysis of the research results is still in progress, since the project partners are currently carrying out a comparative analysis of data resulting from their research. However, the outcomes of the Italian survey broadly confirm what emerged from the desk research, namely that parents and stakeholders attribute

great importance to parent-training practices. Nevertheless, it should prove useful for a supplementary analysis to understand the different points of view of social educators, social workers, and teachers regarding parent training practices, as it seems that the different roles the play may affect their evaluation. Another question that should be investigated in depth is the openness of trainers and parents to using online training programs. Online training can considerably reduce the cost of parent-training practices as well as greatly expand the audience of participants. There are, however, many issues that must be considered when implementing effective online parent training programs, e.g., the structure and organization of learning units, the heterogeneity of the audience, their capability to use the technology, the participation of facilitators, etc. The above questions will be discussed between the ESEC partners as soon as Phase I of the project is completed.

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ESEC
Extending Social Educators competences

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OVERCOMING SOCIAL INCLUSION BARRIERS FOR PEOPLE WITH INTELLECTUAL DISABILITY

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Abstract. *The cultural changes that have taken place and the social sciences contributions that have been published over the last few decades have inaugurated a new vision of people with disabilities that upholds the values of rights, equality, participation, and social inclusion. Although these changes have been widely supported through the ratification of important international treaties (for example, the United Nations Convention on the Rights of Persons with Disabilities) and by scientific evidence, however, they are still struggling to penetrate into the wider social and cultural system, or to become common practice in services directed at people with disabilities. Social inclusion for people with disabilities, and in particular intellectual disabilities, remains, in fact, a difficult objective to achieve. Above all, cultural barriers are still a hindering factor in social inclusion processes. This paper is a commentary on the research carried out within the two-year European project ESEC (Extending Social Educators Competences).*
Keywords: *deinstitutionalization, quality of life, intellectual disability, social inclusion, stereotypes.*

Introduction

Usually, reflections on disability have been limited to specific areas, such as health, social care, or education. The premise underlying this "confinement" was the widespread and deep-rooted belief that disability is necessarily an individual problem. Accordingly, it is considered a deficit condition that deprives the person of the possibility of living meaningful experiences and which, therefore, cannot in any way be chosen or preferred to able-bodied life, as it has a decisive influence on the possibility of living in a dignified way. Since the sixties, however, this dogmatic outlook has gradually begun to crumble, especially following the lively and fierce criticism directed - at the political level, by the disability rights movement, and at the academic level, by the so-called disability studies.

As a result of this activism and following numerous contributions in the field of social-health science, the last few decades have seen a progressive shift, firstly from an individualistic to a "social conception", and then on to a "bio-psycho-social conception" of disability (World Health Organization, 2007).

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This has reimagined the issue of disability, transforming it into an articulated and multidimensional phenomenon. Due to this approach, disability has been reconfigured as being the product of a complex interaction between the subject and the surrounding environment. In this way, disability has become a theme that has transcended the medical-welfare field and ended up influencing the social, cultural, and policy spheres. Disability is actually no longer considered in terms of individual deficit. On the contrary, the approach to disability is based on positive models that emphasize the potential, the empowerment, and the individual rights of people with disabilities that must be supported and guaranteed for their Quality of life [QoL]. QoL has, over the last two decades, undoubtedly become the scientifically validated framework on which to program and implement policies, services, and practices for people with intellectual disability (Renwick & Brown, 1996; Buntnix & Schalock, 2010). One of most important constructs that is closely tied to QoL is Social Inclusion. It is considered a core domain of QoL, and is seen as being essential for human functioning (Verdonschot, deWitte, Reichrath, Buntinx, & Curfs, 2009). There has broadly been agreement across various quantitative and qualitative studies that a move from any type of institutional setting to community living is associated with a QoL improvement. The Convention on the Rights of Persons with Disabilities (United Nations, 2006) reinforces social inclusion and independent living as being a fundamental right for persons with disabilities. Despite the recognition of these rights, however, the opportunity to be part of the community remain limited for people with intellectual disability, and they participate far less in recreational and community-programs/activities than people without intellectual disability (Dusseljee, Rijken, Cardol, Curfs, & Groenewegen, 2011). Most of those with intellectual disability still live in institutions, and there is a general lack of opportunities for them to be involved in the typical relationships and normal activities of community life. They face many challenges with regard to education and employment, health services and social support, transport, and access to buildings. They also face challenges concerning housing, leisure, and their overall social and political life. All this has a profound effect on their QoL and on their possibilities of developing positive existential trajectories.

Research objectives and methodology

This paper is a commentary that presents some reflections coming from the two-year project ESEC (Extending Social Educators Competences) supported by the European Union. The ESEC project began in December 2018 and will end in November 2020. It involves partners from five European countries (Italy, Latvia, Greece, Spain, and Poland), and pursues the general objective of extending the current competence of social educators. More precisely, it focuses on social

inclusion and will design and experiment an innovative parent-training program for parents of children with special needs.

The research was based on a two-stage procedure. We first searched on online databases (Scopus, TR Web of Sciences, SAGE, Wiley Online Library, IEEE Xplore Digital Library, and Google Scholar), selecting a pool of candidate articles, projects, and initiatives relevant to the project aim.

In the following paragraphs some considerations on social inclusion are presented focusing on current issues on social inclusion and intellectual disabilities.

Defining Social inclusion

Social inclusion is a broad construct linked to numerous economic, social, political, and cultural aspects, which is used in various fields and disciplines. In a very general sense, inclusion means being involved in a form of social life (Ikäheimo, 2009). The term 'social life' refers to abstract notions such as inclusion in typical activities of human interaction and economic and political life as well as to involvement in close relationships, such as with friends and family. Important aspects of social inclusion include having a valued role and participation in society, developing relationships, and having a sense of belonging (Lemay, 2006). Social inclusion does not concern only the characteristics of people or contexts, but the processes of interaction between them which allow people, with disabilities or other differences, to feel recognized and valued, just like any other member of the community to which they belong. Cobigo, Ouellette-Kuntz, Lysaght & Martin (2012) defined social inclusion as representing a series of complex interactions between environmental factors and personal characteristics.

Understanding the processes of inclusion requires the application of ecological approaches that integrate different factors in the different layers of the social system: the individual level, interpersonal level, organizational level, community level, and socio-political level (Verdonschot et al., 2009). These variables exist in a mutual relationship and can create the conditions enabling or disabling social inclusion outcomes.

Social Inclusion value

Inclusion contributes to assure equality of opportunity, full participation, independent living, and economic self-sufficiency for individuals. For social inclusion to be achieved, it requires development, freedom, and recognition (Felder, 2018). The relationship between recognition and inclusion is of anthropological significance: human individuals structurally rely on others to

develop all, or at least some, of their cognitive, moral, and affective capacities. Recognition as a human being with certain basic needs (love and care, for instance) is indispensable for a healthy development.

The relationship between freedom and social inclusion is not immediate to understand. If we consider that people with intellectual disability often come from inclusions or exclusions imposed by others, then the relationship between inclusion and freedom becomes more apparent. In the case of disability, often a lack of inclusion and opportunities for making choices may derive from over protection attitudes. In this regard, Perske (1972) introduced the concept of dignity of risk. Dignity of risk is the notion that self-determination and the right to take reasonable risks are essential prerequisites for dignity and self-esteem. Because of this, the ability to take risks should not be impeded by excessively cautious caregivers. On the contrary, overprotection of people with disabilities creates a sense of low self-esteem and underachievement due to the lowered expectations that come with overprotection. The internalization of low expectations also causes the person with a disability to believe that they are less capable than others in similar situations.

Cultural barriers to social inclusion

Obviously, individual factors constitute one of the basic factors of the difficulties in inclusion processes that people with intellectual disabilities usually face. Individual enabling/disabling conditions may include a person's level of functioning, self-motivation, confidence, their knowledge of the area and of the activities on offer, and the use of goal setting. Several studies have shown an increase in the probability of negative inclusion outcomes in the presence of higher levels of impairment (Bowe, 2003; Caton & Kagan, 2007). At the same time, literature highlights that contextual and social factors influence social inclusion processes in the same way (Burchardt, 2004). For people with intellectual disabilities, in fact, social inclusion outcomes depend particularly on policies, attitudes, and available opportunities provided by social contexts (Duvdevany & Arar, 2004). In addition to the individual dimensions, the contextual components have a decisive impact on the social inclusion and individual personal development outcomes (Committee on Disability in America, 2007). Among the contextual factors, social expectations for those with disabilities play a crucial role.

Social expectations and stereotypes of people with intellectual disabilities

According to Goffman, "Society establishes the means of categorizing persons and the complement of attributes felt to be ordinary and natural for members of these categories." (Goffman, 1963, p. 5). Even today, expectations seem to be strongly influenced by stigma and stereotypes of disability that are still very much present at a social level. These stereotypes negatively affect the policies and planning of services and interventions for people with disabilities. Moreover, they contribute to slowing down the paradigm shift necessary for the full promotion of the rights of participation and social inclusion anticipated by the UN Convention.

Certain stereotypes used to label those with disabilities still persist at different levels of the social system. Incomplete information, mistaken perceptions, isolation, and segregation have perpetrated many of these stereotypes. The way people think about disability affects the care and education of these persons. Myths and misconceptions about disability are common. Promoting negative images of disability represents a form of discrimination because it creates barriers to full citizenship (Pelleboer-Gunnink & Van Weeghel, Embregts, 2019). Stereotypes of people with disabilities portray them in a range of ways, from being pitiable and pathetic, sinister or evil, tragic but brave, laughable, aggressive, burdens/outcasts, and asexual, and of being incapable of fully participating in everyday life. There is a habit to consider a person with an intellectual disability as a "childlike" and thus deny them the recognition of their real age and existential phase (Shakespeare, 2013). This produces a thought of people with disabilities as "incompetent and dependent" that do not possess the intellectual resources and learning potential required to address the social demands to which we, as members of the community, are typically subject. All these attitudes are deeply rooted in a sort of "autopilot driver" through which the existential designs of people with disabilities are largely conceived.

The literature in recent years has underlined that the attitudes of professional carers towards young people with different types of disabilities has a profound influence on many aspects of their social inclusion, their treatment, and the outcomes that are achieved in the future in their favor (Colella, DeNisi, & Varma, 1998; Annable et al., 2003).

Expectations and attitudes constitute a significant predictor compared to the possibilities of young people with intellectual disability entering the world of work (Holwerda, Brouwer, de Boer, Groothoff, & Van der Klink, 2015).

These data indicate the change has not yet been fully realized, and that the risk of falling into the old ways of thinking is very high.

Difficult to change paradigms

What is meant by paradigmatic change? What is the level of change when it involves not simply a few aspects, but an entire paradigm? For Thomas Kuhn, the term "paradigm" indicates a coherent set of principles that underlie universally recognized scientific achievements, which, for a certain period of time, provide a model of acceptable problems and solutions to those who practice within a particular field of research. In other words, the paradigm is a profound structure, made up of beliefs and assumptions, long before the establishment of scientific models of explanation (McNamara, 1979). Thus, a paradigm is constructed and reinforced on the basis of non-scientific factors, such as the social values and psychological conditions of a historical period, and the view of the world shared at the time. As time passes, however, scientific and cultural progress forces new problems to be confronted that it will not be able to solve. The inability to resolve these new issues cause a crisis. In this way, the scientific and cultural community begins to question the validity of the paradigm that had been accepted until that moment. In these circumstances, "extraordinary science", that is, scientific activity aimed at finding new foundations of thought capable of solving the crisis, can find space. Once such a new set of values, prospects, and inspirational criteria find consensus in the community, a so-called "Scientific revolution" occurs, understood as an episode of development in which an old paradigm is replaced, in whole or in part, by a new and incompatible one. The change of a paradigm, however, is not a linear and simple process, due to the fact that those who are called on to develop the new paradigm have, in reality, always lived immersed in the old one that they must now falsify in order to move forward. Furthermore, the design of, and then the adherence to, a new paradigm does not depend primarily on the perception of past errors, but on how much the new intuition and, above all, the future prospect is worth pursuing.

Key steps for the promotion of social inclusion

So then, what are the future prospects for people with disabilities that should be stimulated in order to promote the rights of equality, participation, and social inclusion? How can we speed up the change process? First of all, the scientific and educational community should strive to break down the wall of prejudice and change the traditional way of approaching people with disabilities in order to enhance, in their favor, the opportunities for them to be recognized as "helpful persons". Giangreco (2017) highlights the fundamental need to guarantee to people with disabilities their simultaneous access to inclusive environments and necessary connected supports. In order to promote and archive social inclusion outcomes some educational key steps are indicated:

- "See the Person, Not Just the Disability": the needs for social inclusion are the same for people with and without disability. Educators must work to change the social imagine of people with intellectual disability.
- Work to support full community access of a person with disability: a person with intellectual disability should have access to the full range of environments and experiences available to other individuals of their same age.
- Individualize learning outcomes: overcome the standardized approach towards outcomes centered on the person's subjectivity.
- Use Age-Appropriate Approaches in contrast to the eternal child stereotypes.
- Encourage enabling approaches to promote the maximum level of skills and competences that the person can reach.
- Use of natural support to foster as much as possible the opportunities for building relationships and participating in the community in the same way as any other individuals of the same age.

Conclusion

From our research emerges that, although social inclusion is an essential outcome for the life of people with intellectual disabilities, many cultural barriers still exist.

We found that social stereotypes towards people with intellectual disabilities negatively affect educational interventions and services. They slow down the process of change in respect to the promotion of rights and the development of positive existential trajectories. Because of the persistence of these social visions, people with intellectual disabilities continue to live in contexts of segregation far removed from participation in social and community life.

Accordingly, our opinion is that educational interventions should be applied not only in respect to the person, but also to the social and cultural contexts. It is essential to work on the social context in order to provide real opportunities for people to access and participate in community life.

In this perspective, the full application of the rights of people with disabilities individuated by the United Nations Convention and the application of the evidence based models and interventions indicated by the social sciences requires a culture and paradigm change. In the absence of such a paradigm shift, a true evolution cannot be achieved, and the risk of regressing backwards to the vision and the stigma of the past continue to be very high. There is, then, still a long way to go, and the contribution of scientific research will be fundamental. Many steps have already been taken, however, and the route for change has been defined.

This challenge constitutes a real opportunity, not only to change the future and the QoL of people with disabilities, but also to launch a renewed ethical and professional perspective for practitioners and service providers.

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СОЦИАЛЬНО – ПЕДАГОГИЧЕСКИЙ АСПЕКТ ПРОБЛЕМЫ «ЭКОЛОГИИ ДУШИ» ДЕТЕЙ ГРУППЫ РИСКА

Socio-pedagogical aspect of the Problem of «Soul ecology» of Children at Risk

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Abstract. *The article is devoted to the search for ways of spiritual enrichment of the soul of children at risk. The authors actualize the problem of "impoverishment" of the soul and justify the socio-pedagogical conditions of its ecology. The purpose of the work was to study the problem of "soul ecology" and experimental study of value orientations of children at risk, filling both the external and internal world of the child. The paper used theoretical and empirical research methods. As the results of the study show, the most significant are material values. Therefore, it is important to create a system of spiritual and moral education of children at risk and teach them spiritual existence by gaining personal meaning in the social situation in which they find themselves.*
Keywords: *children at risk, ecology of the soul, pollution of the soul, spiritual and moral education, disturbed "inner peace".*

Введение
Introduction

В настоящее время появляются различные понятия, связанные с термином «экология»: социальная экология, инженерная экология, экология человека, глобальная экология, экология культуры, экология религии, экология сознания, экология души, экология духа и др. Это свидетельствует о том, что интересы и внимание научного понимания термина «экология» вышли далеко за привычные биологические рамки. Анализ социально-педагогических исследований (Agadzhanyan, 2012; Zaitseva, 2006; Sagatchuk, 2018) показал, что понятие «экология» становится универсальной категорией и связано с безопасным существованием не только

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материального мира, но и мира духовного. Таким образом, современная экология становится комплексной наукой.

Основываясь на положениях исследователя региональной антропологии - педагогической антропологии (Luzina, 2001) важно говорить о Человеке, через раскрытие таких понятий как: «жизнь», «жизненный путь», «душа», «дух», сознание», «понимание» и др. Исследователь рассматривает ребенка как Человека с позиции развития, становления, воспитания ценностного отношения к миру и к себе. Автор опирается в своих размышлениях на философско-антропологический и онтологический подходы, которые методологически обосновывают духовное бытие воспитанника и возможность постижения духовной жизни через понимание и принятия при изучении реальной жизни ребенка во всех его проявлениях. В свою очередь чистота нравственная будет способствовать и являться следствием гармоничного психического и духовного развития.

Но если экология – это наука об условиях существования всего живого в мире, включая взаимоотношения и охрану природы, человека, то предметом охраны душевного состояния человека, и заботы о ее чистоте и развитии будет являться «экология души». Важно осознать, что экология природы не имеет будущего без «экологии души». Экология души человека связана, прежде всего, с чувствами человека, с его внутренним миром, ценностными ориентациями, с отношением к окружающему его внешнему миру. Происходящее во внешнем мире чаще всего является проекцией того, что происходит во внутреннем мире человека, иными словами экология души человека предполагает чистоту его души, экологию его внутреннего мира.

Особенно в охране души от «загрязнений» нуждаются дети-группы риска. В энциклопедическом словаре «Основы духовной культуры» дается определение понятию дети группы риска: «... это условно выделяемая группа детей разного возраста, предрасположенных к нарушению норм и правил детской жизни в семье, школе и общественных местах» (Bezrukova, 2000). Многочисленные исследования показывают, что нарушение поведения, чаще всего, является следствием эмоциональных расстройств, которые изменяют душевное равновесие подростка и приводят к различного рода отклонениям в поведении. Поэтому проблемы подростков группы риска необходимо исследовать с позиций постижения внутреннего мира подростка, его душевного состояния. Для нас это важно еще и потому, что нарушение поведения чаще всего свидетельствует о глубокой душевной травме подростка.

Последствием разрушения души таких детей становится наркомания, алкоголизм, преступность, эгоцентризм, отчуждение детей от родителей, нарастание психологического дискомфорта, снижение ценности

образования, отсутствие интересного досуга, агрессивность, распространение культа силы, мгновенного успеха и денег, прагматические отношения в сфере любви, дружбы, общения, бездуховность, уход в интернет-реальность и многое другое.

Именно поэтому, в центре рассмотрения должна оказаться «экология души» детей группы риска – как способ обогащения (очищения) их внутреннего мира через ценностное осмысление жизни. Воспитание должно быть душесозидательным и строиться на основе духовно-нравственных ценностей как в семье, так и в системе образования. Важно побудить педагогическое сообщество задуматься над инструментарием, необходимым для организации освоения подростком группы риска духовных и нравственных ценностей бытия, определении им своего духовного идеала и стремления к нему, осознании высоких жизненных смыслов.

Поэтому целью проведенного исследования является изучение проблемы «экологии души» детей группы риска и экспериментальное исследование по выявлению их ценностных ориентаций, наполняющих как внешний, так и внутренний мир подростков. В исследовании применялись следующие методы исследования: теоретические (теоретический анализ проблемы «экологии души», обобщение результатов исследования), эмпирические (экспертный опрос в форме беседы, анкетирование).

Теоретическая база исследования
The theoretical basis of the study

Теоретико-методологическую основу исследования составили основные положения:

- философско-антропологического подхода в понимании и воспитании Человека (Bollnow, 1983, Luzina, 2001);
- экзистенциального подхода (Frankl,1990);
- концепции человека как активного субъекта жизнедеятельности (Abulkhanova-Slavskaya, 1991; Rubinstein, 1997; Slobodchikov, 1995);
- идеи связи процессов социализации, ценностного ориентирования и воспитания (Vygotsky, 2005; Kazakina, 1989; Luzina, 2001; Mudrik, 2016).

Результаты теоретического исследования
The results of theoretical research

Термин «экология души» широко употребляется в настоящее время в публицистической, экологической, психологической, педагогической, философской литературе.

С точки зрения экологического подхода, экология души человека связана с экологическим воспитанием человека, с формированием бережного отношения к природе, с воспитанием ответственного отношения к окружающей среде, к своему родному краю.

Философское осмысление понятия экологии души связывают с «некой духовно-эйдической целостностью, выражающей и презентирующей некие стержневые конструкты внутреннего мира человека, реализующиеся во всей полноте только в процессе восприятия конкретного события конкретным человеком в конкретно-исторических условиях его бытия» (Barkova & Sidorova, 2013).

Для нашего исследования значимо также педагогическое осмысление понятия экологии души, которое связано с формированием духовно-нравственных ценностей человека.

Ценностный подход к изучению педагогических явлений, связанных с социальными процессами позволяет высветить внутреннюю сторону взаимосвязи личности и общества, понять природу и особенности функционирования ценностных ориентаций ребенка.

Можно говорить, что ценностные ориентации личности определяются, прежде всего, образом жизни, характером человеческой деятельности, способом, которым люди воспроизводят свою жизнь. Зависимость ценностных ориентаций от образа жизни отражает взаимосвязь, существующую между личностью и обществом: ее притязаниями, ожиданиями и требованиями общества. Проблема ценностных ориентаций личности - это проблема цели и смысла человеческой жизни, назначение человека, оправдание его существования, достоинства, отношение к прошлому и будущему. Это проблема включения человека в общество.

Согласно позиции М.Г. Казакиной (Kazakina, 1989) педагогический аспект проблемы в общем виде состоит в том, чтобы широкий спектр объективных ценностей сделать предметом осознания, переживания как особых потребностей личности, сделать так, чтобы объективные ценности стали субъективно значимыми, устойчивыми жизненными ориентирами личности, ее ценностными ориентациями.

Характерным в этом плане является и позиция А.В. Мудрика (Mudrik, 2016), который считает, что в идеале социализированный человек должен быть способен, в какой – то мере противостоять если не обществу,

то тем или иным жизненным обстоятельствам. Однако сплошь и рядом мы встречаем людей, полностью социализированных, фактически растворившихся в социуме, не готовых и не способных к той активности, которая нужна для противостояния среде, воздействуя на нее.

Поскольку целью воспитания «экологии души» подростков группы риска является оказание педагогической поддержки в ценностном осмыслении жизни, содержание воспитания должно быть наполнено теми ценностями, которые позволяют подростку обрести этот смысл. Отсутствие смысла порождает у человека состояние, которое В. Франкл называет экзистенциальным вакуумом: человек стремится обрести смысл и ощущает фрустрацию или вакуум, если это стремление остается нереализованным.

В качестве таких ценностей мы рассматриваем три группы ценностей, препятствующие возникновению у человека состояния экзистенциального вакуума, и обозначенные В. Франклом (Frankl, 1990) как ценности творчества, ценности переживания и ценности отношения.

Рассмотрим, каким образом обозначенные ценности могут быть включены в работу по воспитанию «экологии души» детей группы риска.

Реализации ценностей творчества принадлежит ведущее место, поскольку именно творчество является основным признаком, формой проявления индивидуальности человека. Поэтому, так важно помочь подростку группы риска найти пути и способы самореализации, познать радость творчества, необходимо изменить режим работы сознания человека – оно должно быть переведено в режим творческого производства собственных смыслов и опыта. Все это становится возможным при условии включения ценностей творчества в пространство деятельности педагога, который способен создавать ситуации, позволяющие подростку группы риска осознать собственные мысли, чувства, самого себя и других людей. Важно научиться «чувствовать» и «ощущать» особенности внутреннего мира подростка, ориентируясь на те потенциалы неиспользованных возможностей, которые есть в каждом «трудном».

Ценности переживания могут быть включены в деятельность человека в том случае, если он научится оценивать себя, переживать удачу, радость от успеха, если появится сомнение в правильности выбранного способа поведения, если подросток научится адекватно переживать неудачи и анализировать их.

Реализация ценностей отношений – есть обязательное условие существования предыдущих двух групп ценностей, поскольку ценности творчества и ценности переживания основаны на постоянном взаимодействии с другими. Однако ценности отношений могут быть значимыми и сами по себе, когда подросток учится понимать и принимать не только себя, но и других.

Ценности отношений, с позиции учителя, связаны с пониманием, принятием и признанием подростка. Понимание означает умение видеть подростка «изнутри», взглянуть на мир одновременно с двух точек зрения: своей собственной и подростка. Принятие представляет собой безусловное положительное отношение к подростку, его индивидуальности независимо от его поведения, и, наконец, признание, которое подтверждает право подростка решать те или иные проблемы (Kalinina, 2006).

Л.М. Лузина (Luzina, 2001) обосновала в своих исследованиях принципы отбора содержания процесса воспитания: антропологический, онтологический и принцип диалогизма. В русле нашего исследования, все обозначенные принципы важны и актуальны. Антропологический принцип предписывает рассмотрение понятия «человек» в качестве исходной категории. Как поясняет Л.М. Лузина, должно углубляться понимание сущности человека и должно формироваться отношение к человеку как к ценности, началу всех начал. Онтологический принцип требует рассматривать такие значимые понятия как: встреча, сострадание, любовь и т.п. Принцип диалогизма позволяет строить субъект-субъектные отношения с человеком, миром культуры, самим собой. Названные принципы, как считает автор, по своей сути носят философский характер, они, в силу этого, приглашают к раздумью о смысле жизни, о назначении Человека.

Соблюдая перечисленные принципы, педагог содействует формированию у подростка умений самостоятельно решать проблемы своей жизнедеятельности и личностного роста, способности к самопознанию, самостроительству, самореализации и самоутверждению и становления особого «экологического подхода» в образовании детей группы риска.

Организация и результаты экспериментального исследования
Organization and results of an experimental study

Для того, чтобы подтвердить наше предположение о том, что проблема экологии души подростков группы риска кроется, прежде всего, в искажении системы духовно-нравственных ценностей, порождающей разного рода девиации, нами было проведено опытно-экспериментальное исследование на базах: МБОУ «Средняя общеобразовательная школа № 18 им. Героя Советского Союза генерала армии В.Ф. Маргелова» г. Пскова и МБОУ МПЛ №8 г. Пскова, подросткового социального клуба «Мечта» (филиал Псковского городского Молодежного центра), специальной общеобразовательной школы открытого типа для детей и подростков с девиантным (социально-опасным) поведением.

Социально – педагогическая диагностика по изучению проблемы ценностных ориентаций предполагала проведение эмпирических методов

исследования: экспертный опрос (индивидуальный опрос) в форме беседы и раздаточное анкетирование.

Цель экспертного опроса: получить информацию у социальных педагогов о детях, требующих особого внимания с акцентом на ценности (антиценности), которые сегодня значимы современному школьнику (ребенку группы риска).

Беседа была проведена с социальным педагогом МБОУ «Средняя общеобразовательная школа № 18 им. Героя Советского Союза генерала армии В.Ф. Маргелова» г. Пскова.

В ходе беседы были заданы следующие вопросы:

1. С какими категориями детей группы риска Вы работаете в школе?
2. Можете ли Вы назвать ценности (антиценности), которые являются значимыми для детей, требующих особого внимания?
3. Можете ли Вы перечислить факторы, влияющие на становление (формирование) значимых ценностей (антиценностей), у детей, требующих особого внимания?
4. Можете ли Вы назвать формы воспитания, которые обогащают становление (формирование) духовно-нравственных ценностей у современных школьников?

В ходе беседы были получены следующие ответы:

Ответ на первый вопрос: на учете у социального педагога находятся следующие группы детей, требующие особого внимания: дети-инвалиды, опекаемые дети, дети из многодетных и малообеспеченных семей. Особое сопровождение и контроль необходим детям, стоящим на учете в инспекции и в комиссии по делам несовершеннолетних.

Ответ на второй вопрос обозначил значимые ценности, а это: друзья, общение и свобода. Вызвало удивление и озабоченность антиценности, а это: семья и школа.

Говоря о факторах, влияющих на становление (формирование) значимых ценностей (антиценностей), у детей, требующих особого внимания, специалист отметил значимость социального окружения ребенка (семья и друзья).

Следующий вопрос, касающийся форм воспитания, обогащающие становление (формирование) духовно-нравственных ценностей у современных школьников позволил особо выделить, во-первых, активно развивающееся в школе волонтерское движение, отряд «Добрые сердца», который в преддверии Нового года, например, подготовил сказку для детей из малообеспеченных семей. Во-вторых, важна волонтерская деятельность по патриотическому воспитанию в музее школы. Содержание работы посвящено памяти Героя Советского Союза генерала армии В.Ф. Маргелова и партизанскому движению в годы Великой отечественной войны.

Экспертный опрос в форме анкетирования на базе подросткового социального клуба «Мечта» (филиал Псковского городского Молодежного центра) был проведен с четырьмя специалистами: заместитель директора, методист отдела по работе с молодежью по месту жительства, методист отдела трудового воспитания, начальник отдела по работе с подростками и молодежью по месту жительства.

Специалисты отметили, что подросткам группы риска наиболее свойственны такие качества как: асоциальное поведение, слабые коммуникативные навыки, низкий уровень развития, замкнутость, заниженная самооценка, агрессия, апатия, эмоциональная нестабильность.

В работе с данной категорией используются следующие технологии, формы и методы работы: профилактика употребления наркотических веществ, курения, употребления спиртных напитков, воровства среди учеников клуба по месту жительства; проведение тренингов; познавательные и развлекательные мероприятия; приобщение к культурно-массовым мероприятиям; игры на развитие интеллекта.

На втором этапе диагностики проведено раздаточное анкетирование и тестирование 74 подростков группы риска.

Цель исследования: выявить зависимость между системой духовно-нравственных ценностей и состоянием экологии души подростков группы риска.

В качестве критериев, позволяющих судить о проблеме экологии души подростков группы риска были выделены такие духовно-нравственные ценности как: ценности творчества, ценности переживаний и ценности отношений. Именно эта группа ценностей, как отмечает В Франкл, помогает человеку обрести смысл жизни.

Первый критерий: ценности творчества.

На вопрос, «Что для вас самое важное в жизни?» респонденты ответили:

- роскошная жизнь, материальная обеспеченность, высокое социальное положение - 70%;
- отдых, развлечение- 36%;
- карьера -15%;
- дружба -10%;
- любовь -10%;
- саморазвитие -10%;
- возможность заниматься творчеством -5%.

Из ответов респондентов мы видим, что наиболее актуальными являются материальные ценности и слабо выражены нравственные, духовные.

На второй вопрос «Что значит по-вашему: «Жить хорошо?» наиболее частотные ответы сведены в таблицу.

Таблица 1. ***Хорошая жизнь-это***
Table 1 ***A good life is***

Жить для себя	78%
Жить для семьи	33%
Просто жить	10%
Когда есть свое хобби и ты знаешь где твое счастье	10%

К сожалению, никто из подростков не указал на значимость таких ценностей, как «Родина» и «общество».

На вопрос - «Назовите три своих заветных желания» были получены такие ответы как: уметь читать мысли, телефон, погулять с друзьями, уметь останавливать время, иметь много денег, закончить школу, покушать, учиться на «4», досмотреть фильм, получать хорошую зарплату, что бы выросли крылья, я мог(ла) улететь в космос.

Характер ответов отражает систему отношений к различным сторонам действительности и позволяет выделить следующие группы ценностных ориентаций подростков:

1) ценности, связанные с образом «Я»;
2) материальные ценности;
3) социальные ценности (семья, учеба). Как показывают результаты анкетирования наиболее значимую группу представляют преимущественно материальный характер, но, дети задумываются и о ценностях нравственных (семья, саморазвитие и др.).

Для исследования по критерию ценности переживаний подросткам было предложено закончить предложения: “В окружающей жизни я больше всего ценю …», “В окружающей меня жизни я больше всего осуждаю …”, «Будущее кажется мне…»

Наиболее распространенные ответы выглядели так:

- ценю: чтобы ко мне относились хорошо; маму; своих родителей (80%), тех: кто меня поддерживает; честность; сдержанность; друзей; деньги (3%).
- осуждаю: школу (30%); свои поступки; себя (50%); учебу; друзей; сплетни; упреки; все; злость; нечестность.

«Будущее кажется мне»: безнадежным, непонятным, не очень хорошим, унылым, туманным, гнилым, страшным, ужасом, ужасно плохим, черным, мрачным.

Таким образом, анализируя переживания подростков, следует отметить страхи, связанные со своим прошлым и будущим, которое в большинстве своем они видят в негативном контексте.

Для исследования показателя ценности отношений подросткам было предложено закончить предложение: «Больше всего люблю людей, которые…». Наиболее частыми ответами стали: мне верят и доверяют, добрые, приветливые, ко мне хорошо относятся, уважают меня, не курят и не пьют, понимают меня, любят меня не лгут, не лицемерят.

Как видно из анализа ответов, отношение подростков группы риска к другим строится на соотнесении этих отношений к самому себе, что, вероятно, говорит о неудовлетворенной потребности в любви, в принятии и понимании, и как следствие, переживание неудовлетворенности своим положением; особое мировосприятие.

Таким образом, результаты исследования позволяют сделать вывод о том, что система духовно-нравственных ценностей прямым образом связана с экологией души подростков группы риска, и для грамотной и продуктивной работы с такими подростками необходимо, прежде всего, изменить подход к воспитанию экологии души, который должен быть направлен в сторону ценностного осмысления жизни.

Обобщение
Conclusions

Учитывая специфику социализации детей группы риска, именно философско-антропологический, экзистенциальный подходы и концепции человека как активного субъекта жизнедеятельности могут стать методологической основой, на которой будет базироваться социально-педагогическая деятельность, что позволит решать проблемы детей с нарушенным «внутренним миром» с последующей проекцией на изменение окружающей действительности.

Модель осуществления оздоровления души подростков «группы риска» должна основываться на внимательном осмыслении не только внутренних, но и внешних условий. Внутренние условия должны включать «уроки заботы» о потребностях личности подростка в общении, самопознании и самосовершенствовании, о развитии интереса не только к своему внутреннему миру, но и внутреннему миру других людей, об определении своего идеала и стремление к нему, базируясь на духовно-нравственные нормы в различных жизненных ситуациях.

Внешние условия подразумевают создание духовно-нравственной атмосферы учебно-воспитательного пространства образовательного

учреждения, богатый духовный потенциал педагогического состава, организующего деятельность обучающихся, работу с семьями.

Таким образом, для оздоровления и очищения души растущего человека, а значит и сохранения ее экологии, необходима продуманная система духовно-нравственного воспитания с четким определением целей, задач, обогащенным содержанием современного образования, с вовлечением широкого круга субъектов образовательного процесса в решение проблем духовного взросления, а созидательные поступки в направлении экологизации души возможно рассматривать в качестве эффективного пути к укреплению духовного иммунитета человека и человечества.

Научная новизна и теоретическая значимость исследования: Обобщены различные трактовки понятия «экология души» и предпринята попытка актуализировать понятие «загрязнение души» и «экология души» детей группы –риска. Разработана система критериев для педагогической оценки «экологии души».

Обоснованы внутренние и внешние условия оздоровления души подростков «группы риска» на основе диагностики их ценностно-смысловых ориентаций.

Summary

Numerous studies show that the behavior disorder of difficult adolescents is most often the result of emotional disorders that change the mental balance of a teenager and lead to various behavioral abnormalities. Therefore, the problems of adolescents at risk need to be investigated from the standpoint of understanding the inner world of the teenager, his mental state. That is why the problem of educating the “soul ecology” of children at risk should be in the center of consideration – as a way to enrich (purify) their inner world through a valuable understanding of life.

Since the goal of educating the ”ecology of the soul” of at-risk adolescents is to provide pedagogical support in the value-based understanding of life, the content of education should be filled with those values that allow the teenager to find this meaning.

A diagnostic study showed that children who require special attention are more focused on material values. Spiritual values are not important for them and therefore it is necessary to create social and pedagogical conditions for their cultivation and enrichment.

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TYPES OF FAMILIES OF JOINT FORCES OPERATION PARTICIPANTS IN THE EAST OF UKRAINE AND PECULIARITIES OF SOCIAL WORK WITH THEM

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Abstract. *Carrying out military actions in the East of Ukraine, Joint Forces Operations, lead to physical and psychological traumatization of military personnel, complications in their socialization into a peaceful society, deterioration of interaction between family members of participants of the Joint Forces Operation and family dysfunction. The purpose of this article is to classify types of families involved in the Joint Forces Operation and determine their specific problems and needs. Based on the survey of families and specialists of state and private organizations, providing social support for this category of recipients of services, classification of types of families participating the Joint Forces Operation (family members, where one of its members is now in a combat zone; families, where one of its members returned from the combat zone; families, who are divorced: before departure to the combat zone, during a stay in a combat zone, after returning from the combat zone; families where one member is war-disabled; the families of the deceased ones) was made. The characteristic of each of the certain types of families allowed choosing the most effective forms of work with the families of the Joint Forces Operation participants.*
Keywords: *Joint Forces Operation participants, members of families of the Joint Forces Operation, types of families of the Joint Forces Operation participants, problems and needs, forms of work with families of the Joint Forces Operation participants.*

Introduction

One of the most urgent problems arising due to the military actions in the East of Ukraine are not only related to physical and psychological trauma of those, involved in the Joint Forces Operation (JFO from now on), but also the secondary traumatization of family members of JFO participants and an increase in the number of families who find themselves in difficult circumstances. Thus, families of the JFO participants are also considered as subjects of social work. In Ukraine,

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there is a lack of information about the specifics of such families, which, in turn, affects the low efficiency of social work with them. This prompted us to conduct a study to determine types of families, characteristics of their life, as well as providing recommendations on the choice of forms and methods of social work with them.

Literature review

Many foreign scholars have studied the physical and mental health problems of combatants and their families (Hoge et al., 2015), noting that the impact of military actions on the servicemen, spouses and their children is negative. Moreover, all family members are in a traumatic situation. Foreign scholars studied the consequences of the participation of one of the family members in military actions on children and spouses (Lester et al., 2010). Scholars agree that the participation of one parent in armed conflict has a cumulative effect on children, which remains even after a parent returns home. Croatian scientists (Zdjelarevic et al., 2011) conducted a study on the quality of life of the population most affected by the war - the families of war participants. Scientists have determined the impact of military trauma with its consequences (e.g. post-traumatic stress disorder and disability due to combat injuries) on servicemen. The study of symptoms of post-traumatic stress disorder in combatants and its traumatic impact on family members was carried out (Walser, Oser, Tran, & Cook, 2015). In the scientific paper “The Practice of Social Work With Children and Families Affected by War: the Importance of Family, Culture, Arts and Participation Approaches”, foreign scientists (Denov & Shevell, 2018) conclude that children and families affected by war have a higher risk than the general population for various specific psychological disorders and social problems.

Methodology

The study was conducted in Vinnytsia, Zhytomyr, Kyiv, Cherkasy and Chernihiv regions of Ukraine and aimed at defining:

1) the type families of the JFO participants and their specific problems and needs (through in-depth interviews with members of JFO participants' families);
2) forms and methods of social work with JFO participants and members of their families (through semi-structured interviews with experts of state and public organizations).

At the *first stage* of the study, we conducted a series of interviews in Vinnytsia, Zhytomyr, Kyiv, Cherkasy and Chernihiv regions of Ukraine with 141 family members of the JFO participants. This made it possible to classify the

families of the JFO participants and identify their needs and problems that arose because of the participation of one of the family members in the military actions.

Respondents participated in in-depth interviews through phone, oral invitations and personal emails. The interview was based on open questions, the topics of which were related to psychological, material, legal, medical and social problems of each type of families of the JFO participants. All questions were split into two parts: psychological and social.

The psychological part comprised questions to identify: psychological and emotional state of family members of JFO participants (during the stay of one of the family members in a combat zone, when returned home, if being divorced, when wounded or if the death of the JFO participant occurred); relationships of members of families of JFO participants; the level of psychological injury to members of JFO participants' families; typical reactions and ways of thinking of the JFO participants after returning from the combat zone; reactions of children of JFO participants for a stay of one parent in a combat zone, after returning home, when divorced and when losing one of the parents; the causes and consequences of conflict, abuse, and divorce.

The social part contained questions to identify the financial situation of the family, living conditions; a level of support from relatives; educational potential of the family; problems of raising children; health problems, both for the JFO participants and their family members. These questions also concerned the needs for treatment, rehabilitation and recovery; problems with the registration of the status of “combatant”, “war-disabled”, “family member of the deceased” and receiving social benefits and guarantees to which they are entitled.

According to the methodology of grounded theory, encoding occurred simultaneously with data collection. Initial encoding was open and close to the text, this means that the codes were designed to reflect the actions, intentions and meanings of the respondents, often using their own words. Further interview encoding was the current use of comparative analysis, which made it possible to identify such codes into categories. The answers were carefully analyzed and some minor changes were made. After the initial isolation of the categories, it modified the process of attracting participants. To provide the most diverse selection, participants were selected according to their ability to explain the specific issues, which had been identified in the previous study. This approach is called “theoretical sampling” (Glaser & Strauss, 2012) and it allows formulating specific questions for interviews.

At the second stage of the study, we conducted a semi-structured interview with 52 specialists of state and private organizations.

Respondents were invited through official letters addressed to directors of state and public organizations. The semi-structured interview consisted of a list of mandatory questions for all respondents; the remaining questions are relevant to

each respondent depending on the situation. The questions of the semi-structured interview can be divided into four blocks: information about the respondents and the organization in which they work; characteristics of the problems and needs of the families of the JFO participants; characteristics of the types of social services that are provided to such families; characteristics of forms and methods of social work with the families of JFO participants.

Research results

After conducting the first stage of the study, we identified the main types of families of JFO participants *(Fig. 1).*

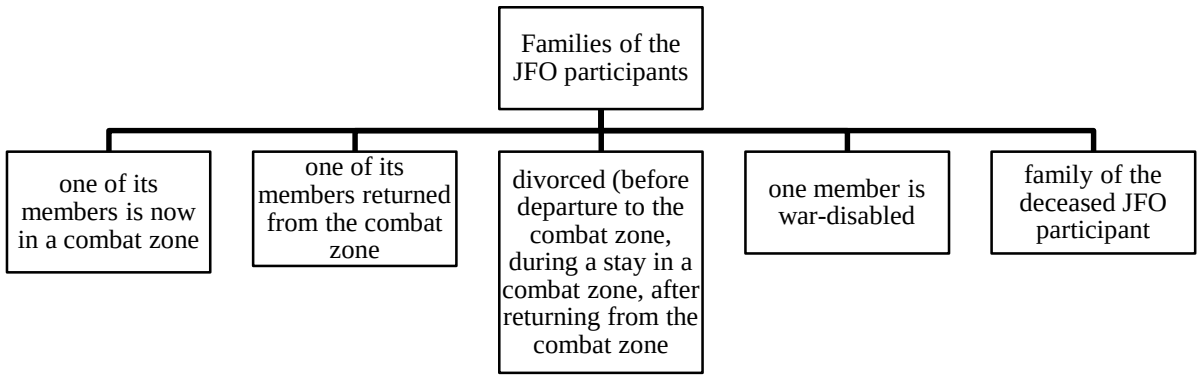

Figure 1 ***Types of families of JFO participants***

Families of the JFO participants, where one of its members is now in the combat zone (44,68%) belongs to distant families, which is due to the frequent absence of a family member who is in the combat zone. Such families are characterized by communication at a distance, and frequent disputes between spouses. In such a family, the following problems can be identified: increased nervous and psychological tension, stress, anxiety, fear, worry; psychological unpreparedness for independent problem solving; self-doubt and a sense of hopelessness; loneliness; psychological exhaustion and nervousness; anger, fury, resentment because they were left alone; lack of male influence in family life and parenting; health problems of family members.

The results of the interview showed that the families of the JFO participants have insufficient educational potential (32%). The majority of respondents (72,3%) mention that due to the absence of one family member who is in the JFO zone, the communicative and emotional function is significantly impaired. The

presence of the father in the family is episodic. This hinders the dynamic socialization of children. This is especially true for teenage children, who feel betrayed, angry and detached from their parents who have been in a combat zone for a long time (23%).

Also, 14,9% of respondents mention that in addition to raising children, they should take care of parents of the JFO participant, who have health problems.

So, the life of the spouse who stayed at home completely changes. In addition to the fact that this person is in a traumatic state and constant psychological stress, they are forced to adapt to the changes that have occurred in their lives and independently take care of the material and living conditions of the family, raise minor children and care for sick parents.

According to a survey of professionals who work with the JFO participants and their family members, we assume this type of JFO participants' families most of all requires the provision of such social services as social prevention (90,3%), which is aimed at preventing the emergence of complex life circumstances in such families and social support (55,7%) if this type of families have found themselves in difficult life circumstances. For the normal functioning of this type of family, they need to provide information and advisory services.

Families of the JFO participants, where one of its members is now in a combat zone, need information services regarding their rights and the activities of organizations that provide social support (information consultations, lectures, seminars, information through the website, social networks and mailing lists, etc.). They also need psychological counseling in order to reduce the level of anxiety, commotion, and emotional stress. It is recommended to conduct training and art therapy sessions for the children of the JFO participants to develop emotional intelligence, reduce the level of aggression and prevent risky behavior. And for effective social work with the wives of JFO participants, it is important to create self-help groups.

Families of JFO participants, where one of its members returned from the combat zone (29,07%) are a group of families that learn to live together again after returning home of one of its members from the combat zone. The JFO participants during the armed conflict could experience not only a lot of positive things but also get combat psychological trauma. They may experience anxiety, irritation, and anger when faced with previously familiar family difficulties or disputes. Family members who stayed at home may also be angry with the JFO participants because they had to solve family problems on their own. The above-mentioned leads to misunderstandings between family members and can cause frequent conflicts.

So, while conducting interviews with the JFO participants and their families, we identified that the JFO participants return home “different” as a result of the

emotional, psychological and spiritual trauma caused by the war. They show changes in typical reactions and thinking patterns after returning home *(Tab. 1).*

Table 1 ***Typical reactions of JFO participants after returning from the combat zone***

Reactions	***Respondents' responses***	***%***
Behavioral response (68,0%)	outbursts of anger and uncontrolled aggression	21,3%
	isolation and detachment	19,1%
	excessive alcohol consumption	12,8%
	impatience	6,4%
	negativism	4,3%
Emotional reaction (44,7%)	irritability and nervousness	29,8%
	emotional instability	10,6%
	increased anxiety when explosions of fireworks, the sudden sound of a siren	4,3%
Physical reaction (21,3%)	insomnia	8,5%
	headache	6,4%
Features of thinking (36,2%)	a heightened sense of justice	12,8%
	constant thoughts of war and of comrades	10,6%
	bad dreams	8,5%
	a feeling of sadness	4,3%

According to the above-mentioned typical reactions of the JFO participants, who returned home, it is emotionally difficult for them and their family members to establish interpersonal and internal family interaction. Around 53,2% of respondents agree that the JFO participants and their family members have lost the habit of living together, they have new life experience and new life values. Almost 21,3% of the respondents mention that the JFO participants consider that none of their family members understands them. They try to hide and withdraw from the family, looking for support from comrades. Adult family members also have the feeling that the JFO participant does not hear or understands them.

Children also need time to feel close again to their parents who have been in a combat zone for a long time, especially if they were young at the time of their departure. Children react to their father's return according to their age. Young children may be offended, cry, sleep badly, try to be constantly near their mother; school-age children may be nervous, aggressive or capricious, and worry about the safety of the house or even fear the father who returned from the JFO zone; teenagers may be angry, nervous and protest because they do not like the new distribution of family roles and family responsibilities after the return of the father.

The results show that when each member of the JFO returns home, it takes some time to adapt to a peaceful life. A combatant may have altered physical, emotional, and behavioral responses that are a normal part of the adaptation

process. There are JFO participants who return home and painlessly adapt to a peaceful life in a few months. According to the interviewees: *"If a JFO participant has not been able to adapt to a peaceful life for 3-6 months, he needs professional help in social adaptation, integration and reintegration. He has a changing demeanor, often gets angry, and has no desire to do things that once brought pleasure."*

Almost all of the surveyed specialists (92,3%) agree that the JFO participants require such types of social services as social adaptation, social integration and reintegration in order to return servicemen to a full civil life in their families, as well as physiological and psychological rehabilitation.

So, this leads us to the idea that the JFO participants need assistance to restore the personal and social status of combatants; improve communication skills, develop abilities to self-realization, resolve psychological and overcome social conflicts; remove internal tension and anxiety; increase stress resistance and resource capacity of the body; mobilization of internal reserves to overcome dependence on psychoactive substances.

Experts believe that these types of families need proper counseling. This can be legal advice (76,9%) on benefits and guarantees provided by the state to members of the families of JFO participants and obtaining certificates of "combatant", as well as psychological counseling (67,3%). Psychological consultations can be carried out in the form of individual and family consultations, groups of mutual assistance.

The surveyed experts (9,6%) note that this type of family may need such services as representation of interests, which includes legal protection of the interests of the JFO participants and their family members in obtaining the status of "combatant", or ensuring their rights for material assistance, housing, improvement of housing conditions, land, education, and so on.

If this type of families is in difficult life circumstances and cannot solve problems on their own, they require social support in order to overcome life difficulties and solve the problems of the families of the JFO participants by providing psychological, legal, informational, socio-pedagogical support, assistance in obtaining quality medical care, as well as help in solving socio-economic, material and household issues.

Families of ATO participants, who divorced (5,67%). Respondents noted that divorces most often occur after the return of a JFO participant home, but sometimes families can break up during the stay of one of the spouses in the combat zone, or even before his departure. The main cause of family breakdown before the departure of one of the spouses in a combat zone is women's sense of betrayal *"chosen war over a family"*. They consider that it is not necessary to wait for the person who runs away from family problems. In this type of family, there were usually misunderstandings, conflicts, and problems with the use of

psychoactive substances even before the departure of one of the family members in JFO zone. Also, one of the reasons for the divorce of the families of the JFO participants at this stage is domestic violence before the period when the person went to war.

One of the most common causes of divorce of the JFO participants' families, who are now in the combat zone are: lack of confidence that her husband will return alive; the adultery of a spouse, who was in a combat zone, as he did not know, when he would get home or he fell in love with another woman that was close by, understood and supported him; adultery of a spouse who stayed at home, because of loneliness and resentment, difficulties in solving problems, and someone was there supporting and helping.

The main causes of conflicts that lead to the divorce of the families of the JFO participants after their return home are a set of physical, emotional, behavioral reactions and thinking features typical for the JFO participant; loss of love, distrust, jealousy, infidelity; inability to adapt to a peaceful life and identify the desire to return to the combat zone; different views on life, as well as domestic violence.

All respondents noted: *"Everything was fine in the family until the husband participated in the JFO... then, when he came back, he started to threaten the family..."*; *"It was very hard. My husband became very aggressive, especially when he consumed alcohol, he could lift his hand against us. I thought that I could not stand it because everything was in front of the children..."*; *"The husband after returning home behaved differently. He became nervous, sometimes lost touch with reality, ceased to distinguish where he was, believed that he was in a combat zone, and not at home*." The wives of the JFO participants find a way out in divorce because they were not able to endure it and they were worried about the life and health of their loved ones.

It should be mentioned that after the return of her husband home, the woman believes that this is the same person who he was before the war. However, he has other values. Therefore, another reason for conflicts in this family may be a mismatch of expectations of a woman and a JFO participant, who returned back home. The couple no longer understands each other. A woman, who stayed at home, believes that the JFO participant, who returned home, does not understand how difficult it was for her to solve all the issues and problems on her own. The JFO participant believes that his spouse cannot understand what he went through, so he begins to drink alcohol and react aggressively to accusations. Also, when JFO participant returns, the family member who stayed at home is already so emotionally exhausted that no longer wants to take over all the duties performed without a spouse. The JFO participant is not ready to restore everyday relationships yet. Such conflicts cause divorce.

Children react painfully to their parents' divorce. Young children often feel abandoned and have a reduced sense of security. They also have a sense of uncertainty and fear of the future. It is also possible to experience regression in development. School-age children experience pain, sadness, and even despair, experience loss, and helplessness, as well as a fear that one of the parents, who lives with them, may leave. They may show aggression towards someone who is considered guilty of breaking up the family, as well as to others. They may blame themselves, or their behavior for parents' divorce; teenagers support relatives with whom they live, they experience additional stress, which can lead to increased fatigue, problems with concentration, as well as deviant behavior (theft or use of psychoactive substances).

Interviewed experts note that this type of family most often seeks advice from a lawyer on family matters in resolving family disputes: divorce, alimony, division of property, and representation in court in case of divorce.

In our opinion, this type of families should be provided with mediation services for the peaceful settlement of family conflicts and psychological support.

Families where one of its members is war-disabled (12,77%). It should be mentioned that when receiving disability, not only the JFO participant suffers but the whole family as well. Relations in such families are destabilized, the circle of communication is narrowed, interests of the family are reoriented towards helping the patient. As a result, the family may show constant, excessive care for a disabled family member, which may lead to a feeling of helplessness and irritation of the JFO participant. Among the consequences, there can be frequent and intense conflicts; shifting responsibility for conflicts and problems to others; drinking alcohol; aggression towards their loved ones. Disabled veterans may experience helplessness, pessimism, isolation, indifference, suspicion, uncertainty, anger at others, and emotional instability. Also, disabled veterans may lose the meaning of life, may not feel themselves needed. They may also show suicidal intentions. Usually, these families actively direct all their efforts to return one of the family members to normal life and search for opportunities to reduce social limitations (treatment, rehabilitation).

The interviewed experts mention that for effective socialization of a disabled person, it is necessary to implement rehabilitation procedures aimed at social integration, giving a feeling of confidence, optimism, life satisfaction, proper social status for these people as early as possible.

Such families should be provided with legal advice on registration of the status of “war-disabled”, receiving material payments, benefits, free medical care, sanatorium treatment.

Families of the deceased JFO participants (7,81%). The loss of a family member is deeply painful. Women of deceased JFO participants, realizing that they were left alone and are responsible for the family, do not allow themselves

to suffer. They try not to show their pain and grief. They look the same as before, do the same things, but they feel a strong pain that destroys them morally.

For children, the loss of one of their parents is acute psychological trauma. At different ages, children react differently to the loss of their father. Even children of the same age can react to death differently. Small children may become irritable, they have frequent mood swings, there is a need for attention and love. Schoolchildren are still experiencing difficulty in understanding the reality of death; experience feelings of uncertainty and insecurity, need to stay near a close relative all the time; the sense of helplessness, concealed emotions that negatively affect their further development; aggression towards teachers, classmates. Adolescents, who experience the loss, often seek help outside the family; feel isolated, because they notice friends are avoiding them or are confused and don't know what to say. Adolescents can behave in inappropriate ways: run away from home, change friends, drink alcohol and take drugs, have suicidal manifestations.

In order to reduce the level of stress, sadness, pain, anger, helplessness, guilt and despair, to adapt to the reality of unhappiness of the family members of the deceased JFO participants, it is necessary to carry out psychological counseling and correction of the psycho-emotional state.

We found out that the families of deceased JFO participants are getting help from state and public organizations in obtaining assistance for the organization of funerals; obtaining the status of “member of the family of the deceased”; providing psychological rehabilitation to the widows and children of deceased JFO participants; organize workshops for the children of deceased JFO participants; organize activities in Ukraine and abroad for widows and children of deceased JFO participants; organize entertainment activities; assist in obtaining and registration of land and housing.

Conclusions

The families of the JFO participants are characterized by instability, insufficient educational potential, lack of positive feelings, a sense of loneliness, anxiety, fear, restriction in interpersonal and internal interaction, the formation of a pattern of incomplete family, disharmony in the functioning and the danger of family collapse.

It is important to carry out social work with the families of the JFO participants, attracting the resources of the international and interagency teams, taking into account the type of each family, their problems and needs. Social work with this group of service recipients should include social adaptation; social integration and reintegration; supported living; information provision;

counseling; social support; representation of interests; mediation; social prevention; natural assistance, etc.

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MQ – MEDIALITY QUOTIENT

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Abstract. *The child's intellectual skills in dealing with the media are reflected in his or her media intelligence. However, the assessment of children's adaptation to life in the world of the media-sphere is difficult to make. The recognition of a pupil's mediality, as well as its systematic development, may have a positive impact on the quality of education. Currently there are no tools in the educational system to diagnose pupils' mediality. Therefore, there is a need to construct a useful indicator of the level of mediality, which may be a Mediality Quotient. In the cognitive perspective, it can become a tool that will contribute to the optimization of the educational process in the intellectual media environment. The aim of the article is to justify the purposefulness of conducting research on media skills of children and to present the assumptions for developing media literacy measurement techniques. The planned actions will allow to identify to what extent children acquire media skills and what is their statistical picture. The results obtained will be used to determine the coefficient enabling the measurement of media skills and their assessment in relation to the statistical average of pupils. Ultimately, the primary objective of developing a scale for measuring the Mediality Quotient of children will be achieved.*
Keywords: *children, media-sphere, competencies, intelligence, diagnostic factor, quality of education.*

Introduction

Mediatisation of reality resulting from intensive technological development within the scope of media makes it difficult to formulate unified and clear messages and hinders their direct and easy reception. Progressing convergence of media leads to change of typical meanings of terms such as word, language, text, sign and representation of the signs. This new literacy is formatting complex situation of the recipients functioning in dynamically changing media space. The situation is difficult for a young recipient, whose social, media and cultural awareness is already being developed along with development of cognitive skills. It is also a difficult situation for education system, which cannot keep up with taking into account so quick changes in media culture as far as education process is concerned. In culture there is so called participation gap that occurs and imposes need for searching and developing new forms of cooperation. In the face of overproduction of signs, flickering meaning and circulation of media content we observe development of a so called monitorial citizen. This term means an

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individual who, when searching for information, does not read and analyse it, but only scans and follows. He/she enters into details no sooner than he/she perceives the information as crucial for himself/herself. Only then he/she involves in contacts and starts real participation. It is a way of temporary coping with identity gap, in principle without chances to get rid of it. For the monitorial individual participation in culture and social life means a modern participation, where Internet seems to be a kind of a core of public communication space. It refers to situation where public sphere is based on the concept that does not describe it in categories of technology, but says rather about mediation and mediatised space (Lister, Dover, Giddings, Grant & Kelly, 2009, p. 328-332). Therefore, Internet becomes the main tool of involvement. Activity is located on the verge of virtual and natural reality. As noticed by Sławomir Ratajski "Such functioning on the «borderline» requires combination of various and different perception and activity skills, development of self-control instruments" (Ratajski, 2015, p. 12). Special period of personality development is childhood and youth when the essential role for each individual is played by contacts with significant persons. Currently, in the face of social structures weakened by modern tendencies, the role of significant persons is taking over by media, in particular new media. The environment of the new media, leaving reality in the background, becomes a natural environment for the monitorial individual. Under its influence a new type of personality is developed – media personality. Monitorial individual with media personality cannot make a conscious choice among many options offered by media. In this way the individual becomes susceptible to manipulation of the media. It makes it difficult to develop feeling of self-awareness, which is necessary to develop subjectivity.

The article presents a project of a tool for measuring media skills, which are nowadays a factor determining proper development of personality and self-awareness in children. For this purpose, a Mediality Quotient was defined and a battery of six tests for its measurement was designed.

Personality and media intelligence

An individual living in the world of new media is strongly influenced by them. Holistic possibilities, way of perceiving the world, thinking, interpreting values and finally a sense of self-awareness are determined by the individual's media personality. Characteristic feature of this personality is a specific type of activity in media-sphere. Discussion on this topic usually takes place from the perspective of neuronal changes in construction and functioning of the brain as well as intellectual condition of young generation. Janusz Morbitzer (2015) analyses results of some studies conducted from cultural, social and pedagogical perspectives by renowned researchers of this issue. Many results of these studies

show that currently young people, under uncontrolled influence of media, become less intelligent and are deprived of classic skills related to reading and understanding texts. They also have different hierarchy of competencies and cannot control their mental skills. Anyway, much more difficult task is to define conditions which help to avoid such problems. It is similarly difficult to evaluate adaptation to life in the world of media. Hence, J. Morbitzer (2012, p. 51) suggested introducing quality measurement of preparation to appropriated functioning in media surroundings, which he called mediality. It is an individual feature which is related to one's functioning in the world of media; it is an ability to adapt to media environment; it is a sense of SELF in this environment. Development of the sense of SELF in media-sphere refers directly or indirectly to mechanisms of formation of human personality and in this way also identity (Juszczyk-Rygałło, 2016, p. 13-24). Personality is a primary structure; it is a set of psychological mechanisms based in biological sphere of human being, which determines characteristic for a child way of perceiving the world and oneself as well as the way of reacting to challenges of media reality. It is partially a cognitive feature and partially it is shaped in the process of primary socialization Similar attribute is assigned by J. Morbitzer (2012, p. 55) to mediality. The SELF is a supreme category as the individual's relationships resulting from interpersonal relations and personal social references constitute the individual's own mediality. To a large extent in the process of socialization media features are developed spontaneously by a child at the conscious level (not automatically) and are adopted more or less voluntarily. Some factors that determine mediality of a person are developed with age and may be subject to a serious transformation along with acquiring identity features in the process of secondary socialization. However, as noticed by Agnieszka Zduniak: "An important factor that gives an advantage to primary socialization in comparison to secondary socialization processes is the fact that the primary one is necessary and the secondary is (in general) only optional" (Zduniak, 2013, p. 50). Therefore, mistakes made during socialization development of child's mediality are difficult to be fixed at a later stage (it is possible only by means of its modification that, however possible, is a long-lasting process and not always gives positive results). Hence, mediality is an individual attitude to the world of media, both in the role of a recipient and an active creator of media messages; it is also a motivating factor for media activity (Morbitzer, 2012, p. 53)" This is the definition and interpretation of oneself and it is an answer to the question: who I am in particular circumstances (it is taking a stance to media). Analogical definition is a term adopted for identity (Wróblewska, 2011, p. 181), which has, similarly to mediality, interpersonal, negotiable and changeable character (however mainly within the scope of secondary socialization). "If we assume that intelligence is an ability to adapt to the environment where we live, mediality can be considered as a form of

intelligence – a type of social and cultural intelligence, which can be called media intelligence" (Morbitzer, 2012, p. 55). It is the notion, which is comprised in contemporary broad interpretation of the term intelligence that distinguishes its three types such as: social intelligence, verbal, emotional, creative and cognitive. In general, intelligence is the ability of various spheres of human psyche to cooperate when using intellectual potential. Mediality perceived as media intelligence may be examined with the use of factor analysis suggested for intelligence by Charles Spearman. Therefore, we distinguish general factor as statistical value strongest correlated with performance of media tasks and factor responsible for specific and individual media abilities. Individual factor, in contrast to general factor, is susceptible to changes, therefore mediality may be shaped and developed in the process of education. Media intelligence changes with age within the scope of quantity increase of mediality level, but mainly within the scope of its structure. However, in the case of mediality the quantity increase is specific. It is most rapid in younger age and it later becomes more or less constant. As far as structure is concerned, in younger age new media technologies are dominant, when in older age well known technologies are consolidated and new technologies are rather marginalized. For media intelligence in the context of mediatisation an important role is played by so called triarchic theory of intelligence inspired by theory of processing information. Its three components adjusted to media intelligence are following subtheories:

- Contextual subtheory (practical aspect) – it treats mediality as a way of adapting to virtual environment and ability to cope with it.
- Componential subtheory (analytical aspect) – it treats mediality as ability to use media to organize own cognitive processes (learning).
- Experimental subtheory (creative aspect) – it treats mediality as a personal characteristic that allows to use media effectively to solve new problems within the scope of conscious creation of media messages.

J. Morbitzer (2012, p. 56) distinguishes three dimensions of mediality:

- Psychical dimension (need for contacts with media).
- Social and cultural dimension (need to communicate and learn with the use of media).
- Hedonistic dimension (need for entertainment delivered by media).

Abovementioned as well as other characteristics of media intelligence may have various scopes of their semantic meaning and radically different practical references. All of them indicate, however, indicate usefulness of the notion mediality (media intelligence) to reflect intellectual values of a pupil in contacts with media.

Mediality and media competence

Mediality as a functional structure of intellectual activities is shaped by socialization, education and participation in culture. It includes four main components associated with media competence (Nosal, 2004, p. 22):

- cognitive (knowledge, conceptual systems),
- evaluative (evaluation criteria, values)
- programming (tasks, problems, motives, objectives),
- metacognitive (critical, reflective and creative thinking), which as functional mental units integrate various forms of cognitive ability, knowledge and thinking.

In broad terms, there are two categories of mediality, defined as media competence (Strykowski, 2004, pp. 33-34):

- competencies of an intellectual and cultural nature
- technical and practical competencies.

The first group covers the four components indicated above and refers to the development of mediality in the area of conscious and critical media reception, while the second is related to the development of mediality within the scope of using the media as a tool for intellectual work. In turn, UNESCO's expert reports (2013, pp. 129-136) distinguish three dimensions of media competence:

- access and search
- understanding and evaluation,
- creation and use, for which performance criteria have been defined (there are one hundred and thirteen of them in total), which describe in detail media skills in narrow areas of competence. The methods of assessing them are not specified.

Mediality, as opposed to intelligence, is a mental unit evoked and developed by tasks, problems, situations and cultural requirements (Nosal, 2004, p. 22). Knowledge of and access to the media determines greater motivation to engage in contact with them and use them for various purposes. This affects the high level of media competence (Literat, 2014, p. 21). Mediality and media competence that describes it are not permanent and unchangeable. They are a kind of continuum without a clearly defined beginning and end. Everyone in this continuum occupies a specific position (level of advancement), which changes smoothly with the acquired experience in dealing with the media (Potter, 2019, p. 27). This allows to develop the level of media competence. The description of these levels should take into account the specificity of cognitive, emotional, moral and social development and be adapted to the requirements at each stage of education. For example, UNESCO (2013, p. 60), with regard to the dimension of media understanding and evaluation, describes three levels of media competence:

- basic level - the recipient has a basic level of knowledge and experience in the field of media, but a significant increase in knowledge is required,
- intermediate level – it is the appropriate level of knowledge and skills acquired while working with the media, but there are shortcomings in some areas,
- advanced level – very good level of knowledge and skills acquired through work with media.

Such a general, superficial and discretionary assessment of mediality makes it impossible to check the actual individual competencies precisely. This is all the more important because, as shown above, competencies referring to mediality are multidimensional, i.e. they consist of several different areas, in a sense independent of each other.

On the basis of the analysis of different competence models, some similarities can be observed in the assessment of mediality (Ptaszek, 2014, p. 9):

- An important element of media competence is a critical understanding of the message (information, text) and its evaluation.
- Technical skills also play a significant role.
- The social functioning of an individual, including cooperation with the use of new media and information and communication technologies, is a component that is closely related to their interactivity.

Without a precise definition of these elements, it is impossible to plan an appropriate diagnostic tool and carry out a reliable measurement of mediality with its help.

Measurement of media literacy – Mediality Quotient

The available methods for measuring media literacy are limited to tools that assess media competence in a selected unitary dimension. Most of the existing tests and questionnaires are observational, self-descriptive or executive (Ptaszek, 2014, p. 13) and do not measure the whole spectrum of competencies, but only a small part of them. Such tests are usually not very extensive and do not check the actual individual competencies, because the person examined assesses his/her own skills, and therefore the measurement is not objective but only declarative. The person examined does not perform any tasks which would then be subject to external evaluation. It should be noted that there is still a lack of diagnostic tools, especially for children and adolescents (Buckingham, 2015).

The proposed tool for measuring Mediality Quotient uses the results of specially prepared task tests diagnosing skills and effectiveness of media work. It includes a study of competencies connected with new media as well as with classical media (press, radio, television). Of course, media competence is also

dependent on the socio-cultural context and the test tasks take this dependence into account. The determination of the media literacy measurement technique was carried out on the basis of practical experience gained in measuring the Intelligence Quotient.

Mediality may be a useful tool to measure intelligence of a child's who functions in the world of media. The level of mediality may be used as a factor to assess and optimize media competencies that allow functioning in contemporary world affected indirectly by media. In this context there is a need to define techniques for measuring mediality. As far as this research project is concerned, it is suggested to use practical experiences that were acquired during measuring Intelligence Quotient (IQ). For mediality such measuring index can be constituted by Mediality Quotient (MQ), which can be defined by David Wechsler's modified formula for Intelligence Quotient (Brzeziński, 2015, p. 56):

$$MQ = K + \frac{k_i(z - s_w)}{\delta_w} \ , \tag{1}$$

where:

K i k_i – correction factors that modify range of MQ values accordingly,
z – raw result achieved in the test,
s_w – average in particular age group w,
δ_w – standard deviation of raw results in particular age group w.

This formula for a single test allows to transpose raw result achieved by a respondent into so called calculated result, which means a value in the MQ scale.

Comprehensive testing of media literacy requires several tests to diagnose competence in a wide range of media. In this solution, the diagnostic tool is designed as a battery of six tests. These are both executive and situational task tests and one simulation test. Each test consists of twelve tasks. The executive and situational tests allow to choose the solution of the task from five answers with different levels of correctness. Situational tests are characterized by the fact that the examined people solve tasks as if they were performing them in natural life situations. Tasks of the simulation test are performed either in applications that model the natural Internet environment, which ensures the repeatability of the conditions of task performance, or they are performed in the space of the real Internet, the activity of the respondent is recorded, and the way to reach a solution in changing environmental conditions is assessed. The stages of test design are as follows:

- Analysis of construction of the IQ tests.
- Adopting concept of test construction to examine Mediality Quotient.

- Determining factors influencing development of media identity on the basis of analysis of the literature.
- Selecting factors significant for the level of mediality in various age groups of children.
- Constructing tests for examination of particular factors and general mediality.
- Carrying out consultations among media experts and psychologists to verify designed tests; performing correction of the tests construction.
- Calibration of tests, which includes:
  - Performing tests in various age groups on a large population of examined pupiled for the purpose of normalization and defining empirical distributions.
  - Calculating raw results, average and standard deviation for raw results in various age groups; adopting values for correction factors: average and standard deviation.
- Selection of significance factors, calculating Mediality Quotient and preparing comparison tables to read Mediality Quotient (so called mediality scale for particular age groups of children).

The battery to determine Mediality Quotient is a set of the following six tests:

1. textual (executive) test - diagnosing the ability to read press materials with understanding. It is in the form of tasks written as text. The respondent indicates his or her answer from among five proposals describing with different accuracy the meaning of information contained in the content of the task.
2. textual and illustrative (executive) test - assessing the ability to decode information in the text and accompanying illustrations. The solution to the task is to choose the answer, as in test 1.
3. info-graphical (executive) test - is set up from the tasks diagnosing the ability to decode information contained in info-graphical diagrams. The way of solving the tasks is the same as in previous executive tests.
4. audible (situational) test - diagnosing the ability to receive audio (verbal-musical) information. Solving the tasks consists in selecting a text description that is the most adequate to the message listened to.
5. Multimedia (situational) test - testing the ability to receive multimedia messages. Solving the tasks - as above.
6. Internet (simulation) test - diagnosing the ability to use the tools and services made available on the Internet. Out of the twelve tasks, nine are performed in the environment of Internet modelling applications, three tasks are performed with direct access to the Internet. The

assessment is made on the basis of the analysis of the registered activity while searching for a solution to the task.

An individual result of each test is the sum of points obtained for the performance of individual tasks and it is defined as a raw result obtained by the examined person in a given test. Only the testing of a sufficiently large group of people (over one thousand) ensures the normalization of the test, which allows to establish empirical distributions and determine the average values and standard deviations for the raw results in different age groups. Only with these determinations is it possible to calculate the Mediality Quotient (MQ) from formula (1). If a designed battery of six tests is used, transposing the raw results obtained in these tests into the final result on the MQ scale requires an estimation of the significance factor of the conversion result obtained for each test from the formula (1). In this way, it is arbitrarily determined how significant the media competence tested in a given test is. For example, these values vary considerably from one age range to another and therefore the raw results of people of different ages, for individual tests, cannot be directly compared with each other.

Using the battery of six tests to calculate the MQ value requires additional modification of the formula (1). This relation takes the form of the following formula:

$$MQ_6 = K + \sum_{i=1}^{6} \mu_i \frac{k_i(z_i - s_{wi})}{\delta_{wi}} \quad , \qquad (2)$$

where:

K – correction factor modifying the average distribution of results,

i – test number in the battery,

μ_i – significance factor for the test i (where $\sum_{i=1}^{6} \mu_i = 1$),

k_i – correction factor that modify range of MQ_i value,

z_i – raw result achieved in the i test,

s_{wi} – average in particular age group w for the i test,

δ_{wi} – standard deviation of raw results in particular age group w for the I test.

This formula can be used to produce conversion tables of the media literacy scale for different age groups and cultural backgrounds.

Conclusion

Mediality is a measurement of an individual preparation to function properly in media space. At a time of media convergence, when all types of media

messages coexist, such preparation applies equally to children and young people as well as adults. A fully-fledged members of the information society not only use the media, but they are also able to co-create media reality. Therefore, it is necessary to develop appropriate conditions for media education, including lifelong learning. Recognition of mediality and its systematic development surely may have a positive impact on the quality of education of contemporary pupil. Nowadays, in the education system there are no tools for diagnosing mediality of a pupil. Creation of such a useful indicator as Mediality Quotient may become a factor that will contribute to optimize education process in the intellectual media environment.

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THE CHINESE CONCEPT OF TALENTNESS IN THE IDEA OF NATIONAL PARALYMPIC MOVEMENT

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Abstract. *The idea of Paralympic movement is rather new for the Chinese society, though this country started its taking part in Paralympic games` history in 1984. Traditionally the Chinese society was wary of people with physical disabilities seeing external flaws as a sign of personal inferiority and punishment of gods. The pure Chinese concept of talentness having as the basic tenet "there are no talented, there are those who are not very hardworking", also for a long time limited people with special needs in accessing sport events of a high (and even local) level. The idea of the article is to show the efforts of modern Chinese society in balance search between trends of Paralympic movement and Chinese traditional socio-psychological attitudes as to people with special needs. Such methods as interviewing, questioning, statistical data and official documents` analysis, analytic compilation were used. The following theoretical results were gained: as the Paralympic movement is not very strong in China due to its novelty, for today Paralympic athletes make up a small, almost closed group of Chinese athletes, where the criterion of talentness in a particular sport is leveled by the physical abilities and hardworking of each athlete in particular.*
Keywords: *athlete, China, Paralympics, people with special needs, sport, talentness.*

Introduction

China is one of the countries that joined the Paralympic movement rather late (they first took part in Paralympic games in 1984) though for today gained great success at the Paralympic Games by topping the Paralympics medal table from the 2004 Summer Paralympics with a medal tally of over 1000 at

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Paralympics history. Also China initiated organization of Asian Para Games as an independent sport event that today is seen as not only as a high-level sport competition, but is also of great importance for Asian countries in overcoming cultural and social stereotypes in relation to people with disabilities According to President of the National Paralympic Committee of China Mr.Wang Xinxian, the Asian Para Games, these Chinese affords attract attention of government and society not only to people's with special needs opportunities and achievements, but also to their needs, problems, violation of their rights etc. (Cullum, 2016). The social development program of the PRC as a modern and progressive country also involves improving the country's external image in matters related to people with disabilities. These issues also come to the forefront in connection with the intensification of the PRC's work on the "One Belt, One Road" economic program with a huge social and cultural component. In order to be "on the level" with its foreign partners, China is obliged to pay attention to the issues connected with people with disabilities: improve their social status and social security on the state and local level, provide them with better educational and employment opportunities and much more (Beijing Sports University: "Belt and Road" Sports Talent program in China, 2017).

Though today China already hosted the Paralympics of 2008 and is ready for the Paralympics 2022, the idea of people with special physical needs take part in the activities like this is more the tribute to time and whole world trends than the conscious demand of the Chinese society. In one hand it is connected with the Chinese idea of superiority of the Chinese nation due to economic reasons and the Chinese tradition not to show their weaknesses (and having a person with special need was always treated as a weakness by the traditional Chinese society). The other reason can be seen in a specific concept of sport talent that is to be discovered to make a person be ready for the Paralympics and lack of specialist can make this talent be seen. The idea of the article is to show the efforts of modern Chinese society (as well as difficulties) in balance search between trends of Paralympic movement (which are being instilled into the Chinese modern society at the state level) and Chinese traditional socio-psychological attitudes as to people with special needs (that exist on the ground and determine the practice and effectiveness of government programs in this area). To gain the aim of the article such methods as interviewing of practicing trainers (during their vocational training course at Lishui University, sport department), questioning of parents (informal education training centers and private sports sections), statistical data and official documents` analysis (from the open courses), analytic compilation were used.

Analysis of the problem in the literature and main problematic

Paralympic idea is quite new both for the Chinese society and scientific space. Firstly it appeared as a reality and the demand to the need to introduce the country in this section of international life as well and only now started to get some theoretical, analytical, methodological or educational background mainly thanks to efforts of abroad researchers and practicing athletes. The modern Chinese information in the media is reduced mainly to honoring the achievements of Chinese Paralympic athletes, taking into account their awards and state bonuses and using their achievements as a motivational basis for the nation as a whole. There are no publications of the Chinese researchers devoted to methods of training work with athletes with special needs, methods of the search for athletically gifted children with special needs and motivational work with them or parents in China yet neither in educational science or sport methodology one. Some ideas concern the problematic mentioned were found in the article of Chinese PhD program students of Hebei Normal University Li Xue and Wan Mo. Being majoring at sport as MA degree students, they make the analysis of nowadays problems of the training and educational system of athletes with special needs. The researchers come to the conclusion that for China for replenishment of the personnel reserve and work with potential Paralympic athletes (as high-level professional athletes) it is better to resort with the help of foreign trainers from countries where the Paralympic movement has become widespread. This point of view is based on the issue that the system of working with such athletes has not only been formed, but also tested and brought results (such countries as Canada, US, GB, Ukraine are mentioned in particular) (Li & Wan, 2018). Unfortunately their research has no information how to find up children with special needs who have some sport talent.

More information as to the needs and organization of educational and training work with athletes that have special needs can be found in interview to VICE (UK online magazine) and some publications of US and European athletes and trainers, especially those who took part at Paralympic games of 2008, 2018 and other sport events held for athletes with special needs in China. In particular, he mentions the following problems:

- lack of a specialized selection system for sports gifted children with special needs;
- lack of systemic work with sports gifted children with special needs organized and cared by the state;
- dominance of public interest (upholding the honor of the state) over personal growth and the needs for self-development of a person with special needs;

- detachment from the idea of Paralympics in general and the need for additional attention for needs and unique opportunities of people with special needs in the minds of Chinese society (Cullum, 2016).

We shall try to represent the idea of talent concept traditional for the Chinese society influence over the modern situation with Paralympics in this country through the prism of problems mentioned above.

The "Talent Concept" in China

The traditional cultural and social views of the Chinese towards gifted people are based on the idea that talent (giftedness) is a gift from the gods (in the case of the Chinese, Heaven as the highest deity). The same Heaven concept, on the other hand, doesn't allow us to talk about talentness or giftedness of people with special needs. As in most cultures, external injuries or just a visual difference between a person and the standards of appearance accepted in a particular society (shorter or stature, albinism, heterochromia, etc.) were considered a punishment of gods and such a person became an outcast. Considering the external shortcomings of a person as his/her negative marking, the Chinese tried to avoid communicating with such people. But this concept applies only to those who had birth defects and do not apply to those who have been injured in wars or protecting their property, family, etc. In this case, the person was treated neutrally, but without the desire to establish close relations with him/her. Any mutilation happened to a person was a problem of his family and relatives, not of community or society, since any mutilation prevented a person from fulfilling his main social function: to work. Being an agrarian country, Chinese society almost always oriented its members to physical labor. Also, Chinese medical practices successfully eliminated most of the physical, mental and behavioral deviations that could be considered as disability in Europe. In this regard, even in the Middle Ages, the number of disabled people in the country was not large (in a percentage compared to Europe) and, as a rarity, caused mystical fear among common people. That's why in the history the Chinese could not (and until now mainly do not) accept the idea of having the Heaven's blessing at a person with special needs.

Through the history, the Chinese paid a lot of attention to talented people, though never made a system of search, selection and development. Talented people were more likely "nuggets" than a product of purposeful work and attention from the side of the Chinese state and society. Also unusual for Europeans has always remained the very perception of the concept of "talented" in traditional Chinese society. Unlike European culture, where a person who invented something was considered talented (painted a unique picture, composed beautiful original music, made a discovery), in China such a member of the society, which corresponded to the social ideal of society as much as possible was

considered as talented (the social ideal of Chinese society remained almost unchanged from the most ancient times until the middle of the twentieth century).

Deriving the social image of the nation as "a nation sailing along the river forward, but sitting on a boat facing back", the Chinese have always seen the ideal in the past. Therefore, the task of subsequent generations has always been to maximize the copying of past achievements. In this case a talented person was expected to be a good imitator more, then a creator. The reflection of the issue mentioned can be illustrated by the following example: a talented student is one who manages equally well in all school subjects. Also as the measure of talent in the country's culture in the twentieth century for a long time remained the concept of hard work. “We don't have “talentless”, we have those who are not hard working” - the slogan of the Chinese concept of talent for schools (including the art, music and dancing ones) in the twentieth century. (Kalashnyk, Burtseva, Naumenko, & Wu, 2018)

Unfortunately such ideas are alive in the Chinese society till now. Discovering some talents in a child is the problem of his/her parents. Finding talented children is the problem of a teacher or a trainer. Maybe because having almost an unlimited human resource in all the spheres of life, China is not striving to create an integrated system of work with talented children. As before and today the state prefers to invest in an almost finished product, without spending money on startups. After the parents themselves take a child to a sports section (for example), pay for his/her classes, trips competitions, work with a coach who trains the child up to a certain level, the child wins several competitions at the provincial or national level, has got the experience of abroad competitions (usually organized by a trainer, paid by parents), then the child can get the opportunity to be selected for further training into a sports state boarding school. In this case he\she can have an opportunity to make a career as an athlete.

State policy over athletes with special needs

According to the Law of the People's Republic of China on the Protection of Disabled Persons (adopted in 1990), "a person with a disability is understood as the one who suffers from anomalies or loss of a certain organ or function psychologically or physiologically or in an anatomical structure, and who has completely or partially lost the ability to engage in any kind of ordinary activities in the usual way". (Law of the People's Republic of China on the Protection of Disabled Persons, 1990). According to the Constitution of the PRC, under term "people with disabilities" also see people with "visual, hearing, speech or physical disabilities, mental retardations, mental disorders, multiple disabilities and / or other irregularities» (The Constitution, 1990). Law of the People's Republic of China on the Protection of Disabled Persons guarantees the rights of people with

disabilities as to education and employment opportunities, state and society responsibility towards them, rights and social guarantees of adequate level of care (Law of the People's Republic of China on the Protection of Disabled Persons, 1990). China ratified the UN Convention on the Rights of Persons with Disabilities in June 2008.

In 1988 was established China Disabled People Federation (CDPF) which mission is to promote the development of people with disabilities, to support their equal and full participation in public life, social, sports, materials and cultural achievements of modern Chinese society. (China Olympics official website, 2019)

The main institution of the country that forms the state policy towards athletes with special needs is China Administration of Sports for People with Disabilities (CASPD), which is also part of Central Government of China state apparatus. CASPD is a structural unit of China Disabled People Federation (CDPF) and is responsible for all issues related to the sport life of people with disabilities in the country, including professional sports for people with disabilities. The sphere of interests of this organization includes, in particular, the development of sports standards for athletes with disabilities, scientific and methodological research in the field of sports for disabled, selection of promising sports gifted children and adolescents with disabilities for further training in state sports boarding schools, formation of the PR China teams to participate in sports for people with disabilities of various levels including the Paralympic Games, etc. (Brief Introduction of CASPD, 2015). Also CASPD operates the China Disabled Sports Training Center (CDSTC) in Beijing - a sports complex specially equipped according to the latest technologies for people with disabilities, a training base for the Chinese Paralympic team in various sports except water ones (training centers for water sports are also run by the CASPD and located in Shanghai, Guangzhou, Shenzhen, Macau, Tianjin) (Xu, 2015).

The other half-state organization which is supported both by Chinese government and international organizations is “Special Olympics” which was found in Beijing in 1985. From the very first day, the Organization sees its mission in following: to conduct year-round sports training and sports competitions in various Olympic-type sports for children and adults with intellectual disabilities, to give them a constant opportunity to develop and maintain physical form, to demonstrate their abilities in the field of sports, to experience the joy of participating in competitions, friendship with other athletes, achieving goals, etc. For today the Organization already has 25 branches, 1,494,783 registered athletes and Unified partners and 75,517 coaches all over China (China Olympis official website, 2019).

Today, China is one of the most successful countries in Paralympic Games. In total, over the entire history of their participation, the national teams of the PRC

have collected 1,000 medals, which is an absolute record for today. China also participates Deaflympics regularly and is one of the most successful nations there with the total amount of 99 medals. (China Deaflympics, 2017).

As one of peculiarities of the Chinese sport for disabled system can be recognized as a large component of non-formal education. As it was already mentioned, the state prefers to get involved in an almost guaranteed positive result and to maintain at the highest level the athletes who have already proved their competitiveness at a high level. The system of primary selection, primary training, as well as rehabilitation and reprofiling of athletes with disabilities usually lies in the field of informal (non-state) training and is funded through numerous NGOs, foundations, as well as through parents and sponsors of the athletes themselves. (Kalashnyk, Burtseva, Naumenko, & Wu, 2018)

Thanks to its active participation in the Paralympic Games and the numerous victories that improve the country's external image, China is gradually changing both the country's infrastructure for people with disabilities and the attitude of the country's citizens towards such people. According to Qian Zhilin, a Beijing Normal University professor of special education, “thanks to Paralympic Games, the Chinese citizens are now actively learning about people with disabilities, and not, as before, reject them. The government in various ways teaches the population to see in disabled people equal members of modern Chinese society.” (Tang, Zhang, & Yang, 2014).

It may be said, that Chinese government make big, mainly financial, efforts to proclaim the idea of Paralympics in the country, to overcome the traditional views over talentless of people with disabilities and people with special needs. In one hand constant exaggeration of Chinese Paralympics athletes` achievements, stories on television and radio broadcasting about their lives and training before winning at the title international competitions, inclusion of stories about them and the Paralympic movement in general into school program, etc. which are held on the state level are waited to change the views of the Chinese about the possibilities and talents of disabled people. In the other hand China is a vast country and so the picture varies regionally. There are no universal standards for disability athletes` benefit/support schemes, each province and city apply its own levels and standards.

Gifted but not recognized: state programs` gabs, tradition and society attitude challenges

Today the Chinese athletes with special needs also face challenges on their way to be recognized. As it was already mentioned, the main of them are: lack of a specialized selection system and systemic work with sports gifted children with special needs organized and cared by the state as well as detachment from the idea

of people with special needs unique opportunities in the minds of the Chinese society.

According to state statistics, today China has about 65 million of disabled (Zhang, 2019). Because of this population size they can run a more rigorous training programme than the other countries can. If they lose 30, 40 or even 50 percent of their athletes on the way, China can still be left with enough athletes to compete. That forms a quite sharp competitiveness among this group of athletes as well. China puts the programmes in place for their athletes but they don't actually fund them until they succeed. When they succeed, they reward them with a life-changing sum of money not just for them but for their family for many generations to come (Cullum, 2016). It should be minded, that there are no special major at universities and other education establishments to educate the corp of Chinese trainers for work with disabled sports gifted children. The ones that work with them now (especially on the regional level) mainly are autodidacts that got their knowledge during their practical work and basic theory from abroad sources. The national-level disabled athletes mainly work with an "abroad+Chinese" coaches` tandem or with the Chinese trainers who got their education from abroad professionals (Qiu, 2014). A lot of trainers who work at non-specialized training centers or schools (both private and municipal ones) are not ready to work with sports gifted disabled students neither psychologically nor methodically.

Here we show the results of two groups of coaches and trainers who got the vocational training course at Lishui University (Zhejiang province, PR China), Physical education department (spring and autumn semester 2019 academic year) interviewing. The groups consisted of 35 professional each. All the coaches had at least 5 years` experience of work and represent professionals working both at institutions of formal (sections and sport clubs sponsored and established by local government) and informal (private sports schools and sections, sports schools organized and financed by community or company individual private coaching etc.) education. The interview was anonymous and, according to the initiators of the survey, reflects the real situation as to work with sport gifted children and athletes with special needs in Chinese regions. The interview results are published for the first time. According to the Interview held:

1. *100% of the trainers would not like to have a sport gifted child with special needs among his/her pupils. The reasons mentioned:*
    - they need special attention and I am not ready for this;
    - I was not trained to work with such children (or, as a variant, "only specially trained professionals should work with such children, better abroad ones");
    - they need too much of my attention with the result too uncertain (though most of the trainers understood that if they really make good results

with such a child they can make a good trainer`s career faster, but will have to change the specialization on work with disable gifted children. In the opinion of trainers, the balance between the efforts expended and the expected result is not observed);

- I can lose my other pupils because their parents are not ready to have a disabled child in the group.

2. *Trainers mainly (93,7%) would not like to have special training courses to be able to work with sport gifted children in future. Te reasons mentioned:*
   - I already have my specialty and my pupils and I am completely satisfied with the situation;
   - I can't imagine a situation where this knowledge and skills could be useful to me (in my practice I never met parents of sport gifted children bring them to a regular sports section - usually they are initially looking for specialized schools, if deal with this question at all);
   - there is not enough social request for this service;
   - China has no specialists who can train me;
   - I am not psychologically ready to communicate such children and deal with them day-by-day.
3. *As to the question "Who should initiate a training work with sport gifted children with special needs (including search and selection, training, introduction to competitions)?", the following answers were got*:
   - state or local authorities (as they are interested in food image of China within the international sport society);
   - local authorities and local state government as they get additional financing for this activity from the state;
   - local government as they are interested in good image of the region to get more financing from the state;
   - parents of such children;
   - young trainers who graduated or not still graduated from Universities (explaining, that they still have no fixed specialization and set of pupils, so have "almost nothing to lose" but are interested in making a good career);
   - NGOs and other social agencies, including the abroad ones.

As to the detachment from the idea of people with special needs unique opportunities in the minds of the Chinese society, the interview taken as the feedback to the research made and mentioned above by trainers themselves show, that only 10% of parents share the idea that children with special needs can be trained at ordinary sport schools and sections, but only 5% of them stand for the idea that they can be trained together with the rest of the children. The reasons that parents express are:

- a trainer will pay more attention to the child with disabilities at the expense of the rest of the children;
- don't want to put their children in a situation in which they have to compete or use physical force towards a person with special needs (this is especially true for power sports or martial arts);
- don't want their children to be emotionally involved into problems of people with special needs;
- such children should be trained in special way by specialized trainers.

The parents` interview results are published for the first time as well.

Results

For today, the traditional Chinese concept of talentness still influences the social views of the Chinese towards gifted people with special needs in general and sport gifted in particular. Unlike other countries, China still does not provide such children with comprehensive social support system, limiting by support and creation of conditions for those who independently achieved success at the initial and middle stages of becoming a professional. It can be explained by the size of the country, peculiarities of its social life ossification and the dynamism of economic development in the late twentieth and early 21st centuries. The problem that the Chinese face for today as to the educational and training work with sport gifted children with special need is the misbalance in state affords towards image on the international level and social views as to inferiority and unsuitability of this category of children and people in general. Due to the traditional Chinese social norm and behavior rules, Chinese society follows the path of not including people with special needs into the sports life of the region and a particular section. The Chinese society still needs time and planned educational and promotional work to overcome traditional social attitudes and change their worldview.

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JAUNIEŠU LĪDZDALĪBAS VEICINĀŠANA PRIEKŠLAICĪGAS MĀCĪBU PĀRTRAUKŠANAS NOVĒRŠANAI

Promotion of Youth Involvement for Early School Leaving Prevention

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Abstract. *Among the main challenges of contemporary education system are raising the motivation to study, strengthening the bond between the student and the school and prevention of early school leaving. In Latvia as well as in the rest of Europe the percentage of early school leavers still remains high. According to Eurostat data the percentage of students having left school early in Latvia reached 8% in 2018. Moreover the Baltic Social studies stated that altogether 26% of schools have faced the problem of early school leavers. Among the main factors reported as the reason for early school leaving are lack of motivation and risks related to school environment. Using the competency-based learning model new educational goals have been set, as follows, namely methodically moving towards the desired future profession, active involvement in the community, cooperation and developing of the feeling of patriotism. Lielvarde municipality in cooperation with the Ministry of Education and Science has launched a project aimed to gain a better understanding of students' emotional and mental state, plans for the future as well as raising awareness of possible ways to get support during difficult times. The method used in the research were questionnaires. In the research there were involved students from all schools of Lielvārde district starting with age 13. The main goal of the research is to create a sustainable action plan, in order to gain more involvement from students. The results of research reveal students' attitude towards studying, their future job options as well as the awareness of possibilities to use support systems in their lives.*
Keywords: *early school leavers, involvement, support system.*

Ievads
Introduction

Mūsdienu izglītības sistēmas izaicinājums ir skolēnu mācību motivācijas paaugstināšana, piederības un līdzdalības veicināšana un mācību priekšlaicīgas pamešanas novēršana. Jauniešiem pabeidzot skolu un iegūstot kvalifikāciju, kas nepieciešama viņu turpmākajā darba dzīvē, ieguvēji ir visi – jaunieši, uzņēmēji, valsts. Tādēļ skolas beigšanu uzskata par svarīgu Eiropas politikas mērķi.

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VIAA publicētajā pētījumā "Karjeras atbalsta pasākumi riska grupu jauniešiem" (2010) konstatēts, ka deviņās no desmit jaunajām darbavietām Eiropā nepieciešami darbinieki, kuriem ir vidējā vai augstākā līmeņa kvalifikācija, tomēr katrs septītais jaunietis Eiropā pārtrauc formālo izglītību, nepabeidzot vidējo izglītību.

Teorētiskajā literatūrā kā mācību pārtraukšanas iemesli visbiežāk tiek minēti zema mācību motivācija, atbalsta trūkums mācīšanās grūtību gadījumā un ar skolas vidi saistīti riski (Kraģe & Ivanova, 2018). Savukārt jaunieši, kas priekšlaicīgi pārtraukuši mācības visbiežāk neiesaistījās vai kavēja mācību procesu, neizrādīja vēlmi piedalīties izglītības iestādes aktivitātēs, nejuta piederību klasei un izglītības iestādei (Dryfoos, 1991).

Kā Eiropas, tā nacionālajā līmenī uzmanību pievērš skolu beidzēju skaita paaugstināšanai un augstāka izglītības un apmācības līmeņa sasniegšanai ar mērķi nodrošināt vispārēju vidējās izglītības ieguvi.

Izglītības mērķis Eiropas Sociālā fonda (ESF) projekta "Kompetenču pieeja mācību saturā" (Nr.8.3.1.1/16/I/002) ir noteikts kā ikviena jaunieša mērķtiecīga un lietpratīga savas nākotnes veidošana, līdzdarbība sabiedrības dzīvē, sadarbības prasmju attīstīšana un Latvijas patriotisma veidošana.

Lielvārdes novada pašvaldība ar Izglītības un zinātnes ministrijas Jaunatnes politikas valsts programmas atbalstu ir uzsākusi projekta "Skatāmies vienā virzienā" īstenošanu, kura ietvaros ir veikts pētījums. Pētījuma veikšanai izmantota aptauja, lai noskaidrotu kāda ir jauniešu līdzdalība sociālajos procesos, turpmākās izglītības plāni un pieejamais atbalsts grūtībās izglītības ieguves laikā. Pētījumā iesaistīti Lielvārdes novada vispārizglītojošo skolu jaunieši no 13 gadu vecuma. Pētījuma mērķis, balstoties uz iegūtajiem rezultātiem, ir izveidot ilgtspējīgu rīcības plānu novada skolu jauniešu līdzdalības paaugstināšanai, vienlaikus samazinot priekšlaicīgas mācību pārtraukšanas risku.

Raksta mērķis: analizēt skolēnu attieksmi pret izglītību, piederības izjūtu izglītības iestādei, novadam, valstij, savu nākotnes iespēju apzināšanos un atbalsta sistēmas izmantošanu grūtās dzīves situācijās.

Priekšlaicīga mācību pārtraukšana un tās sekas
Early school leaving and it's effects

Eiropā un arī Latvijā joprojām ir augsts priekšlaicīgi mācības pārtraukušo (turpmāk - PMP) skolēnu skaits.

Jēdziens "Priekšlaicīgi mācības pārtraukušie" ietver visas izglītības pamešanas formas pirms vispārējās vidējās izglītības vai vidējas profesionālās izglītības iegūšanas, dažreiz arī pamatizglītības neiegūšana līdz 18gadu vecumam (Gyonos, 2011).

Saskaņā ar Eurostat definīciju pārskatā "Early leavers from education and training by sex" (https://ec.europa.eu/eurostat, 2018) izglītību priekšlaicīgi pārtraukušie ir jaunieši vecumā no 18 līdz 24 gadiem ar iegūtu pamatizglītību, kas neturpina tālākizglītību vai apmācību. Šī definīcija attiecas uz 18-24 gadus veciem jauniešiem, kuri Eurostat datu pārskata veikšanas laikā atbilst diviem nosacījumiem: augstākais iegūtais izglītības vai apmācības ISCED (International Standard Classification of Education - Starptautiska standartizēta izglītības klasifikācija) līmenis ir 0, 1, 2 vai 3c, un respondenti nav saņēmuši izglītību vai apmācību četras nedēļas pirms pārskata veikšanas (https://ec.europa.eu/eurostat, 2018).

Dažādās pasaules valstīs atšķiras jauniešu vecums, uz kuru tiek attiecināta priekšlaicīga mācību pārtraukšana. Piemēram, ziņojumā "Eligible School Leaver Guideline" (2018) Austrālijā par priekšlaicīgi mācības pārtraukušiem tiek uzskatīti tie izglītojamie, kas nav sasnieguši 22 gadu vecumu un nav ieguvuši vidējo izglītību vai vidējai izglītībai ekvivalentu izglītības līmeni.

Pēc Eurostat datiem (https://ec.europa.eu/eurostat, 2018) pārskatā "Early leavers from education and training by sex" Latvijā 2018.gadā 8% izglītojamo priekšlaicīgi pārtrauca mācības. Savukārt Baltijas Sociālo zinātņu institūts secinājis, ka 26% skolu saskārušās ar priekšlaicīgas mācību pārtraukšanas problēmu.

1.tabula. ***Priekšlaicīgi mācības pārtraukušie 18-24 gadus veci jaunieši (%)***
Table 1 ***Early school leavers from education of the population aged 18-24 in %***

Valsts	**2008.gads**	**2018.gads**
Horvātija	4,4	3,1
Slovēnija	5,1	4
Lietuva	7,5	4,8
Latvija	15,5	8
Igaunija	14	11,5
Īslande	24,4	20,4
Turcija	45,5	31,3

Avots: Autores sastādīts, izmantojot Eurostat datus "Early leavers from education and training by sex", (https://ec.europa.eu/eurostat, 2018)

Eiropas Savienības dalībvalstis ir uzstādījušas mērķi līdz 2020.gadam samazināt priekšlaicīgi mācības pārtraukušo jauniešu skaitu līdz 10% no visas attiecīgās vecuma grupas jauniešiem. Kā redzams 1.tabulā, Latvijai jau 2018.gadā bija izdevies samazināt PMP jauniešu skaitu līdz 8%. Viszemākie PMP rādītāji ir tādām valstīm kā Horvātija un Slovēnija, turpretī vislielākais skaits priekšlaicīgi mācības pārtraukušo ir Īslandē un Turcijā. Salīdzinot trīs Baltijas valstis, Latvijai un Lietuvai ir izdevies sasniegt mērķi, bet Igaunijā 2018.gadā uzrādīti 11,5% PMP jauniešu.

Ir vairāki iemesli, kāpēc skolēni pārtrauc mācības – grūtības mācībās, sociālas problēmas, motivācijas trūkums, nepietiekamas iespējas saņemt profesionālu padomu (Gyonos, 2011).

Bieži vien iespēja nopelnīt, vienalga kādiem līdzekļiem, jauniešiem kļūst par prioritāti, salīdzinot ar izglītību vai apmācību.

Jaunieši necenšas iegūt izglītību vai apmācību, ja viņi izglītības iestādē nejūtas labi vai jūtas nepiederīgi. Bērni, kas demonstrē uzvedības problēmas, bieži tiek atstumti no savu vienaudžu puses (Hickman & Heinrich, 2011), kas rada atsvešināšanos no klases kolektīva un skolas. Atstumtiem skolēniem izglītības iestāde kļūst sociāli un akadēmiski nepievilcīga un šie skolēni meklē citus tādus pašus vienaudžus atbalsta gūšanai, tādējādi formējot delinkventu pusaudžu grupas.

Bieži vecākiem nav laika līdzdarboties bērnu izglītībā. Vecāku nodarbinātībai un aizņemtībai palielinoties, nav iemesla domāt, ka nākotnē vecāku laika un uzmanības sadalījums mainīsies par labu bērnu izglītībai (Dryfoos, 1991).

Izglītības priekšlaicīgai pamešanai ir tālejošas individuālas, sociālas, ekonomiskas, kultūras un politiskas sekas. Sekas var iedalīt īstermiņa, vidēja termiņa un ilgtermiņa sekās, tās var būt tiešas un netiešas (Walther & Pohl, 2005).

Jauniešiem ar zemu izglītības līmeni ir visgrūtāk atrast darbu, jo uz mazāku skaitu pieejamo darba vietu viņiem jākonkurē ar saviem izglītotajiem un kvalifikāciju ieguvušajiem vienaudžiem.

Autore secina, ka mācību pārtraukšana var būtiski ietekmēt jauniešu dzīves ceļa izveidi.

"Karjeras atbalsta pasākumi riska grupu jauniešiem" norādītas individuālās PMP sekas, kas ietver augstāku bezdarba iespējamību (salīdzinot ar vienaudžiem, kas ieguvuši izglītību) un bezdarba ilgumu, zemāku personīgās vērtības apziņu, zemāku izpeļņu mūža garumā un sliktāku veselības stāvokli, zemāku apmierinātību ar dzīvi.

Sociālās sekas ir augstāks noziedzības līmenis, zemāks ekonomiskās izaugsmes temps, vājāka saikne starp vecākiem un bērniem, sliktāks sabiedrības veselības stāvoklis, zemāka sociālā vienotība un augstāks bezdarba līmenis.

Finansiālās sekas ir zemāki nodokļu ieņēmumi, augstākas policijas un krimināltiesu izmaksas (Psacharopoulos, 2007).

Autore secina, ka izglītības priekšlaicīga pamešana ietekmē jauniešu dzīves kvalitāti, sākot ar izglītības ieguvi un beidzot ar iesaistīšanos darba tirgū. Neiegūstot nepieciešamās prasmes jau agrīnos skolas gados, daudzi nespēj pielāgoties mainīgajam darba tirgum. Izglītojamiem, kas pakļauti priekšlaicīgam mācību pārtraukšanas riskam, ir grūtāk kā citiem vienaudžiem kļūt patstāvīgiem un neatkarīgiem, kā arī vēlākā dzīves posmā rūpēties par citiem, piemēram, saviem bērniem vai vecākiem.

Ir veikti pētījumi (Polidano, Tabasso, & Tseng, 2012) par ārpus izglītības sistēmas pavadītā laika ilguma ietekmi uz jaunieša turpmāko izvēli. Laiks, kas pavadīts ārpus izglītības sistēmas, var likt aizmirst prasmes, kas vajadzīgas, lai pēc tam turpinātu mācīties. Bieži šādos gadījumos vecāki grib, lai jaunietis sāk strādāt un pelnīt naudu. No otras puses, esot ārpus izglītības sistēmas, iespējams skaidrāk uzstādīt mērķus un novērtēt, kāda izglītība būs nepieciešama mērķu sasniegšanai.

PMP riskam ir pakļautas dažādas izglītojamo grupas. Lielākā daļa riskam pakļauto jauniešu parasti ir grūti sasniedzami un nelabprāt pieņem viņiem domātos pakalpojumus un iespējas, neiesaistās pasākumos vai speciāli šai mērķgrupai paredzētās aktivitātēs (Bishop, 2018).

Izglītības un jaunatnes politika jauniešu līdzdalības veicināšanai
Education and youth policies to promote youth participation

Izglītība ir process, kurā tiek nodrošinātas ikviena izglītojamā līdzdalības iespējas mācību procesā un kultūrā.

Latvijas Republikā ir izstrādāti MK noteikumi Nr.416 "Noteikumi par valsts vispārējās vidējās izglītības standartu un vispārējās vidējās izglītības programmu paraugiem" (https://likumi.lv/ta/id/309597). Tajos ir noteikti uzdevumi nostiprināt un attīstīt caurviju prasmes, lai izglītojamais prastu un vēlētos patstāvīgi mācīties mūža garumā, plānotu un vadītu savu izziņas procesu un pieņemtu atbildīgus lēmumus.

Latvijas Republikā ir pieņemts arī "Jaunatnes likums". Likuma mērķis ir uzlabot jauniešu — personu vecumā no 13 līdz 25 gadiem — dzīves kvalitāti, veicinot viņu iniciatīvas, darba tikumu un patriotismu, līdzdalību lēmumu pieņemšanā un sabiedriskajā dzīvē, kā arī atbalstot darbu ar jaunatni (https://likumi.lv/ta/id/175920).

Jaunatnes politika nodrošina jauniešiem iespēju iesaistīties jaunatnes politiku ietekmējošu lēmumu apspriešanā pirms to pieņemšanas; sekmēt jauniešu nodrošināšanu ar viņu attīstības vajadzībām atbilstošu informāciju; nodrošināt jauniešiem iespēju bez jebkādas diskriminācijas aktīvi piedalīties sabiedriskās, politiskās, kultūras un ekonomiskās dzīves aktivitātēs; risinot ar jaunatni saistītus jautājumus, izvērtēt jauniešu intereses, tiesības, vajadzības un iespējas; veicināt tādu apstākļu veidošanos, kuros jauniešiem ir iespēja būt ekonomiski patstāvīgiem Latvijas iedzīvotājiem.

Latvijā ir realizēti vairāki projekti un atbalsta programmas PMP riska samazināšanai un jauniešu līdzdalības veicināšanai: "Atbalsts priekšlaicīgas mācību pārtraukšanas samazināšanai" PuMPuRS, „Atbalsts pozitīvai uzvedībai" (APU), „Vecāku kompetences pilnveide skolēnu izglītības ieguves atbalstam un sadarbībai izglītības iestādes, pašvaldības un valsts līmenī" (VeIP), „Karjeras

atbalsta programma skolēniem" (KA), „Studentu un skolēnu sadarbības programma "Lakstīgala"(Kraģe & Ivanova, 2018).

Galvenie uzdevumi dažādos projektos līdz šīm ir bijuši sekmēt vēlēšanos darboties, sekmēt izziņas interesi, sekmēt izpratni par mācīšanās nozīmīgumu, sekmēt ikdienas plānošanas apguvi un sevis pilnveides iespēju saskatīšanu.

Atbalsta programmu vispārīgais mērķis – mazināt jauniešu atstumtību un sekmēt viņu iekļaušanos izglītības procesā, sabiedrībā.

Pētījums par Lielvārdes novada jauniešu līdzdalību sociālajos procesos
Survey on youth involvement in social processes

Valsts reģionālās attīstības aģentūras sniegtajā informācijā "Novadu teritorijas attīstības līmeņa indeksi pēc 2018.gada datiem" redzams, ka Lielvārdes novads 111 pašvaldību vidū ieņem 22.vietu, kas ļauj izdarīt secinājumus par kopējo attīstību novadā un jauniešu ģimeņu labklājību.

Indeksa aprēķinā ņemti vēra tādi lielumi kā ekonomiski aktīvo individuālo komersantu un komercsabiedrību skaits, bezdarba līmenis, trūcīgo personu īpatsvars iedzīvotāju kopskaitā, kopējais noziedzīgo nodarījumu skaits, iedzīvotāju skaits virs darbspējas vecuma un iedzīvotāju ienākuma nodoklis uz vienu iedzīvotāju.

Lielvārdes novada pašvaldība ar Izglītības un zinātnes ministrijas Jaunatnes politikas valsts programmas atbalstu ir uzsākusi projekta "Skatāmies vienā virzienā!" īstenošanu, kura ietvaros ir veikts pētījums par jauniešu līdzdalību sociālajos procesos, jauniešu plāniem un pieejamo atbalstu grūtībās, lai izstrādātu preventīvo pasākumu un līdzdalību veicinošu pasākumu plānu jeb jaunatnes politikas programmu.

Preventīvo pasākumu mērķis ir noskaidrot alternatīvas izglītības iespēju nodrošināšanu, pieaugošo izglītības iespēju daudzveidību, karjeras attīstības atbalsta pakalpojumu un konsultēšanas pakalpojumu pieejamību un kvalitāti.

Skolēna mācīšanās ir jāsaista ar viņa pieredzi un ikdienu, lai sekmīgi spētu plānot savu nākotni Skolēnam jābūt iesaistītam viņam aktuālu lēmumu pieņemšanā, mācībām jārosina interesēties un iesaistīties izglītības iestādes kultūras veidošanā un sabiedrībā notiekošajos procesos, tādējādi veicinot līdzdalību un samazinot priekšlaicīgu mācību pārtraukšanu.

Pētījuma veikšanai izmantota elektroniska aptauja. Kopumā novadā pētījumā tika iesaistīti jaunieši līdz 25 gadu vecumam, taču šajā rakstā autore analizē tikai skolas vecuma jauniešu (vecumā 13-19 gadi) atbildes. Pētījumā iesaistīti visu Lielvārdes novada skolu visi jaunieši no 13 gadu vecuma.

Raksturojot respondentu kopu, jāatzīmē, ka pavisam uz jautājumiem atbildējuši 188 jaunieši vecumā no 13 līdz 19 gadiem. 157 respondenti turpina iegūt izglītību pamatskolas posmā, 31 no respondentiem ir ar jau iegūtu

pamatizglītību. Teritoriāli 64% aptaujāto ir Lielvārdes pilsētas skolu skolēni, bet 36% ir no Lielvārdes novada lauku teritorijas (Lēdmane, Jumprava, Kaibala).

Lai noteiktu izglītojamo līdzdalību un piederības sajūtu skolai, novadam un valstij, respondenti tika lūgti atbildēt uz jautājumiem par dalību skolas pasākumos, apmierinātību ar dzīvi novadā kopumā un savu piederības sajūtu Latvijai un ES.

Analizējot atbildes par respondentu līdzdalību un iesaisti dažādās skolas un novada aktivitātēs, iegūtie rezultāti liecina, ka 57% respondentu ir piedalījušies kā dalībnieki skolas kultūras pasākumos, 62% piedalās interešu pulciņos, bet nopietnu mākslinieciskо pašdarbību (koris, deju kolektīvi) realizē 38% respondentu. No iegūtajām atbildēm autore secina, ka skolēni pietiekami aktīvi iesaistās skolas organizētos pasākumos izglītības iestādē ārpus mācību procesa.

Jaunatnes politikas veidošanā savā skolā vai novadā iesaistījušies 24% no aptaujātajiem (piedalījušies skolēnu pašpārvaldē), savukārt 17% iesaistījušies jauniešu organizācijās, 39% ir iesaistījušies brīvprātīgajā darbā, 22% respondentu iesaistījušies labdarībā. Autore secina, ka aptaujātie neizrāda iniciatīvu un pietiekami neiesaistās jaunatnes politiku veidojošajos vai citos sociālajos procesos.

17% jeb 32 skolēni pēdējā gada laikā nav iesaistījušies nevienā skolas pasākumā, kas ir satraucošs skolēnu līdzdalības un līdz ar to arī piederības izjūtas rādītājs. Tas jāņem vērā, veidojot turpmāko jauniešu līdzdalības veicināšanas plānu novadā.

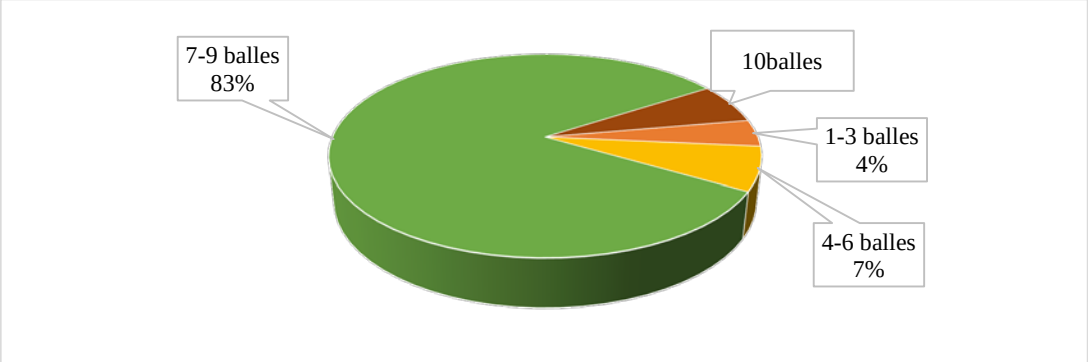
Novērtējot apmierinātību ar dzīvi Lielvārdes novadā kopumā, 64% respondentu ir apmierināti ar dzīvi. 2% respondentu ir ļoti neapmierināti ar notiekošo novadā, 14% drīzāk neapmierināti, bet 16% respondentu ir grūti pateikt vai viņi ir apmierināti ar dzīvi novadā. Lielākā daļa no respondentiem, kas nav apmierināti ar dzīvi novadā (48 aptaujātie no 61), ir norādījuši, ka nesaista savus nākotnes plānus ar Lielvārdi. Autore secina, ka šī aptaujāto skolēnu daļa nejūt piederību novadam.

Lai uzlabotu un paaugstinātu apmierinātības līmeni, respondenti iesaka iekārtot stadionu, organizēt jauniešu balles (tai skaitā ne tikai Lielvārdes centrā), ierīkot skeitparku, baseinu, kino. Autore secina, ka skolēniem pietrūkst atpūtas un pulcēšanās vietu, kur jēgpilni pavadīt brīvo laiku.

Novērtējot apmierinātību ar savu personīgo dzīvi (1. att.) 10 ballu skalā, (kur 10 ir pilnība apmierināts, bet 1- pilnībā neapmierināts), 4% respondentu savu apmierinātību novērtē ar 1-3 ballēm. Kā galvenie iemesli neapmierinātībai ir minēta liela slodze skolā, slikti vērtējumi un sliktas attiecības ar vecākiem. 2 atbildes vērtējamas arī ka trauksmes signāls – "depresija"; "jo neuzskatu, ka manai dzīvei ir jēga".

7% respondentu savu apmierinātību ar dzīvi novērtējuši no 4 līdz 6 ballēm, 83% respondentu ar savu dzīvi ir apmierināti (7-9 balles), 6% respondentu savu dzīvi novērtējuši uz 10 ballēm.

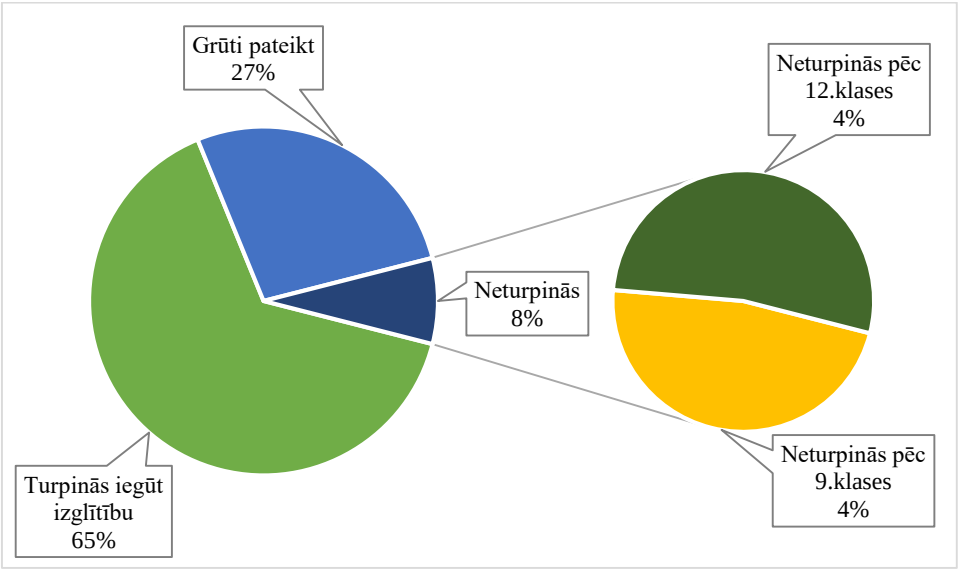
Autore secina, ka lielākā daļa respondentu ar savu dzīvi ir apmierināti, kas ir viens no labklājības rādītājiem.



1. *attēls.* ***Lielvārdes novada jauniešu apmierinātība ar savu dzīvi*** *(Lielvārdes novada jauniešu aptaujas rezultāti 2019)*

Figure 1 ***Satisfaction with their lifes of young people in Lielvarde municipality***

Analizējot atbildes (2. att.) par augstāko izglītības līmeni, kuru respondenti plāno sasniegt, vērojama satraucoša aina. 27% respondentu ir grūti pateikt, kāds ir augstākais izglītības līmenis, ko viņi plāno sasniegt. Autore secina, ka šie skolēni nav izvirzījuši sev ilgtermiņa mērķus.



2. attēls. ***Lielvārdes novada jauniešu plānotā turpmākā izglītība*** *(Lielvārdes novada jauniešu aptaujas rezultāti 2019)*

Figure 2 ***Intentions of young people in Lielvārde municipality about their future education***

10 respondenti (4%) neplāno turpināt izglītības ieguvi pēc vidusskolas, savukārt 10 respondenti neplāno mācīties pēc pamatskolas. Kopā tie ir 20 respondenti jeb 8% Lielvārdes novada skolēnu, kas atbilst priekšlaicīgas mācību pārtraukšanas riska grupai. Iegūtie rezultāti sakrīt ar Latvijas kopīgajiem rādītājiem.

65% respondentu jau šobrīd ir nolēmuši pēc vidējās izglītības iegūšanas turpināt izglītības ieguvi augstskolā vai profesionālās izglītības iestādē.

Kā papildus zināšanas, ko skolēni vēlētos apgūt ārpus obligātā izglītības satura, minētas prezentēšanas un publiskās runas prasmes, medijpratība, kritiskā domāšana, projektu rakstīšana/īstenošana un valodas.

Veselības problēmas ir viens no priekšlaicīgas mācību pārtraukšanas iemesliem, tāpēc 23 respondentu jeb 12% atbildes, kas liecina par savas veselības zemu novērtējumu, jāņem vērā, veidojot turpmāko preventīvo pasākumu plānu.

Arī analizējot atbildes par atbalstu emocionāli grūtos brīžos, vērojama satraucoša aina. 37% respondentu nemeklē atbalstu ne pie ģimenes locekļiem, ne pie izglītības iestādes vai pašvaldības speciālistiem, bet paši tiek galā un tikai 6% aptaujāto izmanto speciālistu palīdzību.

Autore secina, ka gadījumā, ja mācību procesā radīsies grūtības, kas bieži ir PMP cēlonis, jauniešiem ir augsts risks pamest izglītību, jo viņi problēmu risināšanā neiesaista ģimeni vai speciālistus.

Jautāti par piederību skolai, Lielvārdei, Latvijai, Eiropas Savienībai, 95% respondentu atbildējuši, ka jūt piederību Lielvārdei, 92% jūt piederību Latvijai un 84% apzinās sevi kā ES pilsoni.

Novērtējot savas iespējas ietekmēt lēmumus, ko pieņem pašvaldībā, 71% respondentu nesaskata iespējas ietekmēt lēmumu pieņemšanu. Analizējot sniegtās atbildes autore secina, ka aptaujātajiem skolēniem nav interese un vēlēšanās līdzdarboties, jo Lielvārdes novada jauniešiem ir dažādas iespējas iesaistīties lēmumu pieņemšanā un iniciatīvu organizēšanā.

Secinājumi
Conclusions

Izglītības mērķis ir noteikts kā ikviena jaunieša mērķtiecīga un lietpratīga savas nākotnes veidošana. Izglītības priekšlaicīgai pamešanai ir individuālas, sociālas, ekonomiskas, kultūras un politiskas sekas.

Zemā jauniešu līdzdalība ir tieši saistīta ar priekšlaicīgu mācību pārtraukšanas riska palielināšanos.

Lielākā daļa pētījumā aptaujāto skolēnu ar savu dzīvi ir apmierināti un vairāk kā puse aptaujāto jauniešu aktīvi līdzdarbojas skolas dzīvē, taču 17% pēdējā gada laikā nav iesaistījušies skolas pasākumos, kas ir satraucošs skolēnu līdzdalības un līdz ar to arī piederības izjūtas rādītājs.

8% Lielvārdes novada aptaujāto skolēnu neplāno turpināt mācības pēc pamatskolas un/vai vidusskolas beigšanas, kļūstot par priekšlaicīgas mācības pārtraukšanas riska grupu.

Eiropā un Latvijā lielu uzmanību pievērš skolu beidzēju skaita paaugstināšanai un augstāka izglītības un apmācības līmeņa sasniegšanai.

Izstrādājot preventīvo pasākumu un jauniešu līdzdalību veicinošo pasākumu plānu, Lielvārdes novadā jāņem vērā, ka skolēnam jābūt iesaistītam viņam aktuālu lēmumu pieņemšanā.

Jāveido jauniešiem draudzīgi līdzdalības un piederību veicinoši mehānismi ne tikai skolā, bet visā novadā, veicinot jauniešu mācīšanos un nozīmīgu dzīves prasmju iegūšanu arī ārpus izglītības iestādes.

Summary

By evaluating the possibilities to impact decisions made in their municipality, most of the young people of Lielvārde municipality are very skeptical and don't see ways to impact decision making.

While elaborating preventive measures and measures to support youth involvement, one has to take into account, that young people need to be involved in decision making and different cultural and social processes.

Most of the young people, who participated in this survey, are satisfied with their life. More than a half is actively involved in school's life, nevertheless 17% have not taken par tin school activities during last year, which is a very alarming signal.

8% of the surveyed young people had no intention to continue their education after completion of primary and/or secondary school. Which makes them to be at risk of early school leaving.

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METHODS OF UPBRINGING IN THE FAMILY AS AN AREA OF FORMING THE UPBRINGING AWARENESS OF PARENTS ON THE EXAMPLE OF THE FUNCTIONING OF PROFESSIONAL FOSTER FAMILIES IN SZCZECIN

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Abstract. *When implementing educational and socialization processes in the family, each parent uses specific educational methods. Methods of family upbringing are considered to be systematic ways of coexistence and coexistence of everyday life situations of the educator with the pupil in a direct or indirect context marked by family axiology. Family upbringing methods always have an awareness dimension. Family educational activity involves the use of various upbringing methods, selected appropriately for the adopted purpose of upbringing on the basis of a thorough knowledge of the child's mental development properties and in accordance with existing pedagogical knowledge. The aim of the research was to learn methods of parenting preferred in professional foster families in Szczecin. The canon of upbringing methods used by foster parents towards children entrusted to them was sought. The research consisted of three stages: theoretical and methodological conceptualization of research issues, pilot studies and actual research. The empirical material obtained was subjected to quantitative and qualitative analysis along with the desire to make a holistic diagnosis of the family. The upbringing methods most often chosen by foster parents include: the method of direct influence with its various implementation options (modeling, giving children educational tasks, persuasion). Equally often, foster parents used the method of adequate reward and punishment, a method of personal influence and a method of managing self-development (especially towards older children). Generally, the preferred methods of upbringing in professional foster families have a positive dimension and in a constructive way influence the optimal way of exercising upbringing and socialization interactions with children raised in family custody. Analyzing the results of research on the obtained data, the following regularity can be seen. The more positive upbringing methods are appropriate in professional foster families, the higher the level of involvement in family education processes saturated with axiology. What's more, the use of positive methods of education in a foster family directly contributes to raising their educational awareness and optimization of various activities towards children in the family.*
Keywords: *parenting methods, rewards and punishments in the family, parental attitude, parenting styles, parental involvement, parents' upbringing awareness.*

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Introduction

Family upbringing is an important subject of reflection and pedagogical research, but it is also noticed in other fields of science.

As a process, family upbringing is fulfilled primarily through a strong personal bond between parents and children, expressed, among other things, in responsibility for others; in mutual meetings, in relationships imbued with love, care, wisdom and experiences of the elders. The conditions and atmosphere created by the family as a unique community, strengthens the process of multidimensional family education and optimizes the development process of the young person and all its members. It is significant that each family upbringing process is marked by a specific axiology determined by the parents (Izdebska, 2003, pp. 73-74; Kazubowska, 2010; Kazubowska, 2017, pp. 37-54; Czerny, 1998; Czerwińska-Jasiewicz, 2015, pp. 20-23).

Attitudes towards children integrally adopted by their parents are related to specific axiology. Maria Ziemska by parental attitudes understands the tendency to behave in a specific way in relation to the child. According to the author, parental attitude consists of the following components: mental (verbal view of the child), emotional (expression of parents' statements and actions), actions (active behavior of parents towards children) (Ziemska, 1973, p. 32). Ziemska put the attitudes in two categories, distinguishing positive and negative attitudes, which can be described as favorable and unfavorable for educational reasons. Positive attitudes included: acceptance of the child, interaction with the child, giving the child reasonable freedom and recognition of the child's rights. Negatives, on the other hand, include: rejection, avoidance, excessive protection and an overly demanding attitude. A child accepted by parents is capable of lasting emotional ties and expressing feelings, is empathic and easily enters into social roles. In an attitude of cooperation, the child undertakes various activities, cooperates with others, and is also able to look after other people's property. An attitude of rational freedom allows the child to easily adapt to new situations, take on various tasks and bring them to the end. Parents presenting an attitude of recognition of children's rights give them the opportunity to take independent initiatives with the awareness of respecting certain family rights and rules. A child rejected by parents is aggressive, quarrelsome, lying, exhibits antisocial behavior and inhibits the development of higher feelings. Avoiding attitude towards a child is manifested by avoiding contact with him, which causes emotional instability, an antagonistic attitude to the environment, entering into conflicts and a lack of perseverance and concentration. The child of excessively demanding parents is characterized by a lack of faith in their own strength, fearfulness, uncertainty, difficulties in adapting to the new environment, or a lack of ability to concentrate. However, the child excessively protected by

parents is passive, does not show initiative, lacks independence, and is infantile emotionally and socially. It can also be bold, conceited, selfish and overconfident with overstated self-esteem (Ziemska, 1973, pp. 66-69).

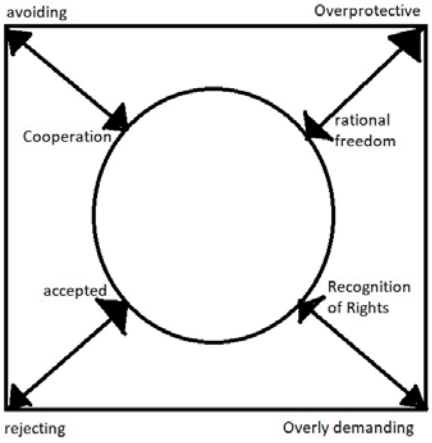

Figure 1 ***Model of parental attitudes according to Maria Ziemska*** *(1973)*

A slightly more extensive typology of parental attitudes was proposed by Schaffer. He distinguished four pairs of polar opposing attitudes: indulgence - austerity; tolerance - no tolerance; heat - cold; addiction - separation (Schaffer, 2006).

There is a direct relationship between the parents' attitude towards the child and the appropriate parenting methods. The method of upbringing is a systematic method of behavior of the educator, aimed at causing the charge to engage in such activity (own activity) which is able to lead to the desired changes in their personality (Okoń, 19955, p. 170). Family upbringing methods are a specific way for parents to deal with children in family and non-family life, creating parenting conditions and situations. Their goal is to cause positive child activity and changes in mental disposition and behavior (Cudak, 2001, p. 134).

The literature on the subject presents numerous approaches to the classification of educational methods. The reason for this may be, among others the fact that the authors of individual classifications are based on different theoretical assumptions functioning within social sciences. Łobocki and Konarzewski present the following approaches to the divisions of upbringing methods:

1) individual methods (persuasion, modeling, task method as well as rewarding and punishment) and group methods (organization of team and local government activities and cooperation of students);
2) methods of direct (explaining, persuading, suggestion, persuasion, punishment and reward methods, conversation) and indirect

(organizing the multilateral activities of the charge in the social environment) educational impact;

3) methods of personal, situational and social influence as well as methods of managing self-education;
4) structural and situational methods. Each of the methods of upbringing is devoid of universal character and complements each other, creating a whole (Łobocki, 2003; Konarzewski, 1982; Sikora, 2010). In relation to upbringing in the family, Grochociński specifically points to two types of methods: direct and indirect impact. Methods of indirect educational impact consist in deliberately organizing the child's conditions and way of life so that his experiences, reactions and experience gained bring him closer to educational purposes, contributing to the proper development of personality. Methods of direct educational impact are generally those that are implemented during direct contact with the charge. The method of persuasion is a special type of educational influence in the family. In family life, conversation can be an example of this. Family conversation is characterized by mutual understanding, trust and faith in the sense of stimulating the interlocutor to be active. When analyzing family upbringing methods, it is also worth paying attention to methods of rewarding and punishing childcare. Educational reward is based on satisfying specific motivations of the child - award as a result of manifesting the desired behaviorally behaviors and constructive forms of activity. On the other hand, the method of punishment is a way of educational impact by means of deliberately used punishments to prevent children from repeating behaviors incompatible with generally applicable norms and values (Frączak & Lulek, 2010). The use of a variety of educational methods in the family allows for effective interaction of parents with children and young people, which in total can lead to their optimal development, while the parents themselves can increase the level of their educational awareness.

Methodological basis of research

Research for the purposes of this publication was conducted in a family form of foster care, i.e. in professional foster families operating in the city of Szczecin, West Pomeranian Voivodeship (Poland). They were implemented as part of the project “Foster family - a chance for a better future for the child” affiliated at the Department of Social Pedagogy of the Institute of Pedagogy, Faculty of Social Sciences of the University of Szczecin in 2014-2019.

Szczecin is a city with poviat status, the capital and largest city of the West Pomeranian Voivodeship. It is the third largest city in Poland (300.55 km²) and the seventh largest city in Poland in terms of population. Like the entire Zachodniopomorskie Voivodship, it faces many social problems such as: a high rate of care needs for various social groups, an equally high percentage of extra-marital births, or the level of infant mortality. A disturbing phenomenon stigmatizing Szczecin and the West Pomeranian Voivodeship is also a significant divorce and separation rate or a huge number of children in foster and institutional care. Euro-orphanhood, unemployment, homelessness, multidimensional social helplessness, crime, a sense of alienation and disintegration of residents and the accompanying process of social anomaly are also important problems in and around Szczecin. In recent years, there has also been a phenomenon of the influx of people living in Ukraine, staying in Western Pomerania for profit. Being deeply aware of the complexity of the above-mentioned phenomena and social problems, research was conducted on the functioning of foster professional families operating in the city of Szczecin.

The research consisted of three stages. First it was theoretical and methodological conceptualization of research issues, then pilot studies were conducted in five professional foster families in the city of Szczecin. Only after correcting the adopted methodological assumptions after the pilot studies were the actual tests carried out.

Among the surveyed foster professional families 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. Coordinators of family custody in the number of 6 people as well as 6 social workers working in the city of Szczecin in the Municipal Family Support Center in Szczecin and 6 family assistants were also surveyed. For the purposes of this article, upbringing methods used in professional foster families for children in this form of foster care have been analyzed (due to the editorial requirements given). The analysis of foster parenting methods used by parents was considered through the prism of the concept of family epistemology of Ludwik von Bartalanffy, whose strong supporter in Polish psycholopedic literature is Ryszard Praszkier (Praszkier, 1992, pp. 37-61; von Bartalanffy, 1984).

Triangulation of research methods and techniques was used in the research, because the diagnostic survey method with the qualitative dimension of the case study was used. The use of triangulation methods gives the opportunity to obtain a richer material and a broader interpretative spectrum of the studied problem. As part of the diagnostic survey, a survey was used for foster care coordinators, social workers, and family assistants. However, as part of the case study, an in-depth qualitative interview with foster parents was used in professional foster

families from which I gained a broad spectrum of knowledge about the functioning of their family and the creation of educational, socialization and educational processes for children temporarily entrusted to them. As part of exploring the specifics of the processes implemented in foster families, the focus was also on parenting methods used for children residing in them. The material obtained through the interview was supplemented with the technique of direct observation of family members, which allowed to deepen knowledge about the ways of implementing educational, socialization and educational processes in the examined foster families. The empirical material obtained was subjected to in-depth quantitative and qualitative analysis along with the desire to make a holistic diagnosis of families. When characterizing the methods of upbringing used by foster parents in professional foster families operating in the city of Szczecin and their impact on the process of shaping family upbringing, socio-educational and educational processes directed at children residing in them, one cannot ignore ethical issues. The family and the study of its holistic functioning have always belonged and still belong to areas marked by ethical dilemmas. The family environment as the first and most important in human life, the educational environment is a unique research area of a sensitive nature. This so-called a soft area of research requiring the researcher to be reflective, deep in reflection and interpretative multidimensionality, narrative family life. When conducting research in professional foster families, some ethical problems can be encountered. One of them is the fear of the parents surveyed or their preferred parenting methods will allow them to create optimal conditions for the multifaceted development of children entrusted to them. Another area of ethical dilemma in the conducted research was the awareness of the different specific methods of parenting favored by the examined foster parents and the methods recognized by the biological parents of children placed in family foster care. Analyzing the problem of upbringing methods used by foster parents in the context of their upbringing, socialization and education processes towards children entrusted to them, evaluation was avoided, while evaluation was aimed at subjecting the obtained data to multidimensional, objective analysis aimed at creating a model of effective reintegration work with biological families of children residing in family forms of foster care.

Family upbringing methods as an area of forming parents' upbringing awareness in the light of own research

Family upbringing methods - outline of the problem

In the introduction, the definition of the upbringing method has already been discussed and their classification has been listed. It is worth returning to the issue of family upbringing, focusing on particularly useful methods that

parents can use to implement family upbringing, socialization and education processes towards children. First of all, the methods based on direct influence are important, among them the modeling method, setting up educational tasks, verbal methods of educational impacts as well as the method of rewarding and punishing upbringing. The modeling method is based on giving children and youth patterns and role models and identification. This method is also referred to as the method of acting by our own example or the method of setting a good example. Sometimes it is recognized as learning by observation, substitute learning, learning by imitation or “educational contagion”. Imitation consists in mapping the child's observed external behavior while identification is a higher level of mapping. It is about mapping internal states, i.e. motives, beliefs, ways of assessment and evaluation. All mapping processes can be referred to as modeling. In the modeling method, it is important that the child-subject wants to become similar to this model (parent-guardian), shapes his personality in his image, imitating him in forming thoughts, verbalizing views and when speaking about the surrounding world, in social behavior, in daily concrete actions.

In addition to modeling in the process of family upbringing and socialization, the method of posing educational tasks is equally important. The essence of this method is to run your own activity by directing commands to it. It involves entrusting children and young people with specific tasks to perform, which in turn is expected to lead to achieving desired changes in their attitudes and behavior, as well as enriching their knowledge and experience in many areas of human activity. Educational tasks can be divided according to educational content, structure and functions. Taking into account the content, you can even ask tasks related to different daily activities of the child, e.g. the task - “cover the table” or “clean your toys”. From a structural point of view, educational tasks can be simple and complex, clear and unclear. However, due to the educational functions, we can distinguish tasks whose goal is to bring about a change in the charge's knowledge structure, develop his adaptability and lead to a change in the attitude of the charge.

Another educational method used in the family is persuasion, which is a kind of verbal influence on the moral and social awareness of children and young people. The essence of persuasion is to translate, explain to the child moral norms and principles, errors in his behavior and other people by referring to broad argumentation. The purpose of persuasion in family upbringing is to bring about changes, beliefs and attitudes of the individual or to enrich their knowledge resources. Thanks to it, pupils (children) learn to distinguish well from evil, find the sense of action, and shape their own system of values. In addition, in persuasion, the individual is stimulated to internal activity by evoking a specific experience of a given problem. A great example of persuasive influence in family education is conversation. The effectiveness of persuasion as

a method of family upbringing increases when we combine it with other methods, such as modeling, moving specific patterns and patterns to the child, or with the method of raising educational tasks, thus activating the child's own activity and stimulating continuous development.

One of the most effective methods of family upbringing is the method of educational reward. The award is defined as a positive situation, sought by the body, because it is accompanied by a pleasant emotional state, and educational reward consists in satisfying specific motivations of the charge (child) as a result of manifesting desirable upbringing and constructive forms of activity. Properly used rewarding method has two functions: as a result of its use, children learn about the implementation of specific instructions in accordance with the expectations of adults, as well as praise and awards granted under this method become a motivating factor for socially and morally desirable behaviors. There are two types of educational nations: internal and external rewards. Internal rewards are inherent in the activities of man, provide him with pleasure and relate to what he does with passion. On the other hand, external rewards are gratification for displaying specific forms of behavior. The method of educational reward is most often associated with external reward, which aims to bring about internal reward in a timely manner, i.e. achieving internal satisfaction without external reinforcement. Educational awards include: symbolic awards (expressing approval, congratulations, praise); honorary awards (assigning specific functions, tasks, privileges and honorary dignities to children), material awards (giving gifts, books, toys and other things) constituting the end of a certain stage of the child's activities and being a mobilization for further activity (Paszkiewicz 2001). In family educational processes, rewarding is always accompanied by educational punishment. Punishment is defined as providing an unpleasant stimulus (e.g. reprimand) or removing a pleasant stimulus (i.e. prohibiting watching TV or playing) after an inappropriate reaction of the subject. According to Łobocki, the method of punishment is a way of educational impact through the use of deliberately used punishments to prevent children from repeating behaviors incompatible with generally applicable norms and values. There are two types of punishment: external and internal. External punishments are punishments whose source is outside the individual and is associated with the awareness of responsibility for manifested behavior before other people. On the other hand, internal punishments are manifested in the form of remorse that provoke a person to reflect on manifested behavior towards people around them. Educational punishment of an external nature always tends to internal punishment, i.e. the child's (pupil's) awareness of the harmfulness of bad behavior towards other people is shaped, and as a consequence punishment is to change the behavior of the pupil (Kazubowska, 2017).

Forms of educational punishment include: verbal disapproval of a child's behavior in the form of a warning or reprimand; thwarting the motives of the juvenile from which the wrong act resulted; limitation or deprivation of rights (privileges, functions) adequate to the child's age and development level; obligation to compensate for the damage caused, e.g. repairing damaged item from your pocket money; an obligation to familiarize with the consequences of misconduct (this type of punishment applies especially to young children who still have problems predicting the consequences of their actions); symbolic punishments, involving deprivation of certain honorary rights (they are effective when they are preceded by intensive educational work exposing the rank of symbols in human life); natural punishments, which are an inevitable consequence of improper behavior of the charge (through their own experience the child discovers the unprofitability of proceedings contrary to applicable family norms) (Łobocki, 2004; Ziółkowska, 2005; Jundził, 1986).

In carrying out educational processes in the family, parents sometimes apply non-pedagogical punishments, which include: insulting the child, ridiculing him, humiliating him, depriving him of what he has rights to, regardless of behavior or the use of physical and corporal punishment. These punishments lead to the breaking of the bond between parents and children, a desire for revenge, a sense of shame, regret and inferiority. Hence, non-pedagogical punishments should be reduced or completely leveled from family-rearing processes. If you already use them, you should be aware of their indirect dimension and ineffectiveness. When creating educational processes in the family, parents should skillfully combine reward with punishment, according to the child's age, development and life experiences of the child (especially in family forms of foster care).

Family upbringing methods are closely related to parenting styles. The style of parenting is the resultant of ways and methods of influencing a child, which determines the quantity and quality of various interactions with a child. The parenting style is largely influenced by the experiences of parents from the family home as well as external factors. J. Mariański lists four styles of upbringing: indifferent, naive (in two dimensions), paradoxical. Indifferent style occurs when parents do not put any requirements on the child, as well as unrestricted emotional support in the family. The naive style (in the first dimension) is characterized by the resignation of parents' requirements for the child but they show emotional commitment and strive to create a warm atmosphere in the family. The paradoxical style is manifested by the parents placing requirements with the simultaneous lack of ensuring the emotional climate of family life and the lack of emotional support of the child during his life. The naïve style in the second dimension is manifested by combining requirements with parents' readiness for a real dialogue with the child and

creating personal parental warmth in the family (Mariański, 2001). In studies on the style of parenting, authors, e.g. R. White and R. Lippitt, distinguish three parenting styles: autocratic, democratic and free-hand-liberal. In addition to these styles, Hansen distinguishes a fourth style: indefinite. The indeterminacy of this style is associated with a lack of resolution and consistency in the actions of the parent (guardian) and differs qualitatively from the style of the free (liberal) hand but involving the complete non-involvement of the parent in the child's behavior (Hansen, 2012; Borecka - Biernat, 2001). Parenting styles do not often appear in pure form, they transform in line with the course of family life. It is a complex process of building ways and models of parents' interaction with children, continuing in specific family environments, entangled in a variety of factors inherent in the environment of their life understood in a narrow and broad way. Taking into account the above theoretical approaches to methods and styles of family upbringing, foster parenting methods preferred by the surveyed parents are indicated later in the text.

Upbringing methods preferred in professional foster families functioning in the city of Szczecin

In carrying out the research process, it was aimed to identify which parenting methods are preferred by foster parents in professional foster families. Interviews conducted at home allowed the researcher to make observations during their duration and to enrich the research material obtained in this way. An observation sheet was previously prepared in accordance with the research needs. Foster parents were asked to indicate which parenting methods were most important to them and asked to justify their choice. In the 28 foster families examined, all parents decided strongly that upbringing methods must be individualized, they cannot be used in a schematic way. The surveyed parents see the need to individualize the educational process for each of the children entrusted to them. Among the upbringing methods, the method of direct influence with its various implementation dimensions was most often chosen by foster parents. One of the important dimensions of this method is modeling, which the surveyed parents used in their educational work with children used by indicating specific patterns and behavior patterns in various situations at home and outside. By showing these patterns and patterns, the parents surveyed took into account the situation, age, child's experiences, and state of health. Another variant of the direct impact method indicated by the parents surveyed is setting educational tasks for children. In this case, parents pointed out in detail what type of tasks they set for children. These sentences focused mainly on daily self-service, hygiene activities performed by children at home, cleaning up and functioning of children outside the home (e.g. in a shop, in a church, on the

street, at the doctor's), doing homework, building relationships with animals and exercising care them. As the foster parents pointed out, often the simplest activities caused problems for children, even if they could not dress themselves or carry out simple hygiene activities (e.g. brushing teeth). As part of the direct influence method, parents also prefer the verbal educational method, i.e. persuasion. This is definitely the most frequently chosen educational method. As they say very patiently, they calmly explain, explain, justify, and argue to children why one should act in a certain way, what are the contraindications of given behaviors. Persuasive actions are always based on the values and norms they recognize, which they constantly pass on to children, aiming to make them aware of the legitimacy and sense of taking into account the principles in human life according to the stage of his development. Persuasion used in educational work with children, according to the surveyed parents, gives them the opportunity to improve their patience, control of emotions or anger, as well as teaches communication skills, clarity of expressing thoughts and specifically forces them to be open in family relationships. Equally frequently used by foster parents is the method of rewarding and punishing. As they themselves indicate, they prefer to reward rather than punish. Among the awards are those often used, i.e. symbolic awards, i.e. praise for even simple everyday activities at home, expressing approval for children's behavior or congratulating them on even minor successes. Another type of reward used by the surveyed parents are material rewards such as toys, books, school accessories, gifts, going to the cinema, theater, etc. In relation to older children, the surveyed parents use honorary rewards, i.e. allow them to perform a specific function, give certain privileges to children, stimulating them to continue to be active. An example of such a reward is even the privilege of going out with peers to a meeting or using a computer more often than usual. The surveyed foster parents have created a peculiar canon of the principles of using rewards in family education. One of these principles is the progressive increase of awards, their attractiveness, individualization, regularity, and rewarding reliance on family axiology (Górnicka, 2015). When it comes to punishments, they try to avoid them if possible, and if necessary, apply punishments adequate to the child's guilt, age, health condition and biological family experience. They avoid physical and corporal punishment, violence and aggression towards children. By using childcare punishments, they do not humiliate, offend or hurt their feelings, which means they do not measure them in a state of emotional agitation. They try to punish children without postponing this fact and explaining why they must do it. Foster parents try to individualize punishments and adapt to the dimension of the offense, as well as encourage children to make amends. When assessing the use of reward and punishment, foster parents apply them in a flexible manner, taking into account the multitude of rewards and penalties that can be

used. Equally often, the surveyed parents use the method of personal influence, which means that they try to show children through their behavior how to behave in the right way. Foster parents also use situational impact methods in the process of upbringing, i.e. they explain in the context of a given situation regularities and irregularities in behavior. For older children, foster parents use methods of self-development management, and this is manifested by supporting, talking and making people aware of what can be done further in life so that it brings satisfaction, a sense of accomplishment and contributes to the self-improvement of the individual.

The briefly obtained data on the preferred methods of family upbringing clearly confirm their positive, constructive dimension in the context of exercising educational and socialization processes towards children raising in family custody.

Conclusions

The analysis of the issue of parenting methods carried out in the text as an area of shaping parents 'educational awareness on the example of the functioning of professional foster families allows to indicate a direct relationship between parents' preferred methods of parenting in the family and the level of their educational awareness. In Danuta Opozda's opinion, the perceptive dimension of educational awareness is related to the integration of information about the environment perceived by the parent. These are information about the child (who he is and what value it is for the parent), about himself (his character traits, values and life aspirations), about upbringing (information about the aims, principles and educational measures used in the process of family education), about the external context educational situations (linking what happens in the family, school, local environment, media, state, society). This author draws attention to the holistic approach to educational awareness, taking into account the perceptive and introspective levels in parallel (Opozda, 2012).

The following conclusions could be drawn from the conducted research at this stage:

1) There is a direct relationship between the parenting methods used in the family by the parents and the level of their educational awareness manifested, for example, by the commitment and axiological saturation of all educational activities towards children (Kazubowska, 2019, 240-253)
2) The preferred parenting methods of the surveyed parents are positive and constructively affect the optimal development of children raised in a foster family

3) Upbringing methods are diverse, complementary to each other and having a complementary dimension
4) In carrying out educational processes in the family, foster parents take into account the basic principles and rules of integral perception of the child and creating adequate educational interactions with him
5) Parental attitudes of the surveyed parents have a positive dimension and are conducive to the development of raised children
6) The educational impact of foster parents towards children are saturated with commitment, self-creation and have a creative dimension
7) Positive upbringing methods preferred by parents raise their level of upbringing awareness and allow them to improve their educational interactions towards children, as well as to support their holistic support.

Summary

When analyzing the specifics of the methods of family education used, it is always worth looking for their conditions focusing on various internal and external factors. Internal conditions for the selection of family upbringing methods result mainly from the experience gained from the family home, while the external ones are primarily the spectrum of a multitude of socio-cultural factors. The choice of parenting methods in the family is related to the perception of their role in the child's life and the awareness of the need to engage in an optimal way in creating the widest development plane for them (Bakiera, 2013; Wesołowska, 2019). The belief in this should accompany modern parents, that by implementing educational processes in the family they contribute to the optimal development of children, but also create a path for their self-development.

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PROBLEMS OF PARENTS CARING FOR CHILDREN WITH DISABILITIES

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Abstract. *The development of integrated social services for parents raising children with disabilities is one of the priorities of social policy in Ukraine.*
The purpose of this article is to identify the typical problems of parents raising children with disabilities. Based on the in-depth interviews conducted by parents raising children with disabilities in two regions of Ukraine (n=60), groups of typical problems they face (discrimination, medical problems, imperfection of regulatory support, information problems, access problems, problems of early diagnosis / early intervention, psychological problems, risk of institutionalization, financial and economic problems) and their analysis. In-depth interviews identified issues that could provide brief guidance on social work with families raising children with disabilities.
The authors draw attention to the urgent and structural changes needed to improve the access of parents of children with disabilities to quality social services and to improve the quality of their social and pedagogical support, including enhancing the educational potential of such parents.
Keywords: *family; children with disabilities; family problems; risk factors for child developmental disorders; social work with families; early intervention.*

Introduction

In Ukraine, a state system of social support for persons with disabilities was formed, however, it focuses mainly on compensation and makes a person with a disability dependent on the help of others. The situation is even more complicated when it comes to children with disabilities. At this stage, the main socializing function is provided by the closest environment of a person – his or her family. The process of adaptation of the child in society and his or her inclusion in the educational environment, observance of rights and freedoms guaranteed by the Constitution of Ukraine largely depend on the parents or their substitute.

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The reform of decentralization and deinstitutionalization will be completed in Ukraine by the end of 2020. Local communities can independently form the structure of social agencies and determine the list of social services. The functioning of the boarding school system is being terminated in the country. Thus, now children with different nosologies would be looked after by local communities, favoring family-based care. Unfortunately, the country does not have a high percentage of adopting children and adopting them into foster and patronage families. Therefore, it can be predicted that the situation of children with disabilities can become threatening and such children can become "unnecessary" in the community. The country would once again return to the segregated model of social work with disabled people.

The core task of the social worker is to understand the typical problems of families caring for children with disabilities, to provide further empowerment and development of parental educational competence of such a child, to promote development of independence of this group of people, to develop the ability to identify their own resources and community resources to solve problems emerging in front of such person or family.

Therefore, searching the problems of families caring for children with disabilities is extremely relevant and can help social workers to advocate for the interests of such families in order to provide them with high-quality social and social-pedagogical support.

Literature review

Numerous studies are dedicated to the problems of families caring for children with disabilities; the issue is of scientific interest to many researchers. For the most part, scientists have focused on two aspects: the impact of a child with a disability on family functioning and the impact of the family on the future of a child. These studies have changed the paradigm of services for children with disabilities; thereby not only a child with a disability but the entire family has become the object of social work (McDonald, 1971). The transition from a biomedical model to a family-centered one has been driven by the realization that a disability of a child is a great stress and a serious challenge for the family. It causes strong emotional reactions of all family members (shock, denial, fear and anxiety, realistic adaptation) (Kubler-Ross (1969), Blasher (1984), and changes relationships.

Social and pedagogical support for a child and his or her family was researched by Ukrainian scientist T. Alieksieienko (Alieksieienko, 2016).

The group of authors (Guralnick, Hammond, Neville, & Connor, 2008) of the book «Understanding Families: Supportive Approaches to Diversity, Disability, and Risk» focuses on the importance of ensuring family resilience, and

therefore it is necessary to form preservice and in-service readiness of professionals to work with a broad range of families with diverse structures, backgrounds, and circumstances, to communicate and collaborate effectively with every family they serve, to support families of children with disabilities, to empower strong parent-child relationship and interactions, to coordinate services and support with goals of each family and to address risk factors such as poverty, addiction, and violence.

J. Matejek (Matejek, 2019) in his article "A family with many problems in the social support system" emphasizes the importance of building a broad system of social support for families in difficult circumstances. These families include families who care for children with disabilities according to the scientist.

The study by a group of authors (Kochetkov et al., 2018) is important to understand the implications of parental support for children with disabilities It has been grounded that psychological and pedagogical support at the stage of a child's entry into the inclusive educational environment must be directed towards the search for the internal resources of parents or caregivers of children with special needs for the purpose of harmonizing and improving their psychical state, raising the level of their resilience, and ability to overcome difficulties by means of building up personal resources. It has been proved that modern psychological support for parents under conditions of inclusive education will help to neutralize and reduce the extent of emotional stress expressiveness which will consequently lead to the child's disability acceptance and hence, it will provide his or her further integration into society.

Most researchers include families living with children with disabilities to vulnerable categories, emphasizing that under the influence of negative factors such a family can easily switch from "vulnerable" to a different status - "family in difficult circumstances". Moreover, it is essential to understand the typical problems of such families in order to prevent difficult life circumstances through early intervention by a social worker.

Methodology

In the period from November 2018 to May 2019, we conducted in-depth interviews with 60 family members raising children with disabilities in Kyiv and Zaporizhzhya regions of Ukraine. The purpose of the in-depth interviews was to identify the typical problems of these families, to analyze them, to provide advice to social care professionals on the social support of families raising children with disabilities depending on the problem identified.

The sampling of respondents was shaped by the "snowball" method through social media, websites of NGOs and social services, as well as through personal letters to family members raising children with disabilities. The sampling was

based on the gender of parents, age, education, presence of a child with a disability, marital status. Data encoding went in parallel with the fieldwork, which guided the sampling strategy according to emerging topics. We invited only one adult family member for an interview.

The data were collected through in-depth interviews conducted with a thematic guide. Interviews were conducted by trained interviewers. The interviews were freely structured. Interviews were recorded on audio media with the informed consent of the participants and lasted from 30 to 90 minutes. All interviews were conducted outside social services and community-based organizations providing services to families raising children with disabilities.

The interviews were transcribed verbatim, translated into English. Preliminary coding was conducted to determine the descriptive topics, which was subsequently refined and interpreted using MaxQDA10.

The interviewed topics included: risk factors for child developmental disorders; typical problems, difficulties of families caring for children with disabilities; suggestions from family members caring for children with disabilities how to provide them with social support.

The interview questions were conditionally grouped into three blocks:

1) characteristics of families caring for children with disabilities;
2) the impact of disability on the family functioning and the impact on a child;
3) providing social support for families living with disabled children.

Research results

The in-depth interviews were conducted with 60 family members caring for children with disabilities in two regions of Ukraine: Zaporizhzhia and Kyiv regions. The first stage of the interviews was gathering information about respondents.

Table 1 ***Information about respondents***

n=60	
Age range (%)	From 20 to 30 – 14 (23,33%)
	From 31 to 40 – 18 (30%)
	From 41 to 50 – 16 (26,66%)
	From 51 to 60 – 12 (20%)
Education (%)	Secondary education – 14 (23,33%)
	Vocational and technical education – 18 (30%)
	High education – 28 (46,66%)
Gender (%)	Male – 13 (21,66%)
	Female – 47 (78,33%)
Marital status (%)	Married – 32 (53,33%)
	Single – 28 (46,66%)

Type of disability of the child:		
− physical disability	physiological, functional and/or mobility impairments, disorders of the musculoskeletal system, diseases of the central nervous system, diseases of the muscular system, diseases of the joints, diseases of the vessels, somatic diseases, diseases of the internal organs, blood diseases	28 (46,66%)
− sensory disability	disability of the senses	10 (16,66%)
− intellectual (cognitive) disability	mental retardation	14 (23,33%)
− mental disability	mental illness, emotional and volitional disorders, epilepsy, autism, Down syndrome	8 (13,33%)

The results of the interviews show that the vulnerability of families caring for children with disabilities, in addition to disabilities of these children is also exacerbated by socio-psychological factors (Fig. 1). Thus, 26 people (43.33%) suffer from systematic discrimination, 10 persons (16.66%) do not have access to information and communication, 32 people (53.33%) report obstacles in obtaining the necessary health care and rehabilitation services, 14 people (23.33%) complain about educational opportunities that are not equal to other (limited access to regular schools and higher education institutions), 28 people (46,6%) claim architectural inaccessibility of housing, transport and infrastructure.

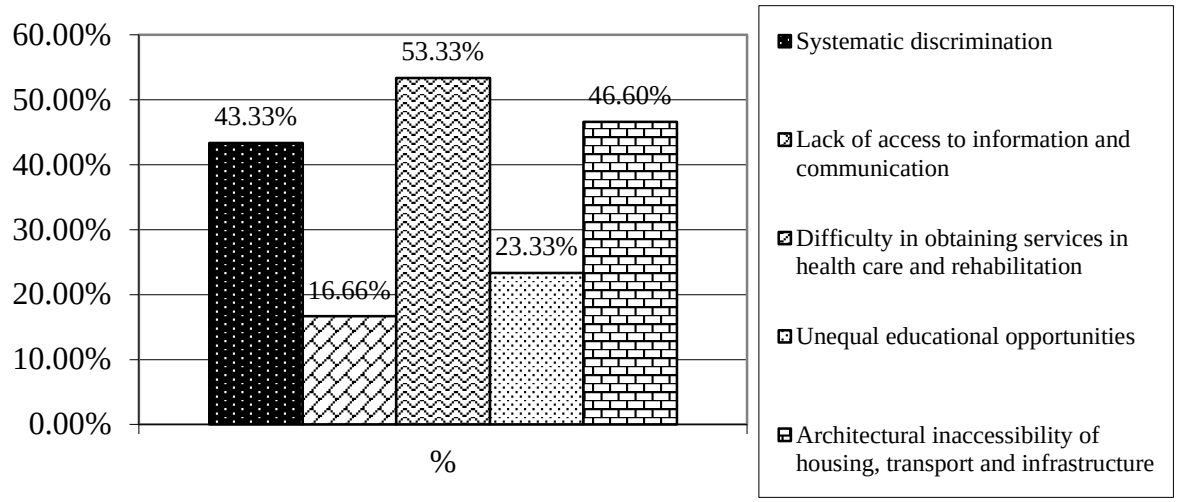

Figure 1 ***Socio-psychological factors of vulnerability of families caring for children with disabilities***

According to the data above, we can conclude that the unmet needs of people with disabilities in rehabilitation (including the need for rehabilitation equipment)

can lead to a deterioration in health status, restrictions on activities and participation in social life, and thus impair their quality of life.

Next, we searched to find out how a disability affects family functioning and a child.

It was found that 100% of respondents believe that the birth of a disabled child puts some limitations on normal family functioning. These are changes in the organization of life (13 people; 21.66%), the need for redistribution of responsibilities (8 people; 13.33%), giving up certain habits (18 people; 30%), feeling of fear, uncertainty, helplessness (21 people; 35%).

Therefore, to build a constructive dialogue with parents in determining the overall strategy of social support, to secure partnership to achieve these objectives, the social worker should take into account the stages of emotional experiences of parents when they learn that their child has developmental problems: shock, denial, fear, and anxiety, activity (Fig. 2).

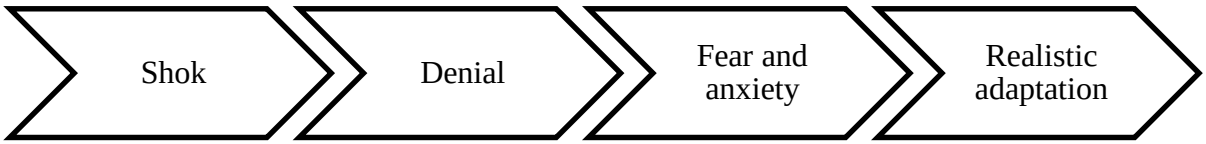

Figure 2 ***Stages of emotional experiences of parents raising children with disabilities***

The stage of shock is usually accompanied by crying, screaming, or emotional numbness, and emotionlessness. At this stage, the family needs attention and support of the relatives. Therefore, it is impossible for social workers to talk to the parents about the perspectives at this stage. It's necessary to give them time and to focus on talking with their relatives about the importance of support.

The second stage is denial and it is important for social workers to understand the natural reaction of parents and the protective function of the denial. The denials hide the feelings of pain and despair that parents are not ready to handle. The social worker should be very patient and tactful, and most importantly – not intrusive. Loneliness, fatigue from the constant and unsuccessful search for ways to heal a child, exhausting caring for a child, and giving up all their own needs and interests – all this leads to depression. Therefore, parents need qualified psychological assistance.

Social workers should be focused on supporting parents to be good and loving. This is accomplished through the comments in moments of positive interaction between parents and child, recognizing the importance of parental love for a child, as well as through consulting parents on understanding the age characteristics and needs of a child and their role as parents in the education, formation of self-reliance, self-esteem and further socialization.

The stage of fear and anxiety is characterized by emotional relief, objective perception of the reality of the problem of a child. Therefore there is anxiety about the future of a child (development, learning). At this stage, it is important to provide parents with full information about the problem so that they can make informed decisions and act in the best interests of their child, to understand the distinction between limitations and opportunities, to accept the reality of something that cannot be changed, and know what can be achieved.

The stage of realistic adaptation and seeking help is a good moment in establishing partnerships with parents since parents are re-evaluating values, which stimulates activity. Social workers should focus on helping them to find the services they need, keeping in touch with the family.

In order to define the required type of social support for a particular family caring for a child with a disability, it is necessary to identify the groups of typical problems for this category of families.

During the interview, we have identified that one of the pressing problems for families caring for children with disabilities is low financial resources (financial inaccessibility of improving living conditions, lack of funds to buy the necessary food, medicines, technical means of disability compensations). It was stated by 42 respondents (70%). Most of these families live poorly. As single mothers caring for a child with a disability point out*: "The situation was exacerbated by divorce in the first years after the birth. It was impossible to work because the baby needed constant care".*

The birth of a disabled child can have profound effects on the well-being and psychological health of the entire family. Usually, there is a low level of psychological acceptance of the disabled child in the family, emotional rejection of a child. 29 (48.33%) respondents mentioned the problems of psychological acceptance.

The parents of one child with a disability said that *"… it was difficult to psychologically accept the situation. There was a lack of understanding of the social environment. For a long time, we are accompanied by a feeling of abandonment and loneliness".*

The study pointed out that most families (48 people; 80%) caring for children with disabilities need periodic health monitoring, improvement and rehabilitation. Respondents (52 persons; 86.66%) indicated that today the technologies of early diagnostics, correction and prediction of medical consequences of disability are insufficiently developed and mostly unavailable.

As parents remarked *"…there is a low level of free medical services and medicines provision in the country. And there are not enough qualified specialists"*. Thus, the absence of an early intervention system in Ukraine complicates work with a family caring for a child with a disability.

The early identification of biological and social risk factors for child developmental disorders gives an opportunity to start intensive rehabilitation at an early age timely when child development is particularly impacted and can prevent complications of both family functioning and physical and psychological child development.

In the study, we found that health professionals often advise leaving the child with a disability. 32 (53.33%) parents received this suggestion.

For example, one of the mothers told: *"After the birth, a medical worker of the facility advised to leave my child for the maintenance of state institution. She said that a terrible life was ahead of me. I refused and took my baby home."*

But there are frequent cases when being under stress, experiencing fear, helplessness in this situation, parents decide to leave the baby. This choice adversely affects not only the further development of a child but also leads to the destruction of marital relations in the future.

Lack of a well-established system of early intervention and responding to the situation on the benefit of the family and a child, setting up the system of institutional care for children are the pressing problems of families with children with disabilities. Developing a mechanism for providing the necessary early assistance to parents and children would prevent institutionalization and strengthen the family relationship.

Therefore, one of the main areas of work for social workers in the community should become services aimed at preventing the separation of a disabled child with the family.

The survey found that the majority of parents (42 people; 70%) who care for children with disabilities have a lack of information about the characteristics of a child, the possibilities of correction and treatment, their rights to social assistance, benefits, relevant educational institutions, available state institutions, and non-governmental organizations.

For example, the parents of one child with a disability, when asked, *"Where did you learn about your rights and opportunities as the family caring for a child with a disability?"* answered that they learned that information from friends who have the same problem in the family. They did not know how to apply for social, legal and psychological assistance because health workers do not have full information about social protection and support of such families and are not obliged to provide it.

The findings of the study give us reason to claim that on the state and local levels the public is not sufficiently informed about the types of social support the families with children with disabilities are entitled to. Parents (60 people; 100%) reported the lack of information from the first days after the birth of their child. There is no specific procedure for informing the parents of a child born with a

disability or disorder about their rights and opportunities to receive assistance from the state and public organizations at the stage of diagnosis.

About half of the respondents (28 people, 46.66%) indicated that they often face prejudice and stereotypical attitudes towards them by many people. The situation is complicated by the psychological and moral overload of parents, their expressed anxiety and worries caused by the disability of their child, failure to adequately confront misunderstanding and even hostility from others. Often the circle of communication for such families is close relatives and professionals.

Along with the problem of not accepting people with disabilities as full members of society, there is a problem of inaccessibility of objects, buildings, transport problems and limited access to information. 100% of respondents pointed it out.

The Convention on the Rights of the Child has been ratified and changes have been made to national legislation in accordance with international agreements to protect the rights of persons with disabilities. However, there are often contradictions between the rule of law and the state-governmental enforcement of these norms.

When asked *"Who can be the service provider for the family that caring for a child with a disability and for a child?"*, respondents mostly answered that NGOs play a substantial role in this respect.

Ukraine has formed the state system of social support for persons with disabilities, but it is mainly focused on compensation and makes people with disabilities dependent on the help of others.

The objective of a social worker is to promote the development of autonomy of this group, to develop the ability to determine their own resources and community resources to address the family and personal problems.

Conclusions and recommendations

The study provided us with a good source of information to identify the groups of typical problems of families caring for children with disabilities (Fig. 3).

• Discrimination	• Problems of early diagnosis / early intervention
• Medical problems	• Psychological problems
• Imperfections of regulatory support	• The risk of institutionalization
• The problem of information support	• Financial and economic problems
• Access problems	

Figure 3 ***Groups of typical problems of families caring for children with disabilities***

We will explain the content of each of the issues.

1. Discrimination (non-acceptance of people with disabilities by members of society, bias and stereotyping).
2. Medical problems (a complex of problems related to treatment, correction and development of compensatory functions, obtaining technical means, meeting the needs for periodic health control, qualified consultations, and others).
3. Imperfections of regulatory support (contradictions between the norms of the law and the state-administrative support for the implementation of these norms).
4. The problem of information support (about the child characteristics, the possibilities of correction and treatment, the features of education, the rights to social assistance, etc.).
5. Access problems (problems with transportation and access to information).
6. Problems of early diagnosis / early intervention (insufficient development and inaccessibility of early diagnosis technologies, the absence of an early intervention system in Ukraine that complicates work with the family caring for a child with a disability).
7. Psychological problems (constant mental and nervous overload, misunderstanding of the social environment, emotional rejection of a child and other).
8. The risk of institutionalization (institutional child care).
9. Financial and economic problems (low income, difficulties in the realization of guaranteed benefits).

Social workers of Ukraine challenged to solve the above-mentioned problems, to prevent institutional care for children, and to provide social and pedagogical support for parents of children with disabilities.

Thus, the study shows that social support for families caring for children with disabilities is a pressing problem today. Therefore, an effective social support program for such families should be developed. The program should be based on the identified risk factors for child developmental disorders and take into account the problems of families caring for children with disabilities to prepare highly qualified specialists who will be able to provide legal, psychological, social and socio-pedagogical support.

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RECOMMENDATIONS ON SOCIAL SUPPORT TO FAMILIES AFFECTED BY HIV/AIDS

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Abstract. *The purpose of this article is to provide recommendations for social workers and social field practitioners of state and non-governmental organizations working with families affected by HIV/AIDS. The article identifies a series of crisis stages of families affected by HIV/AIDS. Families caring for HIV-positive children go through four crisis stages. The first stage comes after the report about an unconfirmed possibility that a child has HIV. The second stage is when the diagnosis confirms the child's HIV positive status. The third stage coincides with the first signs of opportunistic infections in the child. The fourth stage is associated with the progression of the disease and the development of the fourth clinical stage of HIV infection. At each of these stages, families need medical, psychological, and social support. In line with professional support, an effective method of assistance and a way to overcome a crisis can be self-help groups, in which people learn to voice their difficulties and problems, seek support or provide it to other families.*

Using the results of the study gained through focus groups with social work practitioners from various regions of Ukraine, the authors developed recommendations on supporting families affected by HIV/AIDS.

Keywords: *HIV infection; HIV-positive status; children living with HIV; social services; social workers; families affected by HIV/AIDS.*

Introduction

HIV and AIDS are worldwide problems that have affected every country and the number of HIV-positive people is currently increasing. Ukraine also has an HIV epidemic.

Prevention and response to the HIV/AIDS epidemic have been recognized as one of the national priorities in Ukraine, as the problem of HIV infection has moved beyond a purely medical one. In Ukraine, the rate of social or biological social orphanhood of children due to HIV is increasing.

The current epidemic situation in Ukraine is characterized by a shift in the main route of HIV transmission from parenteral (via blood) to sexual, the rapid

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spread of HIV infection among persons who are not at high risk for HIV infection (that is among general population - sexually active people). The number of HIV-positive people of reproductive, working-age is increasing and, consequently, the rate of HIV-positive women of childbearing age and children born to them, and therefore the growth in the number of families affected by the HIV/AIDS problem. In most cases, social work practice in Ukraine considers such families as "vulnerable" or "families in difficult life situations" that need social support.

In Ukraine, there is a wide network of state and non-governmental HIV-service organizations, the specialized social services have been created at the Centers for Social Services for Family, Children and Youth. to support families affected by the HIV/AIDS problem.

In this regard, the priority tasks are to organize effective social work with families affected by the HIV/AIDS problem, to expand and optimize the range of social services of this group, taking into account the problems that cause the vulnerability of such families.

The purpose of our study is to develop recommendations on support families affected by the HIV/AIDS problem, based on objective information about its effective forms and methods, obtained through focused interviews with experts from HIV service organizations.

Literature review

The conducted study «Psychological adjustment in caregivers of school-age children infected with HIV: stress, coping, and family factors» (Bachanas et al., 2001) is interesting for understanding the features of psychological adaptation of persons who substitute parents of HIV infected children. The value of the findings in this and subsequent studies (Lachman, Cluver, Boyes, Kuo, & Casale, 2014) is increasing as experts in HIV service organizations in Ukraine point out that a large proportion of children with HIV are currently being cared for by parents substitute. Often these are grandparents, older relatives. Therefore, social workers and psychologists of HIV service organizations usually address the issue of emotional burnout prevention, coping with stress, increasing parental competence.

Social support and family resources have been found to be an important factor in long-term coping with a chronically or terminally ill child (Kupst & Schulman, 1988). These factors seem particularly important for children and families living with HIV disease, as most of these families live in inner-city environments and must cope with the stresses of poverty, violence, and drug use (Mellins & Ehrhardt, 1994). In addition, many families must cope with their illness in isolation due to the stigma of HIV disease and their fear of rejection and

abandonment by friends and family. Consequently, many families have limited social and emotional support.

«The Family Responses to HIV/AIDS in Mexico» (Castro, Orozco, Aggleton, Eroza, & Hernandez, 1998) study is useful for understanding the responses of two marginalized communities to the lives of families affected by HIV/AIDS.

The study «Stigma and psychosocial wellbeing among children affected by parental HIV in China» (Domlyn, Jiang, Harrison, Qiao, & Li, 2019) proved the importance of psychosocial support to children whose parents are HIV-positive as it further affects the mental health of children.

The scientific group (Richter et al., 2009) made a comparative analysis of numerous studies and pointed out the importance of complex support to families affected by HIV/AIDS to ensure the best interests of children living in these families.

The scientific work «A study to assess the needs of people living with HIV/AIDS reporting to an ART Center of Central India» (Taneja, Dixit, Yesikar, & Sharma, 2013) analyzes the needs and problems of people living with HIV/AIDS that are registered with the HIV-service organization, receiving different types of support.

Methodology

The focus group method was applied in the study. Its purpose was to obtain qualitative data from participants to describe the methodological framework and justify the methods, forms of support to families affected by HIV/AIDS. The participants were experts with practical experience in the field.

The focus group method is a group interview conducted by a moderator according to a pre-developed scenario with a small group of respondents. The participants are sampled from the study population and represent similar social characteristics. Our focus group was based on the methodology developed by American sociologists (Merton & Kendall, 1946).

Respondents were invited to participate in the focus group through proposals in a letter addressed to specialists of HIV-service organizations of Kyiv and Cherkasy regions.

To conduct the focus group, we have selected two groups of equal number (12 people each) among social work practitioners from 4 HIV-service organizations in the Kyiv region and 4 HIV-service organizations in the Cherkasy region.

For each HIV-service organization, 3 persons have been selected who have a different experience, higher education and common field of activity.

The first focus group included experienced social work practitioners with more than 10 years of work experience with HIV-positive persons. The second focus group included social work practitioners with less than 10 years of work experience with HIV-positive individuals. This grouping made it impossible for more experienced colleagues to put pressure on less-experienced workers, which allowed the authors to compare the responses of the focus group participants.

Table 1 ***Information about respondents***

	Focus group 1	**Focus group 2**
Total	12	12
Age range	22-55 years	22-55 years
Experience (%)	1-5 years – 0	1-5 years – 7 (37,5%
	5-10 years – 3 (25%)	5-10 years – 5 (37,5%)
	More than 10 years – 9 (75%)	More than 10 years – 0
Position (%)	Social work practitioners – 5 (41.7%)	Social work practitioners – 8 (66.6%)
	Head of department – 3 (25%)	Head of department – 2 (16.7%)
	Project coordinator – 4 (33,3%)	Project coordinator – 2 (16.7%)
Education, scientific degree (%)	High education – 12 (100%)	High education – 12 (100%)
Represented institution (%)	State agency – 2 (50%) NGO – 2 (50%)	State agency – 2 (50%) NGO – 2 (50%)

n=24

According to the methodology of grounded theory, encoding occurred simultaneously with data collection. Initial encoding was open and close to the text, this means that the codes were designed to reflect the actions, intentions and meanings of the respondents, often using their own words. Further interview encoding was the current use of comparative analysis, which made it possible to identify such codes into categories. The answers were carefully analyzed and some minor changes made. The authors used MaxQDA for data processing.

After the initial isolation of the categories, it modified the process of attracting participants. To provide the most diverse selection, participants were selected according to their ability to explain the specific issues, which had been identified in the previous study. This approach is called “theoretical sampling” (Glaser, B.G. & Strauss, A.L., 2012) and it allows for formulating specific questions for interviews. Based on the focus-group results, the methodological characteristics, forms and methods of support to families affected by HIV/AIDS were identified, formulated general recommendations on support to families affected by HIV/AIDS, according to the data of the focus groups.

Research results

The analysis of the results of two focus groups with participants who have different work experience with HIV-service organizations providing services to families affected by the HIV/AIDS problem showed that such grouping into more or less experienced participants was not effective. We received relatively close answers from experienced and less experienced participants in the focus group. They highlighted the main methodological characteristics of support to families affected by HIV/AIDS. These methodological characteristics are given below.

Participants indicated that they support the following types of families affected by HIV/AIDS:

- families in which parents (one parent) and children (child) have a confirmed diagnosis of HIV - 11 (45.8%);
- families in which HIV-infected children are raised by caregivers (in foster care / family-type orphanage) - 4 (16.7%)
- families in which parents (one parent) have (has) a confirmed diagnosis of HIV and children (child) are (is) HIV-negative - 9 (37.5%).

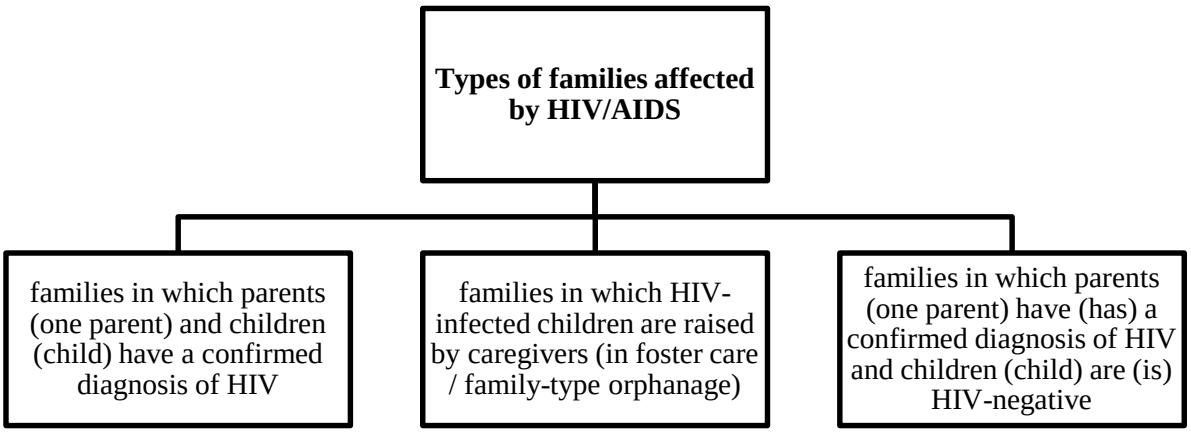

Figure 1 ***Types of families affected by HIV/AIDS***

They also identified the stages that families affected by the HIV/AIDS go through, namely: reporting the possibility of HIV infection of a child; confirmation of the HIV diagnosis of a child; the first symptoms of opportunistic infections in the child; the progression of the disease and the development of the fourth clinical stage of HIV infection.

Participants indicated that at each of these stages families need medical, psychological and social support. In line with professional support, an effective method of assistance and a way to overcome a crisis can be self-help groups, in

which people learn to voice their difficulties and problems, seek support or provide it to other families.

A self-help group is a group of people who are united by a common life problem or situation. The group members share their feelings and experiences, it provides everyone with a unique sense of empathy and mutual support and also allows bringing together existing information and practical ways of coping. Parents discuss the advantages and disadvantages of disclosing the HIV status of a child, developmental crises of children; how to have fun communicating with your child, how to support a child in the situation of the loss of a loved one. These groups are run by the participants themselves and exist for their benefit. Sometimes experts – doctors, lawyers, psychologists, and social workers – are involved in the work of the group.

Self-help groups change the attitude towards the future of a child and his or her social integration, improve communication between children and parents, and most importantly, change the role from "father/mother taking care of HIV positive child" to simple role "mother/dad, woman/ man, wife/husband".

Participants cited their clients' feedback. For example, Irina: *"The biggest change that happened as a result of being part of the group is that she doesn't cry now. She had a lot to do and struggle to overcome her child's problems at school. Now the girl has a lot of friends, she wants to get higher education and doesn't skip lessons."* Irina (Kyiv) is a woman who has two adoptive and two biological daughters. Two children are HIV-positive. She has always been a source of inspiration for other moms in issues of bringing up and caring for children. During recent meetings, she has already begun to talk about her women's needs.

The protection of the rights of HIV-positive children requires strong state support, particularly in terms of providing proper conditions for their development. When children reach the appropriate age they go to the kindergartens and other educational institutions; therefore, they move from their family environment into a society. This requires the preparation of a positive-minded public opinion, which would avoid many negative effects or actions on the part of the local community. Families in which adults or children have HIV are affected by multiple socioeconomic and medical problems, the most severe are associated with poor access to social and health services; risks of stigma and discrimination; difficulties in educational opportunities. These factors cause a significant drop in the living standard of such families and increase their vulnerability. Moreover, there is a need to change the focus of defining HIV: society must recognize that the disease is not only medical but also a social issue. This approach helps to provide children and adults with more educational information about HIV prevention and treatment and simplify the process of children's inclusion in school and extra-curricular institutions.

The analysis of the results of two focus groups shows that in Ukraine the following educational activities are carried out working with families raising HIV-positive children: organizing and conducting thematic classes, seminars for parents, methodological gatherings of center staff; involvement of city infectious disease specialists to conduct classes on the medical and social aspects of HIV/AIDS. Non-governmental organizations have introduced their own training courses for the education of social workers. It is important to note that such educational training courses are not long-lasting and give only certain aspects of socio-pedagogical work, they don't cover the whole system of assistance and care for HIV-positive children and their families.

Professionals working with families raising HIV-infected children should be guided by the following principles: respect for and protection of constitutional human rights; targeting and individual approach; a voluntary choice to receive or to refuse the provided social services; humanity; legality; privacy.

Today in Ukraine, there is a need to prepare social workers to work with families caring for HIV-positive children. For this reason, social workers should have a formed set of skills: to provide clients and their families with qualified targeted social services at the centers of social services for families, children and youth or other state institutions and agencies; to inform clients and family members about the activities of organizations and self-help groups of people living with HIV/AIDS; to provide social support to HIV-infected children and their families under individual plans and contracts, to provide social patronage for AIDS patients at the terminal stage at home; to provide involvement of children, people living with HIV/AIDS, and their families into specialized social services for families, children and youth, their participation in thematic classes, socio-cultural activities; to assist in the placement of children with HIV/AIDS in preschool and school institutions; to promote the formation of clients' healthy lifestyle skills; to carry organize and conduct social programs and special health programs for families with children affected by HIV/AIDS; to disseminate thematic information materials and specialized literature about life with HIV among clients**.**

Considering the patient's right to privacy about diagnosis, to the confidentiality of their medical information and treatment, social workers often identify such individuals as HIV-positive in case of their self-disclosure. Information about the HIV status of a child or HIV status of family members can be received from a doctor of AIDS center or from the body of guardianship with a note “For Official Use Only” for the sole benefit of a minor child in a life-threatening situation.

In addition, families affected by the HIV/AIDS can be identified and draw the attention of social services by other signs of vulnerability: poverty, family conflicts, violence, neglect of child's needs, and others. Close cooperation

between social services, health care and NGO AIDS-service organizations make it possible to identify and provide appropriate services for families affected by HIV/AIDS and families in difficult life situation because of HIV status. The basic findings and conclusions of the study were discussed and received positive feedback at the meetings of Social Pedagogics and Social Work Department of the Institute of Human Sciences, Borys Grinchenko Kyiv University.

Conclusions and recommendations

To summarize the focus group results, the "theoretical sampling" method (analysis, generalization, and comparison of information received) was used to formulate basic recommendations on providing support to families affected by the HIV/AIDS:

- Social workers working with families affected by HIV/AIDS have to know the psychological aspects of a person's perception of his or her HIV status in order to respond effectively to the needs of the family. A person with any serious disease, including chronic illness, perceives the disease as one of the most traumatic events in their lives. As a result, such experience affects the physical and mental state of the patient. Foremost, there are negative emotions: fear, anxiety, pain, suffering, anger, guilt, which are manifested differently at different stages of the disease and its treatment. An adult is not always able to cope with these feelings; it is even more difficult to handle for children.
- Social workers should consider whether the child has been informed of the parents' HIV status or his or her HIV status in order to avoid situations of unplanned, not agreed with family members and traumatic disclosure of HIV status. This is extremely important in the context of psycho-emotional consequences for the child who has not been prepared to receive such information. Barriers to disclosure include fears of the child disclosing his or her status to others and can become subject to stigma, which can have negative effects on his or her emotional and physical health.
- The main characteristic of case management working with families when children are taken from a special medical registration, but parents have disabilities related to HIV infection is developing ongoing cooperation with close relatives. This is done to improve the quality of care, the relationship between family members, and to involve them in the process of caring for a child. The social worker should be aware that after the death of the biological parents, the child must retain family roots, that is, to stay with the relatives, to be under their guardianship

and care. If a child has no close relatives, after the death of the parents, the social worker together with the specialists involved should contribute to the placement of a child in family forms of parenting for orphans and children deprived of parental care.

- A psychologist should be involved in work with the family. His efforts should be aimed at disclosing the HIV status to the person, preparing the child to a new place of residence, if necessary, and others.
- The features of casework with families affected by HIV/AIDS depend on the number of children in the family. If one child in the family, according to age, knows about the status of the sibling, then tension and rivalry may be observed at the same time as anxiety and worrying about sister's or brother's health. In particular, if more attention is paid to an HIV infected child, a special attitude and need for increased care are emphasized, it can cause irritation of uninfected children and lead to alienation from parents and brother or sister.
- It is not appropriate to restrict the HIV infected child in his or her need for peer communication, education and development. The social worker should explain to parents that their child is just the same as other children; that he or she needs to communicate, to expand the worldview. After confirmation of the diagnosis parents may feel alienation and desire to hide from others, to isolate their child from the outside world. In such cases, parents try to restrict the communication of the a with peers, but such communication is one of the child's basic needs.
- It is important to provide psychological support to a child during hospitalization. Children with HIV may require hospitalization because of their health status. Hospitalization is a major stress for a child. Emotional suffering often increases physical pain and malaise. In order to make it easier for a child to stay in the hospital, it is necessary to explain the purpose of the stay in the hospital, what medical procedures will be performed, how it can affect his or her condition. It is advisable to establish an atmosphere of trust between a child and the medical staff. Do not frighten a child with medical professionals and manipulations. Children can bring their favorite toy with them to the hospital. It helps them feel closer to home and supports at difficult times, reduces the feeling of loneliness. It is much easier to undergo the most unpleasant procedure if a child knows that something interesting and exciting will happen afterward. Every opportunity should be taken to reduce pain during medical procedures. A child needs to know that hospital stay is a temporary measure.

- It is extremely important when working with a family raising HIV-positive children or children under the age of 18 months born from HIV-positive mothers who are on special medical records to ensure the interdisciplinary interaction of specialists to constantly monitor the timely visits of parents and children to the health care facility they are registered with, to ensure receiving and using antiretroviral therapy; to promote formation of parents' acceptance of child's treatment;
- A social worker when starting a conversation with parents about disclosing HIV-positive status to their child should hold strong arguments for HIV disclosure that would help parents make the decision to speak with their child. There are many aspects to consider when preparing for such conversation, including the child's age, the route of infection, and other important issues. In any case, this conversation should only take place when the child is ready for it.
- It is advisable for a social worker to hold various examples that he or she can use as arguments in conversations with parents.
- A social worker working with the family should maintain regular contact with family members and, if necessary, to hold informational sessions for parents regularly to support the child's adherence to treatment, or to provide psychological support to parents tired of HIV infection.
- Social services should not be provided to parents or family members who are intoxicated; but in this case, the specialist must assess the health and life risk of a child living in this family and to take the appropriate decision in the best interests of a child.

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YOUNG PEOPLE UP TO 24 YEARS ON THE LABOUR MARKET IN A SMALL SLOVAK TOWN

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Abstract. *Social pedagogy offers a wide multidisciplinary range to prevent and tackle youth unemployment. In this paper, we want to broaden the knowledge for social pedagogues in the areas of young people in the labour market and youth unemployment. The aim of the research is to identify the experience of respondents in the labour market in the district of Ruzomberok. It is a district in Slovakia far from the capital and regional centres. Most of the district´s inhabitants live in villages, fewer inhabitants in a town of Ružomberok. We conducted a questionnaire survey of 100 respondents. There are 50 young people up to 24 years old, who are currently active in the labour market. Furthermore, there are persons unemployed, registered at the Office of Labour, Social Affairs and Family in Ružomberok, with an age limit of up to 24 years, representing the same number of 50 respondents. We explored the social context; we set two hypotheses: There is a statistically significant difference in the status of the labour market with respect to the respondents' residence. There is a statistically significant difference in the status of the labour market relative to the gender of respondents. To verify the hypotheses, we used the Chi-Square-2 variable test. The hypotheses were not confirmed.*
Keywords: *labour market, unemployment, young people.*

Introduction

When the economy started to slow in several European countries in 2019, the interest of the professional public also focused on the related topic of unemployment. Young people are among the vulnerable groups in the labour market because of their lack of work experience and their unemployment issues have not been eliminated even during the economic boom. The cities with the best opportunities in the labour market are economic centres or capital cities. In this

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paper, we are interested in young people who do not want or cannot move and remain in a region with a more difficult situation.

In this paper, we want to broaden the knowledge for social pedagogues in the areas of young people in the labour market and youth unemployment. Social pedagogy has a preventive function; its aim is to prepare young people to enter the labour market so that they do not become unemployed. The paper informs social pedagogues what methods of job search young people who are successful in the labour market used and gives them an overview of the opinions of young people whether the labour office can find them a job. The aim of the research is to identify the experience of respondents in the labour market in the district of Ruzomberok. It is a district in Slovakia far from the capital and regional centres. Most of the district´s inhabitants live in villages, fewer inhabitants in a town of Ružomberok.

Literature review

The situation of young people in the labour market, dramatically affected by the consequences of the economic crisis that started in 2008, remains a major challenge for the European Union. In the post-crisis period, unemployment among young people under 24 was historically highest in the Member States of the European Union, up to 40% in some countries and Slovakia was no exception. The situation has been improving since 2013 when the youth unemployment rate has reached its highest level in the EU and in most EU Member States (Eurostat, 2019; Kontaktný výbor, 2018).

A very important factor for a better understanding of youth unemployment is the social factor. Adolescence is a period in a person's life where orientation at the level of professional, civic and social life is crucial. The most important thing for the young generation is to find employment in the labour market. It is this period for a young person that is the stage of gaining a professional identity, in other words, the young person chooses a profession and begins his/her professional training (Buchtová, 2002). At the end of adolescence, young people who do not continue their studies at the university enter the labour market.

The EU youth unemployment rate (aged 15-24) was 18.7% in 2016, 4.9 percentage points (pp) below the maximum level achieved in 2013 (23.6%). In 2018, the youth unemployment rate was 15.2% in the EU, 14.9% in Slovakia. Despite these signs of improvement, the youth unemployment rate remains particularly high. Moreover, Youth unemployment rates are generally much higher, even double or more than double, than unemployment rates for all ages (Eurostat, 2019).

Considering the structure of Slovakia's economy and regional disparities, young people from the Žilina region, the Banská Bystrica region, the Košice

region and finally from the Prešov region have the biggest problem. At the same time, the conditions for the financial evaluation of work are disproportionately lower in these regions. Young people from these regions are forced to migrate abroad and at the same time, they migrate within Slovakia, which causes the extinction of municipalities (Reš, 2017).

A young person starts her/his career at a new job usually in a lower position. The social role of a beginner has usually a low social status with low-wage (Markovič, 2018). "After graduation, young people are often deprived of the opportunity to put their knowledge and skills into practice. Employers consider young people that they lack broader professional knowledge, which they usually prefer over profound and narrow knowledge acquired during their studies. This makes it difficult for new graduates to enter the labour market" (Kuchař, 2007). High youth unemployment has a long-term negative impact on the economy. If young people are not able to find employment in the labour market after completing their studies, whether secondary or university, they are forced to either travel abroad for work or remain unemployed in Slovakia. In the first case, if it is a temporary event, the pension earned abroad or part of it is likely to be consumed in the home country, which is more beneficial to the economy. On the other hand, those who remain unemployed will have difficulty acquiring their own housing and to become independent. They will remain dependent on state transfers or will work illegally. Another negative aspect of high unemployment is the motivation to go abroad permanently. They are often educated people who do not have a high enough rating in our market (Červenka, 2013).

Labour market policy is characterized as a system of support for citizens in their integration into the labour market. It is a set of forms, activities, measures and instruments used for the desired direction of the labour market and for solving of (un)employment of persons. These instruments serve not only to help the registered unemployed people, but the legislation also includes measures to encourage all persons to be able to help themselves in finding employment (Laštúvková, 2005).

The Ministry of Labour, Social Affairs and Family of the Slovak Republic deal with the development of labour market policy in Slovakia. It determines the priorities and objectives of labour market policy (Gejdošová, 2012). These objectives also reflect the intentions of economic and social policy, specified in the government's policy statement and other documents approved by the National Council of the Slovak Republic. The legislative framework for the implementation of labour market measures is created by Act no. 5/2004 Coll. on Employment Services and on amendments to certain acts.

The basic objectives of an active labour market policy are to help those at risk of unemployment while helping already unemployed people to find employment in the labour market before they become unemployed in the long

term. The basic services of an active labour market policy (regulated by the Employment Services Act) are a mediation of suitable employment, education and training for the labour market, job creation support and professional advisory/counselling services. According to their objectives, active labour market policy instruments can be divided into instruments that increase employability, instruments that increase employment and instruments that support the retention of existing jobs (Laštúvková, 2005).

Methodology

The aim of the research is to identify the experience of respondents in the labour market in the district of Ruzomberok. It is a district in Slovakia far from the capital and regional centres. Most of the district´s inhabitants live in villages, fewer inhabitants in a town of Ružomberok. We conducted a questionnaire survey of 100 respondents. There are 50 young people up to 24 years old, who are currently active in the labour market. Furthermore, there are persons unemployed, registered at the Office of Labour, Social Affairs and Family in Ružomberok, with an age limit of up to 24 years, representing the same number of 50 respondents. We explored the social context; we set two hypotheses: H1 There is a statistically significant difference in the status of the labour market with respect to the respondents' residence. H2 There is a statistically significant difference in the status of the labour market relative to the gender of respondents. We chose the quantitative research strategy, author questionnaire method, which allowed us to collect and analyse the obtained data in a relatively short time, and enable their required statistical processing. The questionnaire of own design was anonymous. The research was conducted during February 2019.

The data collection was followed by the data processing phase. It was carried out in the SPSS statistical program, where we processed the individual answers of the respondents graphically and transparently through statistical methods. To verify the hypotheses, we used the Chi-Square-2 variable test.

In the final phase of the research, we focused on evaluating the results of the research, based on which we made individual recommendations for practice.

Sample Description

Our research sample consisted of 100 respondents. Half of the respondents were young people up to the age of 24, who were on the labour market in the district of Ružomberok. The remaining 50 respondents were persons up to 24 years of age registered as unemployed at the Office of Labour, Social Affairs and Family in Ružomberok (OLSAF). Of the total number of 100 respondents, 52 were men, accounting for 52% and 48 women, representing 48%.

Table no. 1 shows statistical data related to the age of respondents. The average age of respondents involved in our research is 21.2 years. The table also shows that most respondents were 23 years of age. The oldest respondent was 24 years old, while the youngest respondent was 18 years old.

Table 1 ***The age of respondents***

Average	21,2
Median	22
Modus	23
Minimum	18
Maximum	24

54% of respondents live in the village. The remaining 46% of the respondents identified the town as their residence. It mirrors the real situation in the district of Ruzomberok.

Research results

The status of respondents in the labour market. More than half, namely 57% of respondents identified their status in the labour market as unemployed. This number is high in terms of the number of respondents, but this was assumed due to the distribution of fifty questionnaires to the OLSAF clients. The second largest group consisted of employed respondents representing 16%. These were followed by 15% of students with employment. Nine % of respondents registered the option of a student without a job. At least, only 3% of respondents rated entrepreneurship as their status in the labour market. The structure of our respondents does not reflect the real situation on the labour market in the district, as half of our research sample is unemployed - registered at the labour office.

Opinions of respondents with work experience on ways of getting a job. The aim of the next question in our questionnaire was to find out the respondents' opinions on how to get their job. This question was addressed only to respondents with experience in the labour market. 77 respondents answered this question. Figure 1 shows that most, namely 32 (41.56%) respondents used the help of friends and acquaintances to get a job. 20 (25.97%) respondents stated their own initiative as the second most common way of getting a job. OLSAF helped to 11 (14.29%) respondents. These were followed by job portals, to which seven (9.09%) responded. Four (5.19%) respondents stated that they got a job thanks to work agencies. Our respondents were least helped by social networks to get a job. Only three (3.90%) respondents indicated this option.

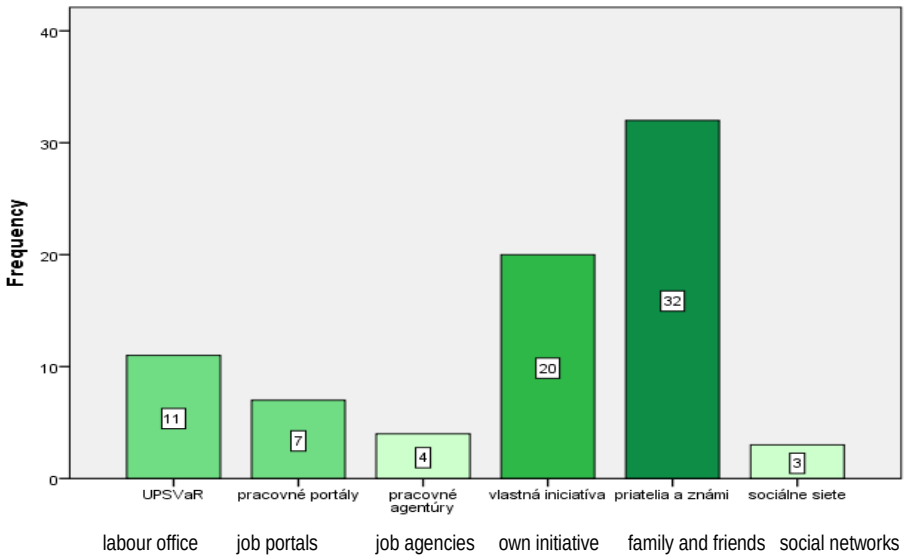

Figure 1 ***Opinions of respondents with work experience on ways of getting a job***

Opinions of respondents without work experience on the best choice of job search. Through the following question, we wanted to find out the respondents' views on the best way to find a job. This question was answered only by respondents who had any experience with the labour market. For the purposes of our research, we did not consider the practice during the study as an experience in the labour market. A total of 23 respondents answered the question. Figure 2 shows that respondents considered the help of friends and acquaintances to be the best choice for finding a job. 15 (65.22%) respondents indicated this answer. 3 respondents stated their own initiative. 2 (8.70%) respondents considered the help of the OLSAF and job portals the best choice for job search. Only one of the respondents identified social networks as the best choice when looking for a job.

Young people who have succeeded in the labour market have used similar ways of looking for a job compared to the ideas of their unemployed colleagues. The most common response in both groups was the help of family and acquaintances, followed by a self-initiative. The unemployed did not mention employment agencies.

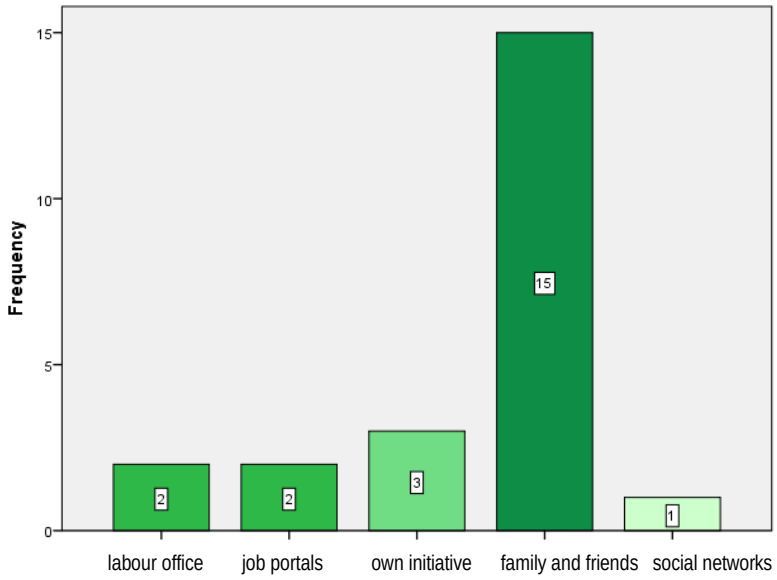

Figure 2 ***Opinions of respondents without work experience on the best way of job search***

Opinions of respondents on the mediation of suitable employment by the OLSAF. In this question, we surveyed respondents' views on OLSAF's ability to mediate appropriate employment based on their requirements. From graph 3, it is evident that more than half, exactly 60% of respondents are unable to evaluate OLSAF's activities and capabilities in this area. 23% of respondents are of the opinion that OLSAF is not able to mediate adequate employment. In contrast, 17% of respondents believe that OLSAF is able to mediate employment based on their requirements.

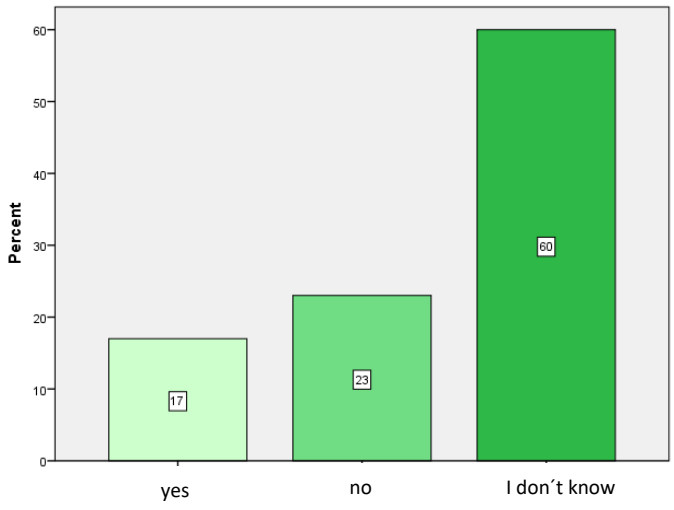

Figure 3 ***Opinions of respondents on the mediation of suitable employment by the OLSAF***

The verification of hypotheses. To verify the hypotheses, we used the Chi-Square-2 variable test, which is used to test the frequencies of a combination of two or more nominal variables. Using the given test, we find out whether the distribution of frequencies of variable x depends on or does not depend on variable y.

Our first hypothesis was H1 There is a statistically significant difference in the status of the labour market with respect to the respondents' residence. The hypothesis was verified by two questions. Figure 19 shows that there is a difference in the status of the labour market with respect to the residence of individual respondents. To verify whether this difference is statistically significant, we used the aforementioned Chi-Square test with 2 variables.

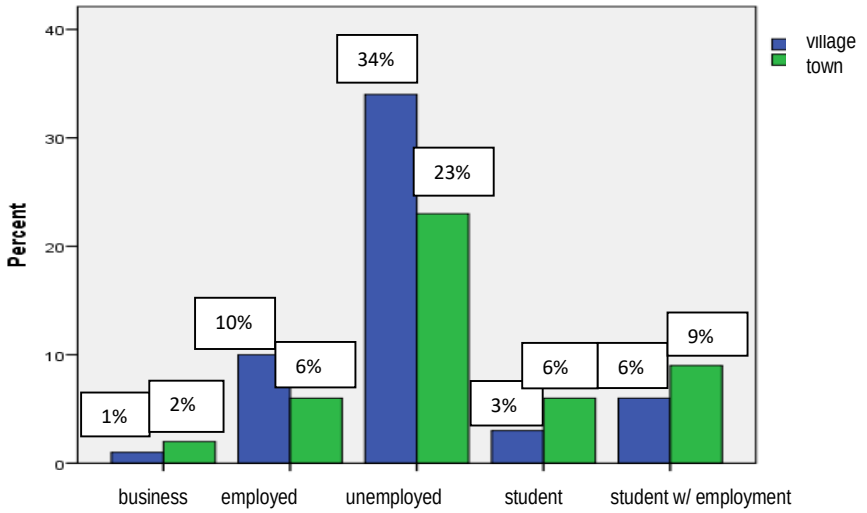

Figure 4 ***Difference in labour market status with respect to respondents' residence***

From table 3 we conclude that the first hypothesis was not confirmed because p = 0.349> 0.05, and thus we can reject the alternative hypothesis of the existence of the difference and accept the null hypothesis that there is no statistically significant difference in the status of the labour market with respect to residence individual respondents.

Table 2 ***Pivot table - working status, residence***

Residence * Working status Crosstabulation

Count

		Working status					Total
		Business	Employed	Unemployed	Student without job	Student with job	
Residence	village	1	10	34	3	6	54
	city	2	6	23	6	9	46
Total		3	16	57	9	15	100

Table 3 ***Scoreboard Chi-Square - 2 test variables - comparison of labour market status with respect to residence***

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4,445[a]	4	,349
Likelihood Ratio	4,469	4	,346
Linear-by-Linear Association	1,617	1	,203
N of Valid Cases	100		

a. 4 cells (40,0%) have expected count less than 5. The minimum expected count is 1,38.

Our second hypothesis was H2 There is a statistically significant difference in the status of the labour market relative to the gender of respondents. The hypothesis was verified by two questions, graph 5 shows that there is a difference in the status of the labour market with respect to the sex of individual respondents. We also used the Chi-Square test with 2 variables to verify whether this difference was statistically significant.

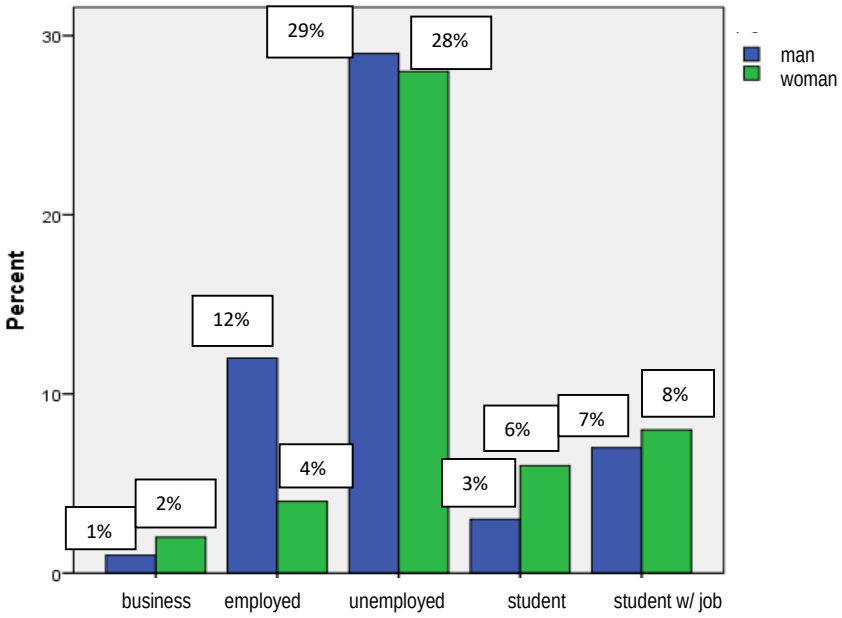

Figure 5 ***Difference in labour market status with respect to respondents' gender***

The value of p = 0.261>0.05, and thus we can reject the alternative hypothesis of the existence of the difference and accept the null hypothesis, which implies that there is no statistically significant difference in the status of the labour market with respect to respondents' sex.

Table 4 ***Pivot table - working status, gender***

Gender * Working status Crosstabulation

Count

		Working status					Total
		Business	Employed	Unemployed	Student without job	Student with job	
Gender	Man	1	12	29	3	7	52
	Woman	2	4	28	6	8	48
Total		3	16	57	9	15	100

Table 5 ***Chi-Square Scoreboard - 2 test variables - comparison of labour market status with respect to gender***

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5,266[a]	4	,261
Likelihood Ratio	5,469	4	,242
Linear-by-Linear Association	1,437	1	,231
N of Valid Cases	100		

a. 4 cells (40,0%) have expected count less than 5. The minimum expected count is 1,44.

Conclusions

We found out by testing hypotheses that there is no statistically significant difference in the status of the labour market with respect to respondents' sex and what is more, there is no statistically significant difference in the status of the labour market with respect to residence of respondents. Most young people in our research do not know whether labour offices are able to find a suitable job for them. Young people who have succeeded in the labour market have used similar ways of looking for a job compared to the ideas of their unemployed colleagues. The most common response in both groups was the help of family and acquaintances, followed by a self-initiative.

In addition to social policy and labour office initiatives, it is necessary to address young people in the labour market as well as at the micro level; social policy can offer a wide range of instruments

Acknowledgements

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DIGITAL SOCIAL INNOVATION AND LABOR MARKET TRANSFORMATIONS

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Abstract. *Social innovation can be considered as a process generated by the application of innovation to social needs. Consequently, digital social innovation (DSI) addresses emerging social issues and challenges by taking advantage of digital technology.*
Currently, most DSI projects make use of more established - and less 'high-tech' - solutions, such as social networks, crowdsourcing, and web or mobile apps.
Indeed, there is a large pool of people with great ideas, but without the digital skills to bring their ideas to life. A great effort is needed to enable people to access digital skills.
This paper highlights how DSI education can contribute, in a period of transformation of the labor market, to enhancing solutions in several strategic sectors, such as healthcare, education, public participation, and the environment.
It presents the results of the EU funded project DSI: new educational competences for social inclusion *(2018-2020) whose aim is the definition of a basic portfolio of competences for social educators and social volunteers in DSI at a European level.*
Keywords: *digital competences, digital social innovation, social educators, social educators' competences.*

Introduction

The advent of the fourth industrial revolution is ultimately transforming society and as well as the labor market. The disruptions are unsettling. For instance, according to McGrath (2018), autonomous vehicles will cause massive transformations in the transportation industries and related sectors with significant loss of jobs.

Overall, digital technologies are bringing about vastly changes and will increasingly condition participation in society.

The report by Deloitte Global and GBC-Education, *Preparing tomorrow's workforce for the Fourth Industrial Revolution, For businesses: A framework for action*, claims that two-thirds of today's five-year-olds will, in about 15 years, find themselves in jobs that do not exist today while the jobs that do exist will not necessarily be located where the job seekers live (Deloitte Global & GBC-Education, 2018).

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New skills and competencies related to digital technologies are required to meet the ongoing societal changes.

Digital competence, creativity, entrepreneurship, and learning-to-learn are emerging as key factors for innovation, growth, and participation in society and economy.

In this context of changes, Digital Social Innovation (DSI) is a new field that conjugates digital technology and social innovation. It is an evolving and broad field:

> *A kind of social and collaborative innovation in which innovators, users and communities collaborate using digital technologies to co-create knowledge and solutions for a wide range of social needs and at a scale and speed that was unimaginable before the rise of the Internet.* (Bria et al., 2015)

Recently (2018), the European Digital Social Innovation Index (EDSII) has been created (https://www.nesta.org.uk/feature/european-digital-social-innovation-index/). EDSII has been produced as part of the EU-funded DSI4EU project. It aims at ranking how different European cities support DSI to grow and thrive. At the moment, EDSII ranks 60 European cities on 32 indicators that have been identified as important for the creation, growth, and sustainability of DSI. These indicators are grouped into six themes: Funding; Skills; Civil Society; Collaboration; Infrastructure; and Diversity and Inclusion.

This paper focuses on DSI reporting the preliminary results of the project *Digital Social Innovation: new educational competences for social inclusion* (DSI), a two-year European project.

The EU Digital Education Action Plan

The DSI project is grounded in the EU Digital Education Action Plan (COM (2018)22).

In 2018, the European Commission presented a proposal for a Council Recommendation on Promoting Common Values, Inclusive Education, and the European Dimension of Teaching (COM (2018)23) and a proposal for a Council Recommendation on Key Competences for Lifelong Learning (COM (2018)24). In addition, in April 2018, the Commission also presented two documents: *Communications on Disinformation* (COM (2018)236) and *Communication on Artificial Intelligence* (COM (2018)237).

These documents contain a new set of specific policy initiatives on continuous education and training in order to help people to maintain employability and overcome skills mismatches in a rapidly evolving labor market impacted by globalization and technological changes.

The European Commission Joint Research Centre (JRC) has had a primary role in identifying and designing the digital skills and competences necessary to face the ongoing societal changes.

JRC is the European Commission's science and knowledge service that develops studies on the labor market implications of the digital transformation.

JRC current research covers the following projects:

- Digital Competence for citizens (DigComp);
- Digital Competence for Consumers (DigCompConsumers);
- Entrepreneurship Competence (EntreComp);
- Computational Thinking (CompuThink).

JRC claims that the development of digital competences breaks down the boundaries between education, work, and civic engagement. In this respect, digital competences are transversal to formal, non-formal, and informal learning contexts and apply equally to education and training systems, from primary to vocational education and training, and non-structured learning contexts.

Research objective and methodology

DSI is an EU granted Erasmus plus Strategic Partnership project, which involves seven partners from seven European countries (Italy, Latvia, Poland, Croatia, Greece, Bulgaria, and Bosnia-Herzegovina).

DSI aims at:

- exchanging good practices between organizations that are active in social education and social innovation;
- increasing the competencies of social educators;
- improving a comprehensive (and commented) list of topics and practices essential for digital social innovation initiatives/activities.

The project objective is the definition of a basic portfolio for digital social innovation competences at the European level specifically designed for students in social education study programs, social educators, and social volunteers.

The DSI methodology is based on the exchange of good practices among partners. Accordingly, they collect experience and initiatives in digital social innovation, selecting and analyzing those which have a European significance.

The selected experience and initiatives are presented and discussed with partners in transnational meetings (in-person and virtual).

Social educators are involved in the project activities through meetings, seminars, and online discussions whilst a short-term learning event has been organized engaging senior educators and experts.

Preliminary results

The DSI project started in October 2018 and will finish in September 2020.

From the partners' activity, the following preliminary results have been obtained:

- A collection of good practices illustrated by partners in a report;
- A shared list of crucial skills and competences for social educators derived from the partners' activity.
- A preliminary portfolio for social educators.

The portfolio is related to three main basic scopes:

- Digital technology understanding - this encompasses knowledge about the multifarious dimensions of the digital revolution and the impact on school activities.
- Digital-based educational processes - they comprise both theoretical and practical knowledge of online educational models as well as teaching-learning practices that can support the implementation and run of e-learning and distance learning programs.
- Some sectorial knowledge - this includes knowledge in specific fields such as social learning, social telerehabilitation, and social networking tools.

Moreover, partners analyzed how DSI education can contribute, in a period of radical transformation, to enhancing solutions in several strategic sectors, such as healthcare, education, public participation, and the environment.

In the following paragraphs, the importance of critical thinking and soft skills are illustrated as well as some reflections on online learning are presented. They will be crucial in the future labor market scenario.

Critical thinking

Critical thinking, problem-solving, and creativity can be viewed as components of innovation processes.

It has been observed that a creative process can be intentional or accidental (Runco & Pritzker, 1999) and closely tied to innovation (Van Holm, 2015). Accidental creativity and accidental innovation take place when a fortunate discovery occurs by accident, e.g., when one is not looking for it (Beale, 2007). Accidental creativity is addressed as *serendipity*, namely *blind creativity*, and plays a part in animals and machine creativity.

Any intentional or accidental creative process also implies an evaluation of the process results. Evaluation requires self-criticism and reflection. It is

important for establishing if an idea is a new one or it is just the re-adjustment of something done before.

Soft skills

According to the Education Commission (2017), it has been predicted that by 2030, more than half of the nearly 2 billion youth worldwide will not have the skills or qualifications necessary to participate in the emerging global workforce.

In this perspective, it is strategic supporting the acquisition of skills that are important for the future jobs. They should include work readiness skills, soft skills, technical skills, and entrepreneurial skills. To meet the needs of the future labor market learning and training should be interactive, multicultural, engaging, constructive, and practical.

To tackle the challenges of the fourth industrial revolution, technical skills are fundamental. They concern knowledge and capabilities to perform specialized tasks and should include computer programming, coding, project management, financial management, mechanical functions, scientific tasks, technology-based skills, and other job-specific skills.

However, there are other skills, addressed as soft-skills, that play a relevant role. They encompass communication, critical thinking, creative thinking, collaboration, adaptability, initiative, leadership, social-emotional learning, teamwork, self-confidence, empathy, growth mindset, cultural awareness. Other qualities that could facilitate employability are innovation, creativity, industriousness, resourcefulness, resilience, curiosity, optimism, risk-taking, courage, and business acumen.

Research confirms the importance of the above qualities and new educational programs should be developed to incorporate social and emotional learning (SEL) and enhance learners' intrapersonal, interpersonal, and cognitive competence (Gibert, Tozer, & Westoby, 2017).

Teaching-learning in a digital environment

Nowadays, online education has become an increasingly important part of tertiary education and takes two primary forms. The first consists of for-credit courses offered by higher education institutions. The second form of online education consists of professional training and certification preparation.

An online learning environment is characterized by the use of the internet to access learning materials and interact with content, teachers, and other students. Online learning should allow time and space for independent learning, enabling learners to progress at their learning speeds.

The primary learning models in an online environment are blended learning and digital social learning.

Blended learning combines e-learning with traditional classroom methods (face-to-face learning) while digital social learning is an approach where an individual achieves their learning goals by accessing learning resources available online as well as interacting on the internet with teachers and other learners.

Blended learning is a formal education program in which a student learns through, at least in part, online tools. Essentially, it is the combination of two historically separate teaching-learning models: traditional face-to-face learning systems and distributed learning systems. In blended learning, computer-based technologies play a central role (Figure 1).

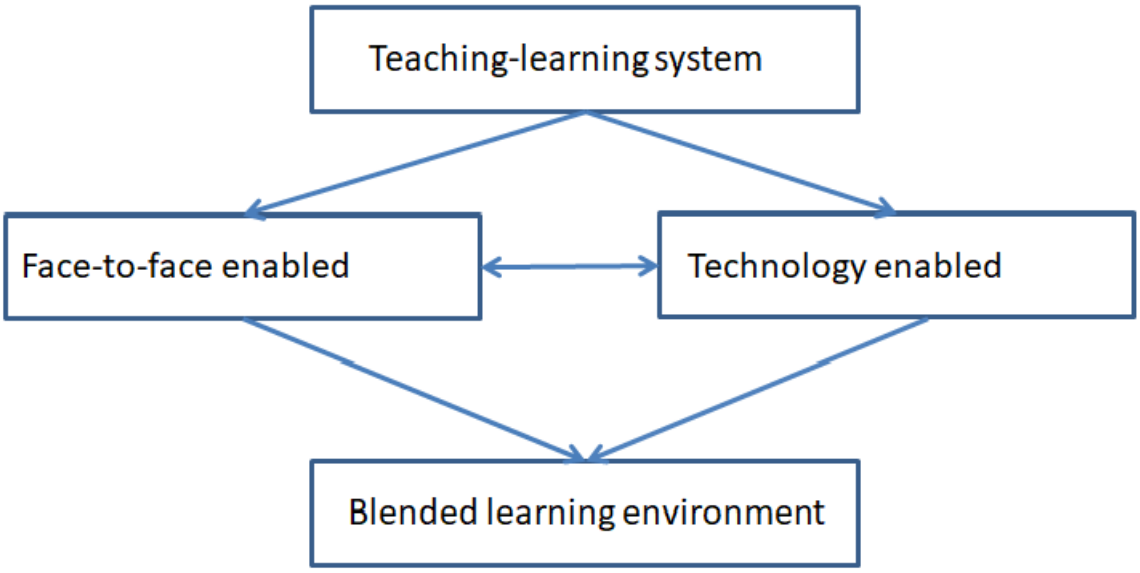

Figure 1 ***The blended learning model*** *(authors' own source)*

In the last few years, as a consequence of the spread of digital technologies, digital social learning is assuming a strategic role in the online learning scope. In an effort to alleviate critical aspects due to poor interactive capability and asynchronous scheduling, some e-learning platforms such as BlackBoard and Moodle began to incorporate digital social learning components (chat and virtual classroom). Nowadays, most of the platforms allow interaction between students (through user-generated posts/comments) and provide question asking and answering functions.

Figure 2 shows the digital social learning model.

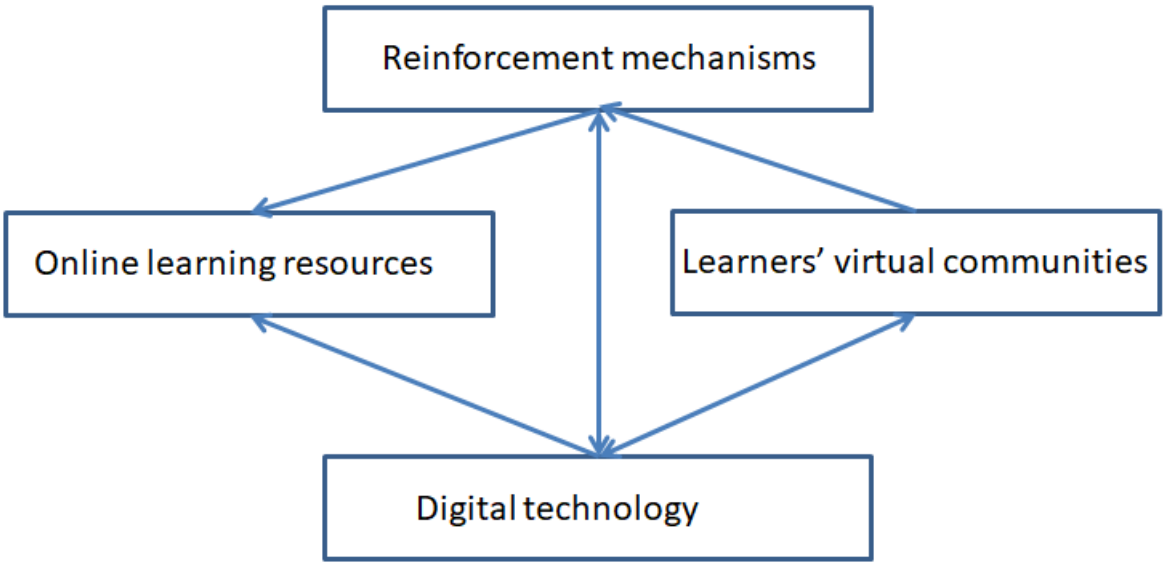

Figure 2 ***The digital social learning environment*** *(author's own source)*

The massive abundance of online content also suggested new forms of self-learning activities. Accordingly, new opportunities and challenges arise.

The DSI approach to online learning should favor the inclusion of low-skilled and low-qualified learners. Accordingly, it should be inspired by the principles of adaptive learning (Truong, 2016), namely delivering custom training through just-in-time feedback, pathways, and resources. It should answer the following two key questions:

1. What does the learner know?
2. What should the learner experience next?

Conclusion

The potential of digital technology is enormous and can allow the creation of massive teaching-learning programs. Learners will be able to learn at their own pace, and non-formal and informal learning activities will be advantaged. Companies will increase their business by continuously re-training their workforce, while workers can retain and safeguard their jobs and careers by improving their range of skills and competencies.

Digital technology will generate changes in the scope of education, making new things possible but, at the same time, introducing new issues and challenges.

To find appropriate solutions to teaching-learning in the digital era, we ought to know how to use the technology in an innovative way. In this perspective, soft skills such as critical thinking and creativity can play a crucial role. In a future in

which learning activity will accompany people during their life, we need new forms of motivation that can sustain the learners' effort.

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CHALLENGES FOR EDUCATION CAREER IN THE LITHUANIAN SCHOOLS OF GENERAL EDUCATION: EXPERIENCE OF CAREER SPECIALISTS

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Abstract. *The article presents the challenges for the career specialist in provision of career education services in the school of general education. Based on the results of the qualitative research, employing the methods of the focus group discussion, the following conclusions should be made: The main problems faced by the career specialists providing career services in general education schools are the following: heavy workload, lack of cooperation among the career specialists; the schools lack informational and methodological means which would correspond to special needs of the students, of age groups; for improvement of efficiency of the activity of career specialists an information data base containing all available informational, counselling, methodological material designated for the career specialist is required; psychological tests on the subjects of self-awareness and career which could be applied by career specialists on their own, without having psychological education; lack of attractive, corresponding to the needs of the modern labour market and of the students, video material designated for career education; training based on sharing of experience is necessary for qualification improvement*
Keywords: *career specialist, career education, career services, general education school.*

Introduction

The modern concept of a career, permanently changing situation of economy and on the labour market encourage actualization of the career education services in schools. If earlier, for the purpose of career education, the ability of a pupil to answer the question “what will be your profession when you grow up” was indicated, today the development of career competences which enable a student to know, to create and to self-realise oneself in the permanently changing world

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becomes the main purpose of career education at school. The competences which enable the person himself to control one's career are the essential ones in the modern world with changeable labour market. (Career Guidance: A Handbook for Policy Makers, 2004). The importance of development of career competences in career education is actualised in the national documents (Law on Education, 1991, 2011,2017; the Strategy on Lithuanian Progress "Lithuania 2030"; the National Strategy for Education 2013-2022; Program for Career Education, 2014), where the necessity to provide favourable conditions for individuals to independently control their careers, also to provide individualised assistance in real and virtual environment for the individuals who seek to develop the key competences, forming conscious selection of one's way of life (career), as well as continuity of development, are emphasized.

Longitudinal researches (Hughes et al., 2016) show that the way the teenagers think about the prospective of their learning and occupation has serious influence on their becoming as grown-up employees. Statistically it is more probable that the teenagers who did not assess efficiently the education, which is necessary for their targeted position on the labour market, in future more often are within the youth group NEET (*Not in Education, Employment or Training*). It has been established, that young people coming from poorer families tend more to have career ambitions which are non-compliant with their studying ambitions. Thus, preparation of young individuals to make adequate, qualitative career decisions is one of the essential tasks in the career education. Career education shall become a part of the complex career support available for each young individual. The results of Nusche (2008) research prove that purposeful, consistent career education is an essential presumption which ensures the quality of transition of the young people from school to other environments of the world of learning, studies and work. It should be noted that the researches of the recent decade disclose that pupils in the last school years very often are still undecided about their career aspirations (Rogers & Creed, 2000; Ramanauskaitė et al., 2004; Pukelis, 2012; Kalinauskaitė et al., 2005; Garnienė, 2006; Ustinavičiūtė et al., 2011; Meijers et al., 2012), their career expectations are limited to the wish for university studies or getting a well-paid job (Sinclair et al., 2014; Schuette et al., 2012; Thompson & Dahlin, 2010; Kattenbac et al., 2010; Howard et al., 2011). The decision-making for a pupil is impeded by fragmentary nature of career education, career information and career counselling services at school. Career services often are provided chaotically and in fragments, there is a lack of a system for preparation and activity of career specialists (Pukelis & Katsarov, 2014). Though the preparation of the first career specialists (vocational counsellors) was started already in 2003, but the existing preparation of career specialists is based on the initiative of individual institutions of higher education (Railienė, 2007; Navickienė, 2012). During the past five years no national researches were made

on comprehensive analysis of the challenges for the career specialists in provision of career education services in the school of general education.

The problem of the research is formulated by the questions: what problems do the career specialists face while providing the career education services?

The subject of the research is the experience of the career specialist.

The purpose of the research is to disclose the challenges in the career specialist's activity providing the career education services in the school of general education.

The methods of the research: analysis of scientific literature and qualitative research employing the method of the focus-group. The data of the research have been analysed using the method of content analysis.

Research methodology

A qualitative research has been performed employing the method of focus group discussion. The focus group method is especially fit for discussion of different experiences, generation of new ideas, specifying the existing beliefs, disclosing the causes of conduct, foreseeing the potentials of improvement of a situation, obtaining more thoughtful interpretations of the case at issue (Denzin & Lincoln, 1994; Patton, 2005; Flick, 2014). The research was performed in 2018, under the order of the Lithuanian Education Exchanges Support Foundation. Only a part of the results of the research - those associated with the challenges to career specialists of general education schools in provision of services for career education - was used in the article thereof.

The members for the focus group were selected by a common feature - career specialists working at schools of general education. This allowed ensuring that all members of the focus group have similar interests and experiences. The focus groups were constructed based on the principle of homogeneity in the context of social characteristics: education (with or without the education associated with provision of carrier services), work experience (work experience in the sphere of career services from 0.5 year to 17 years), regions (work at schools of general education in different regions), types of schools (pre-gymnasium, lower secondary education school, gymnasium).

Two discussions of the focus groups were held, with the following participants: Group 1: the experienced career specialists (employed as career specialists or performing the function of a career specialist for more than 3 years); Group 2: the freshmen career specialists (employed as career specialists or performing the function of a career specialist for less than 3 years). The selected size of a focus group - 10 investigative participants.

The participants in the discussion were in advance informed about the goal of the research. Duration of one session was approximately 1.5 - 2 hours. All

members of the focus groups participated voluntarily. Written consents for participation in the discussion of the focus group were obtained from all informants, as well as consents regarding the data fixation and recording by dictaphone. The informants were notified of the goal and the objectives of the research, informed about the use of the research data, the potential risks and the right to withdraw from the research. The principle of confidentiality was observed during the entire performance of the research: nobody but the team of the researchers may use the information provided by the informant without his/her consent; the information presented in the report is impersonal - the names of the informants were replaced with codes. Great attention was paid to the principle of respect of the privacy of the individual: the researchers tried to disturb the participants of the research as little as possible and be impartial towards the ideas presented by them. The principle of goodwill and disposition to not harm the individual is based on the researchers' respect of personal privacy: in the report on the research the aspects which are sensitive for the participants are presented correctly.

Qualitative content analysis was selected for the data analysis - a creative process of thinking with the purpose of decoding the meanings contained in the text, to realise and to identify the challenges arising in front of the career specialists in the context of provision of services in the career education. In the first step highlighting, based on the theoretical material, of semantic units (elements) was made. In the second step the semantic units were joined/ grouped into sub-categories, presenting significant propositions. In the third step the categories were formed. After performance of the above-mentioned steps, in order to secure reliability of the data, it was revised repeatedly.

Results of the research: findings

The outgivings of the focus groups allowed distinguishing three categories: activity organization, needs and variety of informational and methodological means, and (self-) improvement of qualification. The category **Activity Organization** is specified by four sub-categories: *heavy workload, the procedure for work payment, absence of full-time or part-time posts and cooperation*.

According to the participants of the research, the most sensitive issues are associated with the organisation of their activity in the school of general education. The informants note heavy workload ("*There are many pupils in our school - 1400. I can say that I work alone with the career issue. Sometimes somebody stands by, or not, but I definitely do not feel much support. <...> After that I realised that I am not able to run this alone <...>" (L1); "< I have two hands, and a lot of functions" (R1)).* The informants distinguish underpayment for their work as one of the most problematic aspects of the organisation of career

specialists' activity: *"<...in general, factually people who do this work, work just for the idea. Because, just give the person the work and give no money, and you will see who withdraws and who does not." (E V1); "Of course, with some payment maybe there would be some more interested people, this would mean some motivation. Because now people are driven just by some inner wish."(D2).*

It has been disclosed that, when speaking about the challenge of cooperation in provision of the career education services, the specialists, first of all, note the importance of involvement of the entire school community into provision of career services *("<...> for efficient career education at school, more teachers have to be involved <...>". I do not believe that this should be a one-person initiative, as the experience shows that when more teachers are involved into this, the children feel that." (A2); "<...> anyway, the entire school has to cooperate." (A2); "we need assistance from the class misters, as we are just trying."(J 2)).* It should be noted that this particular challenge is indicated only by the freshmen career specialists. This allows making the assumption about the relevance of improvement of managerial-organisational competences for freshmen career specialists.

The career specialists noted also the lack of inter-cooperation: *"You are sitting, leading a seminar and say - share one method each, so we are twenty participating, how nice. Just say one, maybe its familiar, but it might be a reminder. Nobody said about their methods. Should it be buried then? <...> the culture of sharing is needed" (G V 1); "But I understand that we are not sharing, that one does not know what the others are breathing. I know what the school is breathing, but not about the others." (EM 1).*

The participants of the research emphasize the problem of the full-time or part-time career specialist staff. Career services in some schools of general education are provided by career specialists having a part-time post; in the other schools the function is attributed and/or integrated into the work hours of teachers or of assisting specialists. It has been disclosed that the major challenges arise for those career specialists who have the activity of the career function attributed to them, as to the assisting specialists (psychologists, social pedagogues). This function is attributed to the assisting specialists in relation to the duty functions performed by them *("<...> I face the career education as a social pedagogue, as a specialist. There is no full-time establishment, as the directors says to me and to my colleague that this is within the duties" (V 1); "Me, as a psychologist, have the function to advise the children on selection of a profession, on the direction, so this is as if additional functions and in the school I am a chairperson of the coordination group of career education" (O 2)).* It should be noted that the additional payment for social pedagogues, psychologists for the functions performed depends on the goodwill of the administration. In some schools they are paid by adding 5 per cent bonus to their salary (by September 2018), a part of

the establishment for additional activities *(<...> so the director used to pay me 0.25 extra for a huge amount of activities performed. It was not limited just to what was within the function, she really was well-wishing in this sense." (L 1)).* But in many cases the support specialists providing career services are not paid extra. The participants of the research noted that the function of service provision is attributed also to the teachers of subjects, by adding additional hours for informal education *("<...> it was allocated from the informal education, I had 2 hours there and plus 1 hour, the same activity, only that it was of project-type. So, as if we have 3 hours"(E 1); "<...> I have 1 hour of informal education so that there would be a possibility to pay. <...> in normal times that meant a half of an academic hour per week <...>"(G 1); "<...> I work as a teacher of German and English, and the career counselling is just assigned to me as the additional hours" (J 2)).*

The second semantic category defining the challenges in the activity of career specialists should be related to the lack of **informational and methodological means and their diversity.** This category is specified with three sub-categories: ***the response to the needs of the pupils; the purpose of the means; the form of the means.*** Speaking about the problem of differentiation according to the needs of the pupils the participants of the research note the lack of the means designated for the work with large groups of pupils: *"<...> the game "Labyrinth of Professions", OK, you can play it in a small group, and when you have 30 in the class-room, ant it takes usually more than 45 min." (G V 1).* It has been disclosed by the research that there is a special lack of informational and methodological means for the pupils with special needs of education. *("Now we have two classes with pupils with serious special needs and serious intellect disorders. <...> there is always a challenge where to guide them after graduation, in helping the parents to find their places. And if such child has possibilities to study further somewhere, to get some profession <...>.*" (D 2); "*Factually, the means, information for those children* [with special needs] *do not exist at all. You yourself have find ways out, do something, find out, make phone calls, inquire who could accept, what the conditions are. So it would be very nice if the means for such children would be simple, as, definitely, not all children with serious intellect disorders are able to watch sort of films, as not all of them would understand what is shown." (D 2)).*

Vrasmas, Vrasmas (2012) note that for the pupils with special education needs the transition from school to work is a complicated process because of several difficulties - the negative attitude of other people towards disability and because of the complexity of services.

The participants of the research also note the lack of measures concerning the knowledge of career possibilities and the competences for integration on the labour market: "*Something about possibilities of studies, then employment*

simulation <...> (G V 1); "There is the lack of methodological means for counselling of pupils on the subjects of the situation on the labour market, on the demand for professions <...> methodological means, labour market, how to look for a job. Most often it is the most difficult to find means on those subjects for pupils. <...> We would like more information means <...> methodological means, tasks about the trends on the labour market, about the specialists, the professions to be demanded in the future. On efficient search for a job." (E P 2).

The participants of the research emphasize also the lack of informational, consultancy means on the subject of self-awareness: *"< ...> so that the self-awareness would be different, how to accumulate the information of the surrounding people about oneself, the values, own talents, own informal life. Isn't that so? So you could see <...>." (G V 1); "we miss standardised and adapted education means for self-awareness" (L 2); "There is the lack also of methodological means <...> for leading self-awareness topics". (EP 2).*

The participants of the research note that various on-line means are much more attractive for pupils; the career specialists miss them. The lack of ***inter-active*** **means** showed up: *("the most of the work with those pupils is on the internet as they care for this, it drives them and is interesting. All the rest, the paper versions, are boring since long time ago. <...> the internet, as the films are somehow static, but game-type, interactive, so they themselves might go somehow through levels. Then they get involved indeed." (E V1); "tests, especially the paper ones, are slightly out-of-date. Give them the same test on paper and in a computer, and everybody will gladly do the computerised one. They like ticking and getting the result immediately. And the paper ones, they <...>do not want." (D 2)).* The research disclosed the challenge related with the lack of tests on subjects of the career, designated for pupils, which could be applied by both, the career specialists with psychological education *("<...> Namely,<…>, there is a shortage of <...> tests, questionnaires in Lithuanian) <...> valid, normal. One can go to the internet and find self-awareness, but I always say that this is a game. <...> but, factually, there is no many tools for those who work, and not very good ones... " (R 1)),* and those without it *("new tests which might be used." (E M1). "And not only for the use by a psychologist, but also by career specialists." (E V 1).* The participants of the research also emphasized the necessity of ***video material*** designated for provision of career services *("when I lead class meetings I cannot go there and just beat about the bush there. I must have visual material. Everybody is already sick and tired of slides; they are good maybe just for me, to remind what to speak about, but for the kids there must be breaks with visual material. <...> But that does not mean that the film shall last 45 minutes. 5 min or 7 min is enough. Then you can make your lesson diversified. (L1)).* The challenge of absence of a database has also been distinguished. The participants of the research noted that there was a serious lack of a **general**, continuously

supported, informational **database**, which would contain all available informational, counselling, methodological material for career specialists. *("This issue should be for all individuals working with career issues, available matters, well, somewhere <...> in some bank." (L1); "and, in order not to die with some project, which becomes incapable face." (G V 1); <...> it is very convenient <...> when there is some platform containing everything." (A2); "<...> pages. Links to everything in one place. This is what is missing very much." (L1)).*

The research disclosed that the challenges in the activity of career specialists at general education schools also relate to the process of qualification (self-) improvement and its needs. The challenges relates to both, **the variety of qualification (self-) improvement forms** and t**he content of (self-) improvement of qualification**. According to the participants of the research, one of the most required forms of qualification (self-) improvement are trainings, seminars based on experience sharing *("more often, just maybe once or twice a year to make such a meeting of career specialists, and a round table, and discussions, and conversations, and sharing of information." (E1); "the gathering of career specialists, and demonstration that active people are still present, that you are not alone there. It gives some kind of inspiration." (A2); "it is very nice to meet specialists from other schools, because one gets some new information, new contacts, or learn something that one does not maybe know deeply involved in one's work without seeing what is going on around." (D2); "I believe it would be purposeful to organise regular discussions, sharing of the newest professional experiences, the best practices and etc., meetings of career consultants from education institutions of a city/ a region." (R2)).* The participants of the research emphasize that such qualification (self-) improvement events could be based not only on sharing of experiences on the national level, but in the international context as well: *"I will carry the expectation of an international event <...> international experience, <...> work experience, a conference or <...> a week with a Lithuanian group, groups from other countries and one is sharing, listening, what is good for them and one may take over something. Anyhow, this culture is better in other countries than in our country, and from time to time it would be fun to see and get some good experience." (G V 1);" As a matter of fact, yesterday, of all reports I liked, <...> namely, the Americans experienced all this themselves, the person demonstrated how it would be possible to work with pupils. <...>." (J 1)*

As one of the events of qualification improvement, based on experience sharing, the participants distinguish case study groups: *"<...> case study groups, when we would come from different schools and different fields. Now I think that maybe we used to gather once a week and we all used to discuss the difficulties, the activities performed" (D 2).*

Career specialists miss advisory events designated for them: *"If there were some place where people could get advice, those who know nothing, how to start, where to apply, what to do precisely, namely, what are the duties, the responsibilities, when one is a total freshman." (D2); "inviting a certain specialist who could lead training <...> and the specialist would take the responsibility to cooperate and to help answering all questions <...> he or she would be a kind of consultant, <...>." (A 2).* It should be noted that the need for advisory events has been especially actualised during the discussion of the freshmen career specialists.

In the discussion of the focus group of the experienced career specialists the qualification (self-)improvement events based on experience training were emphasized: *"Only experience-based" (G1); "<...> one very quickly takes over what one tries himself, what one does <...> the experience-based methods are the best" (J1).*

The research disclosed that, when speaking about the **variety of the content of the qualification (self-) improvement events**, the informants, first of all, note the demand for training about the future professions and the prospects of the labour market: *"<...> about general understanding of what is going on in the modern context." (A2); "more seminars on qualification improvement <...> about the trends on the labour market, about the specialists, professions to be needed in the future."(E P2).*

The research disclosed that career specialists see the necessity of qualification (self-) improvement events on integration of development of career competences into the school subject *("<...> I had a chance to see a couple of events like that, so I understood that people do not understand quite well what it means. What did they do and what it means "to integrate", <...> so that the training is useful <...> how to integrate, what should be reflected there, how to relate those subjects." (D 2)).* The participants of the research spoke about the demand for events *on improvement of foreign language*s *("my weak point is English, I am not afraid to admit it. <...> make an intensive course and definitely a number of teachers will come <...> (G V1); "one can take a lot if one knows it* [the English language*]. So to say, you remember. I do not know, I studied English, but also forgot it." (E V 1).).*

The participants of the research emphasized the events on qualification (self-) improvement regarding provision of career services for the children with special needs and for their parents, and the absence of it *("<...> I never heard about any training designated for such children* [with special needs]. *And, specifically, what I am facing, even from classes of general education, the parents have many concerns, they say, that they have a program applied, where will they admit us further, what we shall do and how."(D 2)).* The Law on Education (2011) obliges to pay exclusive attention to education of pupils with special needs. It is

stated there that the special education needs are the needs for assistance and services in the process of education, occurring due to exceptional skills of an individual, inborn or acquired disorders, unfavourable factors of the surroundings. Therefore schools pay an important role: to assist a pupil with special education needs in combining his/her ambitions with the possibilities, and to help to move from one step of education to the next one. Scientists state that for a pupil with special education needs easy, quick enough socialisation, sensation of the community meaning is high importance (Survutaite, 2012), and the need to disclose one's skills and abilities is important for every person, including those having the most limitations of their activity (Galkiene, 2005).

Conclusions

The key problems faced by the career specialists providing career services at schools of general education associate with a heavy workload, the procedure for payment for the work, the lack of cooperation among the career specialists and of involvement of community into provision of career services.

In the opinion of the career specialists, there is a lack of informational and methodological means which would correspond to the special needs of the pupils, their age groups, the sizes of the groups. The variety of means by individual subjects is also poor. There is a lack of measures for development of knowledge of career possibilities and of the competences for integration on the labour market, as well as for self-awareness.

Career specialists working in general education schools actualize the following needs: an information database containing all available informational, counselling, methodological material designated for the career specialist is required; psychological tests on the subjects of self-awareness and career which could be applied by career specialists themselves, without having psychological education; attractive, corresponding to the needs of modern labour market and of the students, video material designated for career education.

For improvement of qualification of the career specialists of general education schools, experience-based training, and counselling events are requested. The demand for counselling events is expressed by the freshmen, and the need for experience-based training comes from the experienced career specialists. The main qualification improvement subjects associate with the analysis of future profession and the labour market, with provision of career services for the children with special needs and for their parents. The need for improvement of the foreign language has also been expressed.

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THE PROBLEM OF ALCOHOL ABUSE IN THE FAMILY AND LOW ECONOMIC STATUS AS DETERMINANTS OF YOUTH RISK BEHAVIOR

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Abstract. *Objectives: The text presents research on the impact of alcohol problems occurring in the family on the manifestations of youth's risk behavior. Methods: The study was conducted among Polish youth attending junior and senior high schools, as well as their parents. In total, 150 people participated in the study. The study was conducted on the basis of the questionnaire addressed to parents, elaborated by us and the Social Maladjustment Scale developed by Lesław Pytka, addressed to young people. The aim of the study was to find out whether the problem of alcohol abuse observed in at least one parent/guardian and - resulting from that - low economic status of the family determine the risk behavior of young people. The study focused to these risky behaviors that are most often manifested by young people, i.e. physical aggression, verbal aggression, alcohol consumption, truancy and excessive sexual behavior. In order to perform statistical analysis, the IBM SPSS statistical program was used. Results: the study confirmed out suppositions that alcohol abuse in the family has a significant impact on the manifestations of adolescent risk behaviors, but this significance has not been fully confirmed for all variables. However, the low economic status of the family only determines selected risk behavior of young people.*
Keywords: *alcohol abuse, alcohol consumption, economic status, family, risky behavior (physical aggression, verbal aggression, truancy and excessive sexual behavior).*

Introduction

A family with an alcohol problem is not a proper environment for the development and education of children and adolescents. The characteristic features spotted there are: chaos, disorganization, emotional instability, high levels of conflict, difficult marital and family relationships, aggression, violence (Polak, Puttler, & Ilgen, 2012, p 827-836); also poor social and living (economic) conditions can often be found there (Qin, Agerbo, & Mortenson, 2003, p 765-772; Christoffersen, Poulsen, & Nielsen, 2003, p. 350). In a family with an alcohol problem, there are also disturbed its basic functions, including the most basic ones, such as: parental, marital, socialization, caring or economic (Przybysz-Zaremba, 2018, p 92); as a result, there come out many disorders in the behavior of children and young people. Many studies indicate that a family with an alcohol

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problem is becoming a "high risk family" for adolescents (Loukas, Fitzgerald, Zucker, & Krull, 2003, p 119). Researchers argue that the conflicts prevailing in the family that are the cause of alcohol abuse by one of the parents result in the increase in disorders in the behavior of young people; these may manifest themselves, among others in sadness, depression, anxiety, withdrawal from contact with peers (Preuss, Schuckit, Smith, Barnow, & Danko, 2002, p 235); in depressive disorders, low self-esteem, low resistance to experienced stress (Haverfield & Theiss, 2016, p 606-616); such children (youngsters) are also more likely to attempt suicide and exhibit suicidal behavior (Głowiński, Bucholz, Nelson, Fu, Madden, Reich et al., 2001, p 1300-1307; Pisinger, Hawton, & Tolstrup, 2018, p. 201-208). According to T. Mackrill and M. Hessea (2012, p. 343–348), children of parents who abuse alcohol are at risk to easier reach for alcohol, cigarettes, legal highs and drugs (Przybysz-Zaremba, 2013, p 145-164). These children have also been found to be more likely to exhibit aggressive behavior, truant and earlier take sexualized initiations (Annang, Lianb, Fletcher, & Jackson, 2014, p 225-237).

The cited studies refer only to two factors related to the family, i.e. the alcohol problem occurring in the family and its low economic status, which to a greater or lesser extent affect the manifestations of risk behavior of young people. There are many different pathological factors in the family (e.g. alcohol and drug problems, aggression, violence, suicidal behavior, etc.), as well as those with no signs of pathology (e.g. poor social and living conditions of the family, economic migration, lack of communication in the family, neglect in raising children and young people, excessive professional activity of parents, lack of parental control, etc.); it is relatively easy to see that each of the above-mentioned situations may also contribute to the manifestations of risky behavior. These factors are often integrated with each other, hence it is difficult to clearly indicate which of them clearly contribute to the indicated risk behavior of young people. In addition, the family is affected by many macro-social factors that may determine the presence of an alcohol problem in it, which in turn may determine its low economic status.

Methodology of the research

The aim of the study was to find out whether the problem of alcohol abuse by at least one parent and the low economic status of the family determine the risk behavior of young people. The study analyzed the significance of the correlation between at least one parent's alcohol abuse and low family economic status, and adolescent risk behavior such as physical aggression, verbal aggression, alcohol consumption, truancy and excessive sexual behavior. The study used the questionnaire addressed to parents elaborated by us and the Social Maladjustment Scale (SMS) developed by Lesław Pytka (2005) addressed to young people. The

survey questionnaire consisted of 37 questions about getting to know the family of the respondents and factors inherent in the family, which may determine the risky behavior of young people. The scale of Pytka's social maladjustment, addressed to young people, consisted of six parts (subscales):

1. family maladjustment (FM),
2. peer/peer maladjustment (P/PM),
3. school maladjustment (SM),
4. antisocial behavior (AB),
5. accumulation of adverse biological factors (BF),
6. accumulation of adverse socio-cultural factors (SC). The study used subscale 4 related to antisocial behavior displayed by adolescents (AB). This subscale refers to such behaviors as: lies, verbal and physical aggression, drinking alcohol (alcoholization), truancy, excessive sexual behavior, escaping from home, thefts, self-aggression, disclosed crime. The significance of the correlation was examined between alcohol abuse by at least one parent, low economic status of the family and the following variables: verbal and physical aggression, drinking alcohol, truancy, and excessive sexual behavior. The above-mentioned variables obtained the highest percentage rate in the study. For statistical analysis, the IBM SPSS statistical program was used. The empirical material presented in this paper is only a small part of the research conducted as part of a scientific seminar-based research, supervised by me.

The whole research counted 150 participants: 75 of them were junior and senior high school students in Poland and exactly the same number (75) covered their parents. The whole survey was conducted in the years 2017-2018.

Research data analysis

In the opinion of the researched parents, the most-risky behaviors of the youngsters were: drinking alcohol (75%), truancy (56.7%), verbal aggression (5.4%), physical aggression (7.9%), and excessive sexual behavior (18, 3%).

Risky behavior of young people is influenced by a number of different factors embedded in their living and functioning environments. Among others, one should indicate school environment here, where such factors as: conflicts with teachers, and/or other peers, learning problems, lack of regular attendance at classes, etc. were found (Przybysz-Zaremba, 2018, p 5-26). However, the most important environment in which young people live is the family and a whole range of various factors (that are often integrated with each other) can be determined here as well. Researchers often point to pathological factors, such as the problem of alcohol abuse in the family, as well as factors that do not have signs of

pathology, such as the low economic status of the family. Obviously, these factors do not always determine the risky behavior of young people.

Alcohol abuse by at least one parent / guardian

Statistical analysis has shown that alcohol abuse by at least one parent has a significant impact on the risk behavior of young people, but not on all types. Studies have revealed that the correlation between alcohol abuse by at least one parent and alcohol consumption by adolescents was .023 – what makes it a low positive correlation. An increase in one variable is accompanied by an increase in the other. This means that the more often parents abuse alcohol, the more often their children (pupils) reach for alcohol. We can speak of a clear, but small relationship. While analyzing the significance of the correlation between alcohol abuse by at least one parent and verbal aggression of youth, the Pearson's correlation between these variables found there was .396. This is again a low, but clear correlation. It can be concluded that the abuse of alcohol by parents slightly increases the likelihood of verbal aggression by young people. At the same time, the correlation between the variable of alcohol abuse by at least one parent and physical aggression of adolescents was established at -.073, what indicates a moderate negative correlation, although the relationship is significant. This means that the increase in one variable (i.e. alcohol abuse) is accompanied by a decrease in the value of the other variable (i.e. physical aggression). This is a result that was not expected in research by us.

Considering the correlation between alcohol abuse by at least one parent and the variable truancy of adolescents, a moderate positive correlation of .061 was noted. This relationship is significant. This also means that alcohol abuse by at least one parent increases the likelihood of truancy by young people.

The variable excessive sexual behavior displayed by young people was also subject to statistical analysis. Pearson's correlation between alcohol abuse by at least one parent/ guardian and the variable indicated above was .136, which shows its weak positive value, but which also reveals no linear relationship between these variables. The relationship is irrelevant here.

Low economic status of the family

The low economic status of the family may determine the risky behavior of young people. Statistical analysis showed that the low economic status of the family correlates with alcohol consumption by young people at the level of .118. This means that the correlation is weak positive, and therefore almost insignificant. Thus, the low economic status of the family slightly increases the likelihood of alcohol being drunk and consumed by the surveyed youth. The

correlation between the low economic status of the family and physical aggression of young people was. 265, what indicates a positive low correlation. On this basis, it can be assumed that the low economic status of the family slightly increases the likelihood of manifestations of physical aggression in adolescents (similarly to the variable 'drinking alcohol by adolescents'). The variable verbal aggression manifested by youth was also subject to statistical analysis. The correlation between the low economic status of the family and the indicated variable was at the level of -050, which indicates a significant relationship. This means that the low economic status of the family reduces the likelihood of verbal aggression in the surveyed youth. In this hypothesis no such correlation was expected. Positively, but at a low level, the low economic status of the family correlates with the truancy manifested by young people. The correlation was at .246; this relationship is clear, but small. Thus, the lower the economic status of a family, the higher the frequency of truant youth attendance. The last of the analyzed variables is the low economic status of the family and excessive sexual behavior displayed by young people. Studies have shown that the correlation between these variables was at the level of .161, being recognized as almost insignificant. Based on this, it can be assumed that the lower the economic status of the family, the less often the researched youth either exhibit different forms of excessive sexual behavior or does not exhibit them at all (the assumed hypothesis has not been confirmed).

To sum up, the low economic status of the family correlates most strongly with physical aggression and the truancy displayed by young people. However, in the case of drinking alcohol by young people, expressing verbal aggression and undertaking sexual behavior, the examined variable does not matter much.

Table 1 ***Results of the statistical analysis (own elaboration)***

Risky behavior of youth	Pearson correlation *r*	
	Alcohol abuse by at least one person in a family	Low economic status of the family
Alcohol abuse by the youth	.023	.118
Physical aggression	-.073	.265
Verbal aggression	.396	-.050
Truancy	.061	.246
Excessive sexual behavior	.136	-.059

Source: own study based on research.

Conclusions and discussion of research

Pathological behavior in the family, which undoubtedly includes the abuse of alcohol by parents, determines many problems and dysfunctions of the family, children raised in such families being primarily included. The conducted research

indicates that the more often parents abuse alcohol, the more often adolescents (pupils) reach for alcohol. This observation was also confirmed by the researches done by Przybysz-Zaremba, (2014), or Cannavò, Santi, Grecò, Laganà, (2009) among others. This situation looks similar in the case of aggressive behavior of young people; the family environment in which the alcohol problem occurs has a significant impact on the manifestations of aggressive behavior of young people. Although in this study the correlation between these variables was low but clear (in the case of verbal aggression) and negative, but moderate (in the case of physical aggression), many studies (Clark, Lutke et al., 2004; Przybysz-Zaremba, 2017; Siudem, 2013), indicate that the pathological family environment is destructive to the development and upbringing of both children and youngsters. The problem of alcohol abuse in the family (recognized in at least one parent) increases the likelihood of truancy by young people, which has been confirmed in many previous studies. However, this cannot be said for the manifestations of youth's excessive sexual behavior. Studies have shown that Pearson's correlation *r* between alcohol abuse by at least one parent/guardian and excessive sexual behavior of the adolescents remains weak but positive (what has been assessed as insignificant). This may be due to a lack of interest among young people in this type of risky behavior.

The low economic status of the family may determine the risky behavior of young people (Przybysz-Zaremba, 2017, pp. 137-148; Qin, Agerbo, & Mortenson, 2003, pp. 765-772), but in the case of the research discussed here no significant correlation between the indicated variables was discovered. Studies have shown that the low economic status of the family slightly increases the likelihood of young people reaching for alcohol and/or getting involved in various forms of physical aggression. In this case, an important role may be played by such factors as, for example, the individual, his/her personality, attachment to the family, proper communication with the parent, obtained support and/or help from the family.

On the other hand, the low economic status of the family has a significant impact on truancy of young people, while it reduces the likelihood of verbal aggression and their complete lack of significance for excessive sexual behavior. Truancy of young people may be associated with a lack of control and supervision by parents who, due to the poor social and living (economic) conditions of the family, are forced to undertake many professional activities and sometimes migrate in order to look for a better-paid job. Current research confirms that excessive professional activity or professional migration leads to many problems and disorders in the behavior of children and/or adolescents coming from such families. They manifest themselves in the form of excessive dropping out of classes without justification (truancy), deviant disorders, manifestations of various types of risky behaviors, or depression disorders (Przybysz-Zaremba,

2017, pp. 260-275; Abas et al., 2013, pp. 226-234; Kozak, 2010). The lack of significance related to verbal aggression and excessive sexual behavior by young people may result from the personality of the individuals, their character, approach to life and skills related to problem solving, and perhaps with a stronger impact of the factors customarily recognized as protecting family, school or the individual. Research indicates that such factors as: warmth, support, emotional closeness of parents with children, tenderness and sensitivity to problems and needs of children and adolescents are the main factors protecting young people from manifesting risky behavior (Hou, Wu, & Liu, 2013, p. 1387- 1398). These components build the further life of young people – deciding who they will become in the future.

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JĒDZIENA "ĢIMENE" IZPRATNES PAPLAŠINĀŠANA MŪSDIENU SABIEDRĪBĀ

Implementation of the Concept of "Family" in the Modern Society

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Abstract. *There is a continuous debate in the public space on the need for a legal framework for the partnership institute to ensure equal legal security for the family, regardless of the existence or non-existence of the legal fact of its foundation. The fundamental aspects of the debate include the insufficient regulatory framework and vulnerability of partners before the law, divergent national views on partnerships as a union between opposite-sex partners, religious beliefs condemning non-marital relationships, including the existing property issues in the context of partnerships. According to the Author of the Paper, the existing partnerships in Latvia are discriminated in favour for the marriage due to the moral views and legal aspects, as the individual living in the partnership is restricted in terms of access to information and is vulnerable in terms of property rights. For example, when an individual lives in the partnership, he or she is denied the right to be informed about the health status of the other partner and the existing liabilities in credit institutions. In cohabitation, the individual is not recognised as a member of the family of the tenant for the purpose of the Law on Residential Tenancy and the potential consequences of the partnership may be the denied right to inheritance or tenancy. Main methods used: sociological method for analysing the compliance of laws and regulations with public interests and aims.*
Keywords: *education, family, law, marriage, partnerships.*

Ievads
Introduction

Publiskajā telpā joprojām turpinās plašas diskusijas par jēdziena "ģimene" mūsdienīgu izpratni un partnerattiecību institūta tiesiskā regulējuma nepieciešamību, lai nodrošinātu vienlīdzīgu tiesisko drošību ģimenei neatkarīgi no tās dibināšanas juridiskā fakta. Tēmas aktualitāti nosaka sabiedrībā esoši atšķirīgie morālie uzskati par partnerattiecībām. Pēc darba autores domām Latvijā partnerattiecības un attiecīgi tajās dzīvojošie partneri tiek diskriminēti.

Lai pilnībā izprastu jēdziena "ģimene" izpratnes attīstību un partnerattiecību koncepta būtību, autore vēlas analizēt ģimenes un laulību nozīmi Latvijā.

Raksta mērķis ir analizēt ģimenes jēdziena izpratnes attīstību, norādot uz atsevišķiem tiesiskiem problēmjautājumiem mūsdienu sabiedrībā.

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Pētījuma izstrādei ir izmantot dokumentu analīze – tiesību aktu, kā arī tiesību doktrināro pētījumu analīze.

Ģimene mūsdienu sabiedrībā
Family in modern society

Ģimenes vērtību nostiprināšana primāri sākas pašā ģimenē. Ģimenes un sabiedrības atbildīga pilsoņa apziņu apgūst izglītības iestādē, kur ciešā sadarbībā vecākiem ar izglītības iestādi jāveido atbildīgi, apzinīgi, patriotiski pilsoņi.

Tiesībsargs Juris Jansons akcentē: "ir pienācis laiks, lai politiķi respektētu faktu, ka ievērojama sabiedrības daļa izjūt vajadzību sakārtot ģimenes jēdzienu valstiskā līmenī. Es aicinu skatīties plašāk – tas nav tikai viendzimuma pāru jautājums, tas skar ievērojamu daļu sabiedrības. Latvijas realitāte ir tāda, ka vairāk nekā puse bērnu dzimst ģimenēs, kurās vecāki nav laulāti. Nav mazums situāciju, kur cilvēki izvēlas veidot ģimeni, ja gribat, saucat to par mājsaimniecību, jo tā ir ekonomiski izdevīgāk. Piemēram, pie manis uz konsultāciju reiz atnāca divas kundzes, kuras, lai nodrošinātu cilvēka cienīgu dzīvi, dzīvoja kopā dzīvoklī, kas piederēja vienai, bet iztika no līdzekļiem, kas iegūti no otras kundzes mājokļa pārdošanas. Kā viens ģimenes juridiskā ietvara risinājums iespējams notariāli nostiprināts akts ar publisku paziņojumu Latvijas Vēstnesī, ka šie divi cilvēki sevi ir identificējuši kā ģimeni. (Latvijas Republikas Tiesībsarga atzinums pārbaudes lietā Nr.2018-38-26G). Raugoties no normatīvā regulējuma perspektīvas, ģimenes politika ir Eiropas Savienība dalībvalstu ekskluzīvā kompetencē. Tomēr Eiropas Savienība vienmēr ir centusies apzināt tās daudzveidīgo politiku ietekmi uz dalībvalstīm, to ģimenēm, ģimenes saitēm un ģimenes locekļu dzīves kvalitāti. Eiropas Savienības tiesībās jau ilgu laiku tiek ņemtas vērā ģimenes dzīves prasības un attiecīgās tiesības.

Satversmes tiesas priekšsēdētājas vietniece Sanita Osipova min, ka „valsts nevar piespiest personas slēgt laulību vai reģistrēt partnerattiecības, ja valstī tādas ir paredzētas. Tomēr šobrīd Latvijā rodas dažādas problēmas cilvēkiem, kuriem ir vai ir bijusi nereģistrēta kopdzīve. Spilgts piemērs ir kompensāciju izmaksa ģimenēm, kuru locekļi 2013.gada 21.novembrī gāja bojā, sabrūkot lielveikalam Rīgā, Zolitūdē, jeb "Zolitūdes traģēdijā". (Osipova, 2017) Fakts, ka nereģistrētajiem partneriem jātiesājas, lai saņemtu kompensācijas, nostāda nevienlīdzīgā situācijā. Autore piekrīt S.Osipovas teiktajam, ka valsts nevar piespiest pārus laulāties, tāpat arī uzlabojumi laulību slēgšanas procesā nemainītu pašreizējo situāciju.

Saskaņā ar Satversmes 89. pantu valsts atzīst un aizsargā cilvēka pamattiesības saskaņā ar Satversmi, likumiem un Latvijai saistošiem starptautiskajiem līgumiem. Starptautiskās cilvēktiesību normas un to piemērošanas prakse konstitucionālo tiesību līmenī kalpo par interpretācijas

līdzekli, lai noteiktu pamattiesību un citu vispārējo tiesību principu saturu un apjomu, ciktāl tas nenoved pie Satversmē ietverto pamattiesību samazināšanas vai ierobežošanas. (Satversmes tiesas 2017.gada 24.novembra sprieduma lietā Nr.2017-07-01 19.punkts, Satversmes tiesas 2018.gada 29.jūnija sprieduma lietā Nr.2017-28-0306 10.punkts). Satversmes ievada ceturtās rindkopas pirmajā teikumā ietverto konstitucionālo aksiomu: Latvija kā demokrātiska tiesiska valsts balstās uz cilvēka cieņu un brīvību. (Latvijas Republikas Satversme, 1993). Personas privātā dzīve ir tā cilvēka eksistences sfēra, kurā indivīds kā saprātīga būtne un demokrātiskas tiesiskas valsts augstākā vērtība realizē savu brīvību. Šī brīvības realizācija ir personas autonomijas un pašnoteikšanās izpausme, kas veido attiecīgās personas privāto dzīvi. (Satversmes tiesas 2019.gada 5.decembra spriedums lietā Nr.2019-01-01). Kā atzinusi Satversmes tiesa, tiesības uz privātās dzīves neaizskaramību nozīmē, ka indivīdam ir tiesības uz savu privāto telpu, tiesības dzīvot pēc sava prāta, saskaņā ar savu būtību un vēlmēm attīstīt un pilnveidot savu personību, tiesības veidot un attīstīt attiecības ar citiem cilvēkiem un ārpasauli, tiesības identificēties ar noteiktu sociālo grupu un veidot saziņu ar citiem cilvēkiem, iespējami minimāli ciešot no valsts vai citu personu iejaukšanās (Satversmes tiesas 2009.gada 23.aprīļa sprieduma lietā Nr.2008-42-01 9.punktu un 2017.gada 17.novembra sprieduma lietā Nr.2017-01-01 19.punktu). No Satversmes ievada piektās rindkopas otrā un trešā teikuma izriet tas, ka ģimene ir saliedētas un solidāras sabiedrības pamats. Ģimene ir sociāla institūcija, kas balstās uz sociālajā realitātē konstatējamām ciešām personiskām saitēm, kuru pamatā ir sapratne un cieņa. (Satversmes tiesas 2019.gada 5.decembra spriedums lietā Nr.2019-01-01).

Diskusijas sabiedrībā izraisa fakts, vai jēdziens „laulība" un „ģimene" ir interpretējami plašāk un attiecināmi ne tikai uz ģimeni, kuras pamatā ir laulība, bet arī uz faktiskajām ģimenēm.

Būtiski atzīmēt, ka laulības tiesību institūts ir attīstījies vairāku simtu gadu laikā un joprojām turpina attīstīties, ar ko var izskaidrot, ka pēdējos gados palielinājies nereģistrēto laulību skaits un ārpus laulības dzimušo bērnu skaits. Tā, piemēram Īrijā, 2018.gadā bija noslēgtas 21 053 laulības, tai skaitā 664 viendzimuma laulības, no kurām 372 bija vīriešu savienības un 292 - sieviešu savienības. (Central Statistics Office, 2019). Autores skatījumā šī pieeja, Īrijai atzīstot partnerattiecības un ļaujot reģistrēt viendzimuma laulību, nodrošinājusi iespēju aizsargāt netradicionālu ģimenes modeli.

Ārija Vitte uzsver, ka „stabilas laulības ir jebkuras sabiedrības labklājības pamats. Tādēļ noturīgu un ilgstošu laulības attiecību izveidošanā un pastāvēšanā ir ieinteresēta gan valsts, gan sabiedrība. Savukārt laulības šķiršana ir jāuzskata par šīs labklājības izjaukšanu." (Vitte, 2005). Autore piekrīt Ā. Vittei un uzsver, ka laulība tiešām ir Latvijas valsts pamatvērtība, ko apstiprina arī Satversmes 110.pants, Civillikuma Ģimenes tiesību daļa, citi tiesību akti. Latvijā ir veikti

vairāki pētījumi no dažādiem skatupunktiem (diskriminācija, pamattiesību un sabiedrības attieksme) par partnerattiecībām, viendzimuma attiecībām un citiem ģimenes kopdzīves modeļiem.

Pētījuma (Latvija ģimenes paaudzēs, 2018) analītiskais ziņojums liecina, ka "statistika kopdzīves uzsākšanas vidējais vecums ir samērā nemainīgs starp paaudzēm - vīrieši sāk dzīvot kopā ar partneri vai sievu vidēji 24 gadu vecumā, kamēr sievietes - 22 gadu vecumā. Savukārt partnerattiecību veids mainās būtiski starp paaudzēm, palielinoties nereģistrēto attiecību skaitam un samazinoties reģistrētām laulībām. Šobrīd vairāk nekā četras piektdaļas no jaunākās paaudzes pārstāvjiem sāk dzīvot kopā ar partneri bez attiecību reģistrācijas." Minētais liecina, ka jauniešu attieksme pret partnerattiecībām ir liberālāka, līdz ar to būtu svarīgi jau agrīnā vecumā (tostarp arī izglītības iestādē) informēt par dažādo ģimeņu modeļu esamību un to tiesībām demokrātiskā valstī.

Civiltiesībās ir tā tiesību nozare, kas nosaka ģimenes locekļu tiesības un pienākumus. Neskatoties uz to, ka valsts kopuma ir reglamentējusi bērnu un vecāku tiesības, tomēr katra ģimenes locekļa izaicinājums ir sabalansēt darbu ar bērnu audzināšanu un attiecību veidošanu. Pētījumā "Dzīves meistarība un informācijpratība" tiek uzsvērts, ka partnerattiecībās dzīvojoši lielākā daļu pāriem trūkst zināšanas par grūtībām, kas var rasties krīzes situācijās. Tiek norādīts, ka "tas liecina, ka laulību neslēgšana valsts skatījumā tiek pozicionēta kā ģimeņpratības trūkums, ko iespējams novērst, informējot par riskiem un sekmējot laulību procesa atvieglojumus". (Korpa & Mileiko, 2017)

Ģimenei un pedagogiem ir liela loma bērnu izpratnes veidošanā, lai nodrošinātu jaunās paaudzes izglītošanu ir nepieciešama visu pušu sadarbība un vēlme iesaistīties. Ievērojamais attīstības solis izglītības jomā ir izglītības satura pārskatīšana. Lai paaugstinātu izglītības kvalitāti, veicot satura pilnveidi, viens no izglītības politikas rīcības virzieniem – īstenot uz sabiedrībā pieprasītām kompetencēm orientētu, radošu, inovatīvu un veselīga dzīves veida veicinošu izglītības saturu. (Izglītības attīstības pamatnostādnes 2014. – 2020. gadam, 2014, 1.1.punkts). Pamatnostādnēs paredzēto uzdevumu un pasākumu plāna 5. uzdevums paredz cilvēkdrošības mācību materiālu izstrādi arī tādos jautājumos, kā dzimumu līdztiesība, gatavošanos ģimenes dzīvei un morāles jautājumu apguve, kā arī cilvēku tirdzniecības un fiktīvo laulību risku apzināšanās un to novēršanas apguvi.

Izpētot Ministru kabineta 2014.gada 12.augusta noteikumus Nr.468 "Noteikumi par valsts pamatizglītības standartu, pamatizglītības mācību priekšmetu standartiem un pamatizglītības programmu paraugiem" konstatējama jēdziena "ģimene" sašaurinātas izpratne - laulība un ģimene tradicionālā nozīmē. "Mācību satura apguve ir nepietiekami fokusēta uz dzīves darbībai un 21. gadsimtam svarīgu zināšanu, prasmju un ieradumu apguvi. Vienlaikus pedagogi atzīst, ka, īstenojot spēkā esošo pamatizglītības standartu, mazāk laika

un uzmanības tiek pievērsts analītiski kritiskajam, morālajam un estētiskajam aspektam. Digitālā satura un tā patēriņa straujā attīstība, jaunas saziņas platformas, informatīvās telpas drošības mazināšanās (neuzticamas, maldinošas informācijas riski) norāda uz nepieciešamību mācību saturā pievērst uzmanību jaunām vai līdz šim mazāk akcentētām zināšanām, prasmēm". (Ministru kabineta 2018. gada 27.novembra noteikumu Nr. 747 "Noteikumi par valsts pamatizglītības standartu un pamatizglītības programmu paraugiem" projekta sākotnējās ietekmes novērtējums (anotācija), 2019). Turklāt noteikumu izstrādes gaitā ir mēģināts līdzsvarot izglītības programmu arī ar Latvijas Republikas Satversmes Ievadā pausto, lai normatīvais akts atbilstu arī sabiedrības vajadzībām. Līdz ar to 2020.gada 1.septembrī stāsies spēkā Ministra Kabineta 2018. gada 27.novembra noteikumi Nr. 747 "Noteikumi par valsts pamatizglītības standartu un pamatizglītības programmu paraugiem", ko paver jēdziena "ģimene" plašākā nozīmē integrāciju mācību procesā.

Ģimenes jēdziens Latvijas un starptautiskajos aktos
The concept of family in Latvian and international acts

Latvijas Republikas Satversmē noteikts, ka "valsts atbalsta un aizsargā laulību - savienību starp vīrieti un sievieti, ģimeni, vecāku un bērnu tiesības [...]." (Latvijas Republikas Satversme, 1993) Vienas no tiesībām, kas ietvertas Satversmes 110.pantā, ir ģimenes tiesības uz īpašu valsts atbalstu un aizsardzību (Satversmes tiesas 2005.gada 4.novembra sprieduma lietā Nr.2005-09-01 8.punktu). Turklāt valstij ir jāaizsargā ikviena ģimene (Satversmes tiesas 2016.gada 27.jūnija sprieduma lietā Nr.2015-22-01 13.punktu). Satversmes tiesa, konkretizējot Satversmes 110.panta pirmo teikumu kopsakarā ar starptautiskajos cilvēktiesību dokumentos ietvertajām normām un to piemērošanas praksi, ir atzinusi, ka valstij ir pienākums nodrošināt ģimenes sociālo un ekonomisko aizsardzību (Satversmes tiesas 2005.gada 4.novembra sprieduma lietā Nr.2005-09-01 8.2.punktu un 2018.gada 15.februāra sprieduma lietā Nr.2017-09-01 9.punktu). No Eiropas Sociālās hartas normām izriet valsts pienākums veicināt ekonomisku, sociālu un arī juridisku ģimenes aizsardzību (Satversmes tiesas 2006.gada 2.novembra sprieduma lietā Nr.2006-07-01 13.4.punktu).

Arī Apvienoto Nāciju Organizācijas Vispārējā Cilvēktiesību deklarācijā kā sabiedrības pamatšūniņu un institūtu, kam ir tiesības baudīt sabiedrības un valsts aizsardzību, definē ģimeni, nosakot pilngadību sasniegušu sieviešu un vīriešu tiesības stāties laulībā un dibināt ģimeni. (ANO Vispārējā cilvēktiesību deklarācija, 1948). Viena no ģimenes dzīves formām, ko personām ir iespējams izvēlēties laulības vietā, ir ārpus laulības kopdzīve, kas ir savienības forma starp vīrieti un sievieti, viņiem dzīvojot kopā nenoslēgtā laulībā. (Beinaroviča, 2015)

Atsevišķi ārvalstu tiesību zinātnieki pauž arī tādu viedokli, ka laulība var tikt definēta kā juridiski atzīta, uz mīlestību balstīta, garīga un fiziska vīrieša un sievietes savienība, kuras mērķis ir radīt un audzināt bērnus. (Gordejuk, 2017) Tiesību doktrīnā laulība tiek apzīmēta kā laulība – līgums, laulība – statuss, laulība – partnerība. (Get'man-Pavlova, 2013) Savukārt Oksfordas juridisko terminu vārdnīcā tiek sniegti divi "laulība" skaidrojumi. Proti, laulība tiek skaidrota kā attiecības starp sievu un vīru, kā arī, kā civiltiesiska vai reliģiska ceremonija, kuras rezultātā tiek nodibināts laulāto juridiskais statuss un no tā izrietošās saistības. Līdztekus šajā avotā ietvertajā laulības skaidrojumā ir norāde, ka laulība var tikt reģistrēta arī starp personām, kurām ir atšķirīgas domicila valstis *(domicile of origin)*, jeb starp dažādu valstu pilsoņiem. (A Dictionary of Law, 2018)

Ja analizē starptautiskajos tiesību aktos noteikto, tad Eiropas Savienības Pamattiesību hartā tiek uzsvērts, ka ikvienam ir tiesības stāties laulībā un tiesības veidot ģimeni, ko garantē ar valsts tiesību aktiem, kas nosaka šo tiesību izmantošanu. (ES Pamattiesību harta, 2016) Jau pieminētajā, Apvienoto Nāciju Organizācijas Vispārējās Cilvēktiesību deklarācijas 16.panta 3.punktā ģimene tiek traktēta kā dabiska sabiedrības pamatšūniņa, kurai ir tiesības uz sabiedrības un valsts aizsardzību. (ANO Vispārējā Cilvēktiesību deklarācija, 1948) Arī Apvienoto Nāciju Organizācijas Bērnu tiesību konvencijā tiek uzsvērts ģimenes nozīmīgums. Tiek norādīts, ka ģimene, kas ir sabiedrības pamatšūniņa un visu tās locekļu, it īpaši bērnu, izaugsmes un labklājības dabiskā vide, ir jāsaņem nepieciešamā aizsardzība un atbalsts, lai tā varētu pilnīgi uzņemties sabiedrības uzticētos pienākumus. Tāpat konvencijā tiek atzīts, ka bērniem, lai viņi varētu pilnīgi un harmoniski attīstīties kā personības, jāaug ģimenē, laimes, mīlestības un sapratnes gaisotnē. (ANO Bērnu tiesību konvencija, 1989).

Tikmēr Apvienoto Nāciju Organizācijas Cilvēktiesību komiteja atzīmē, ka ģimenes koncepts atsevišķos aspektos dažādās valstīs un pat vienas valsts dažādos reģionos var atšķirties un tāpēc nav iespējams sniegt standarta definējumu. Komiteja uzsver, ka, ja personu grupu uzskata par ģimeni attiecīgās valsts likumdošanā un praksē, tai ir jāsaņem atbilstoša aizsardzība. Gadījumos, kad valstī pastāv atšķirīgas ģimenes - gan nukleārās, gan paplašinātās, tas ir jānorāda, izskaidrojot aizsardzības pakāpi, kāda tiek nodrošināta katrai no tām. Tāpat, ņemot vērā dažādu ģimenes formu eksistenci, kā, piemēram, nukleāri pāri un viņu bērni, vai arī vientuļi vecāki un viņu bērni, dalībvalstīm ir jānoraida arī, vai un kādā mērā šādas ģimenes atzīst un aizsargā nacionālā likumdošana un prakse. (Rokasgrāmata bāriņtiesām, 2019).

Arī Eiropas Cilvēktiesību tiesa ir atzinusi: pat nepastāvot bioloģiskai saiknei vai juridiski atzītām bērna un vecāka attiecībām, starp bērnu un personu, kas šo bērnu aprūpējusi, atkarībā no tā, vai viņi dzīvo kopā, viņu attiecību ilguma un kvalitātes, kā arī pieaugušā lomas attiecībās ar bērnu var pastāvēt faktiskas

ģimenes attiecības (Eiropas Cilvēktiesību tiesas 2010.gada 22.novembra sprieduma lietā „Moretti and Benedetti v. Italy", pieteikums Nr.16318/07, 48.punktu un 2012.gada 17.aprīļa sprieduma lietā „Kopf and Liberda v. Austria", pieteikumsNr.1598/06, 37.punktu). Ciešu personisku saišu pastāvēšana starp personām izriet no to noslēgtās laulības vai radniecības fakta, tomēr sociālajā realitātē ciešas personiskas saites rodas arī citos veidos, piemēram, faktiskas kopdzīves rezultātā. Ģimenes, tostarp faktiskas ģimenes, aizsardzība ietilpst Satversmes 110.panta tvērumā. Tādējādi Satversmes 110.pantā ir ietverts valsts pienākums nodrošināt ģimenes juridisko aizsardzību, citstarp ieviešot tādu tiesisko regulējumu, kas nosaka ģimenes attiecību tiesisko ietvaru.

Secinājumi
Conclusions

1. Aplūkojot jēdzienu "laulība" un "ģimene" izpratnes attīstību, jākonstatē, ka, tā izpratne dažādos laikos ir bijusi atšķirīga. Latvijā sākotnēji par ģimeni uzskatīja tikai un vienīgi laulībā veidotu kopdzīvi, līdz ar to samērā bieži laulību un ģimene uzskata par sinonīmiem (kas ir juridiski neprecīzi) Šobrīd "ģimenes" izpratne transformējas Eiropas Savienības tiesībās un Latvijas normatīvajos aktos jēdziena "ģimenes" izpratne atšķiras.
2. No Satversmes 110.panta izriet, ka Valsts pienākums radīt sociālos apstākļus ģimeņu atbalstīšanai un bērnu tiesību ievērošanai.
3. Līdzšinēja izglītības saturā dominēja šaurākā jēdziena "ģimene" izpratne. Jaunais izglītības saturs paver jēdziena "ģimene" plašākā nozīmē integrāciju mācību procesā.
4. Izveidot informatīvus materiālus un rīkot diskusijas par Satversmes tiesas spriedumos paustajām atziņām par jēdziena "ģimenes" izpratni mūsdienās, kas novērstu dažādu problēmjautājumu rašanos nākotnē, kur ir arī iesaistīti bērni.
5. Pedagoģiskajā darbā, lai radītu ģimenes jēdziena izpratni, mācību procesa ietvaros pievērst uzmanību ģimenes modeļu esamībai mūsdienu sabiedrībā, kas sekmētu dažādo sabiedrības locekļu pieņemšanu.
6. Bērna spējas socializēties un adoptēties skolā var tikt ietekmētas netradicionālo ģimeņu esamības gadījumā.

Summary

There are partners in each country who have chosen permanent cohabitation outside of marriage, although they have no legal or any actual barriers to marriage. It is up to each country to decide whether to recognise and regulate such relationships or not. The Republic of Latvia is facing a similar choice. Latvia, like other countries, is trying to find out the necessity and proportionality of such a regulation, as well as its topicality. In Latvia, law scientists, students,

lawyers and researchers have conducted a number of studies in civil partnerships to determine the need. The duty of the State to provide legal protection to the family requires a legal framework that establishes and maintains the legal framework for family relationships existing in social realities by defining the personal and property relationships of the participants in those relationships. Families and educators play an important role in raising awareness among children, and collaboration between the parties and the willingness to get involved is needed to ensure the education of the next generation.

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THE CONSTRUCTION OF THE CONCEPT OF HOME IN THE EXPERIENCES OF HOMELESS PEOPLE

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Abstract. *This paper analyses the construction of the concept of home on the basis of subjective experiences of homeless people. Home as a social construct is revealed by analysing experiences of 5 homeless people. Based on the subjective experiences of homeless people, a qualitative research revealed that safe and private home is one of the main needs of people experiencing homelessness. The construction of home is based on past events and the experience of the reality of the past: the childhood home and created constructs of home, safety and independence as well as certain feelings and emotions. The participants of the research are people experiencing homelessness.*
Keywords: *homelessness, homeless people, home, construction of the concept of home, experiences of homeless people.*

Introduction

Homelessness is a widespread phenomenon in our society. Regarded as the most profound social exclusion, homelessness affects the stages of the existence of every person: it has impact on the identity, relationships, physical and mental health of a person (Sniečkienė & Dulinskienė, 2014). Homelessness is perceived as a housing problem, closely related to one of the basic needs of people experiencing homelessness, which only increases with age (Sadauskas, 2008). People who do not have a permanent and stable place of residence often spend the night in stairwells, basements, or district heating tunnels. Having no place to live, homeless people lose their sense of self-worth and their ambitions, which leads to the feeling of futility when people become less active and do not take care of themselves.

In 2018, the new law on the declaration of the place of residence came into force. In accordance with Article 6, of the Law on the Declaration of the Place of Residence of the Republic of Lithuania (*Valstybės žinios* (Official Gazette) No. 21693), for a maximum term of 12 months, homeless people are entered, according to a municipality in which they reside, into the records of people who have not declared their place of residence. However, after 12 months, in order to

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register in the municipality, these people must provide the address of their actual place of residence and information on their economic, social and personal interests to a declaration institution of the territory of the municipality. In accordance with Article 3 of the Universal Declaration of Human Rights, everyone has the right to life, liberty, and security of person. One of the fundamental rights of a person is to have a home; however, homelessness violates human dignity, independence, and fundamental rights of a person.

Home is a place of meaning and value formation, where people can realize their needs and feel loved, safe, and respected. Home is the foundation of stability, physical security, and welfare (Sadauskas, 2014).Pursuant to Article 2.12 of the Civil Code of the Republic of Lithuania, (*Valstybės žinios* (Official Gazette) No. 74-2262), a place of residence of a person is a domicile of that person: "Being an expression of person's relationship with the state or part of its territory, domicile of a natural person shall be that state or its part, in which he permanently or ordinarily resides, regarding that state or its part to be the seat of his personal, social and economic interests." Home as a social construct is the creation of private world of every person, in which the reality of home is created on the grounds of the ideal of home that a person has. The conception of home is constructed through phenomenological dialectics and the dynamics of social relations in processes. It is assumed that both homelessness and home are social and ideological constructs.

This research focuses on the meaning of home in the experiences of homeless people. The aim of the research is to reveal the meaning of home in the experiences of homeless people. To achieve the aim of the research, the following research question was formulated: How do people experiencing homelessness construct the concept of home?

Home as a social construct

The understanding of homelessness incorporates a complex and systematic term, that of 'home' (McCarthy, 2018). In positivist models, the terms 'home' and 'homelessness' are interrelated; therefore, the term 'homelessness' can be understood as its literal translation – the lack of home. Home is the most urgent social and economic problem faced by people these days. The concept of home encompasses a physical space, which is understood as a place where human relations and human meaning are created and unfold and as a place where a person finds meaning and value (Tamošaitis & Daujotytė, 2008). Home is a place where people are welcomed, loved, respected, where they can feel safe and realize their needs. As pointed out by Martinaitis (2007), for a person, home is a place of birth and family formation, which is closely related to the development of new values and the continuity of the family. A person's relationship with home is much deeper than it is assumed (Jonutytė, 2001). Home also covers the circle of life. It is at home that a

person is born, matures, raises children, and eventually dies. Without home, a person may develop an inferiority complex, so home for a person is always something to strive for (Tamošaitis & Daujotytė, 2008).

Sadauskas (2008), Kaponienė and Mikulionienė (2004) analyse the living conditions and behaviour of homeless people and investigated causes of homelessness that lead to the social exclusion of people experiencing homelessness. Kocai (2008) examines theoretical issues of homelessness as the social phenomenon and presents different categories and forms of homelessness focusing on the process and stages of becoming a homeless person. Sniečkienė and Dulinskienė (2014) provide social policy for the homeless. In addition, the researchers describe social services and the organization and development of social services in Lithuania. Somerville (1992) analyses the meaning of home in homelessness in order to explore and identify various aspects of the meaning of home and homelessness and explain the political significance of the phenomenon of homelessness, which is expressed in official definitions, legislation and national provisions.

A significant proportion of people experiencing homelessness spend the night anywhere, and only a very small part of them spend the night in storehouses, tents, basements, or district heating tunnels. A house is a clearly privileged being in which a special value of intimacy is perceived. According to Steward (2000), living space is the changing meaning of the mode of life, which expresses a broader sense of theory, locus, identity, and social belonging and often reveals a person's historical past.

Brueckner, Green, and Saggers (2011) provide a different perspective on the meanings of home. For example, psychological interpretations of home are closely related to security, control, independence, personal status, and stability that areprovided and ensured at home. Home is also described as the center of family life, a place of rest, safety, relaxation and freedom, independence, self-expression, and privacy. The authors (2011) state that, besides shelter, belonging and control provided by home, homeless people also seek social and cultural belonging. Somerville (1997) agrees that in literature, meanings of home differ greatly: on the one hand, in psychological and phenomenological terms and, on the other hand, in sociological terms. There are three key concepts that encompass the meaning of home: privacy, which includes visual–spatial relationships; identity, manifested through psychological relationships; and familiarity, which is related to social relationships. Somerville (1997) maintains that our understanding of home is constructed both through the phenomenological dialectics and the dynamics of social relations in processes that can be divided into separate phenomenological and social components.

Home is a social construct. As observed by Berger and Luckmann (1999), human expressivity takes the form of various products of human activity, which can be objectivated and understood as elements of a common world available for the

creators themselves and other people. There is no way of knowing what home actually exists outside these ideological structural boundaries. Home as a social construct is constructed by a man through language. Berger and Luckmann (1999) state that, as a system of vocal signs, language is "the most important sign system of human society." Understanding language is an essential prerequisite for understanding the reality of everyday life. The detachment of language is determined by its capacity to convey meanings that are not direct expressions of subjectivity.

According to Somerville (1992), a person constructs home by providing certain keywords. For example, shelter corresponds to material conditions, hearth corresponds to emotional and physical well-being, warmth and cosiness at home. The heart signifies social relations, love, and care. The image of subtle home is based on the relationship of mutual love and support. Roots correspond to a sense of individual identity and a source of identity and meaningfulness. As regards the source of identity and meaningfulness, there exists a position in the structure of social relations that is based on a broader cultural and linguistic meaning, which, in turn, creates a broader meaning that reveals the social structure of individual human beings. The keyword 'paradise' corresponds to the ideal of home created by a person in his/her dreams. As claimed by the author (1992), home refers to a material form while, in terms of physical structure, home is seen as a place providing protection. By viewing home as paradise, all positive features of home are idealized and combined.

Berger and Luckmann (1999) believe that it is through language that an entire world can be actualized. Language is capable of bringing back symbols abstracted from everyday experience and turning them into objectively real elements of everyday life. According to Somerville (1992), it can be assumed that these do not constitute the real meaning of home as each individual creates his/her own private world, which is inaccessible and non-existent to other individuals. There is no clear boundary between what is real and what is ideal, as, for example, ideal meaning associated with home is expressed in terms of what home should look like. Every person to some extent shapes the reality of his/her home according to his/her ideal of home.

In conclusion, both home and homelessness are complex and multifaceted concepts. Moreover, home and homelessness are ideological and social constructs. As maintained by Somerville (1992), these concepts combine cognitive and emotional meanings, and these meanings encompass complex and variable differences between what is ideal and what is real. Home and homelessness are considered as being socially constructed both as imaginary ideals and as experienced and intellectual reality.

The accessibility of social services for homeless people

Pursuant to Article 3 of the Law on Social Services of the Republic of Lithuania (Official Gazette) No. 17-589), social services are the services aimed at providing assistance to a person (family) who, by reason of his/her age, disability, social problems, partially or completely lack, have not acquired or have lost the abilities and possibilities to independently care for his/her private (family) life and to participate in society. The objective of social services is to create conditions for a person to develop or to enhance the abilities and possibilities to independently solve his/her social problems, maintain social relations with society, overcome social exclusion, and participate in social life.

Anderson (2010) states that the provision of services for people experiencing homelessness should focus on the needs of potential service users and should support pathways out of homelessness, but not make homelessness more tolerable. According to Anderson (2010), the range of services provided for homeless people and their needs can be identified straightforwardly; however, the provision of these services is not straightforward. In Lithuania, homeless people can have access to social services, which are classified in the Catalogue of Social Services (2006) into two types according to their characteristics. General social services are provided without permanent assistance by specialists to a person who seeks to develop his/her abilities to independently care for his/her private or family life and to participate in society. These services are provided in service institutions or in a person's home, and they include information, counselling, mediation and representation, organization of catering, provision of necessary clothes and footwear, organization of personal hygiene services, organisation of transportation, social and cultural services, and other social services. Meanwhile, special social services include all social services that are provided in cases when general social services are no longer sufficient. The objective of special social services is to restore a person's ability to take care of him/herself or a member of his/her family, to satisfy vital needs and, by providing complex services, integrate a person into society. Special social services are divided into social attendance and social care. Social attendance means the totality of services aimed at providing a person with complex assistance in social service institutions or at home, which does not require permanent attendance by specialists.

Ivanauskienė and Gončiarova (2017) note that it is the state that should ensure the provision of high-quality and effective services to homeless people and the preservation of their rights and dignity. As maintained by Busch-Geertsema and Sahlin (2007), hostels are the main place of the provision of services for people experiencing homelessness in all European countries. According to the authors (2007), until the development of a clear policy to mitigate and solve the problem of homelessness, hostels may perhaps be regarded as the oldest institution for homeless

people. A hostel is a non-residential establishment that provides overnight stay or temporary accommodation for homeless people. In the Catalogue of Social Services (2006) clearly defines the services of overnight stay and temporary accommodation provided in hostels. These services are provided to individuals on the basis of their personal individual characteristics: age, gender, social risk, psychological status, etc. When providing services of overnight stay and temporary accommodation for homeless people, hostels cooperate with addiction treatment centers, mental health centers, social services centers, healthcare institutions, etc. The service of temporary accommodation includes general and special social services provided for individuals who either do not have permanent residence or, even if they have it, cannot benefit from it because of violence or abuse they experience.

The objective of the provision of the services of temporary accommodation is to assist individuals experiencing social exclusion in the complex and consistent process of adaptation and integration into society. Together with temporary accommodation, a person is provided with home environment, essential services, and conditions for independent living. Moreover, in addition to accommodation services, individual activities are offered to recipients of the services. The aim of these activities is to prepare individuals for independent living and encourage them to look for a place of residence, employment opportunities, etc. The service of temporary accommodation is provided for individuals who do not have a permanent place of residence or are in a crisis situation; thus, they are provided with accommodation and complex assistance.

Busch-Geertsema and Sahlin (2007) claim that the purpose, access and physical form of hostels and temporary accommodation vary from country to country and change over time. In many countries, the perception of the role and value of hostels and temporary accommodation has changed. As observed by Sadauskas (2010), counselling and psychological as well as emotional support provided by social workers help homeless people to revive social relations and find inner motivation. Busch-Geertsema and Sahlin (2007) believe that hostels facilitate the provision of social assistance. Hostels are perceived as a form of community where people experiencing homelessness can communicate with each other. However, at the same time, hostels provide protection and control since, in these places, the behaviour, health, and personal contacts of individuals are under control. In addition to services provided by hostels, homeless people can also benefit from services provided by non-governmental organisations. Evangelista (2010) did a study of definition of home and revealed that in most cases government policies are focused on financial issues, rather than to the entitlements to people. Cronley (2010) discussed homelessness in the framework of social problems within society, but an author did very important conclusion that only when structural problems such as unemployment or poverty will be connected with personal problems only than interventions and services will be effective.

Research methodology

A qualitative study was chosen to reveal the research object. Homelessness as the research object has received little scholarly attention in research on social work; thus, this field of research has not been widely and systematically studied. In order to reveal the construction of the concept of home in the experiences of homeless people, the semi-structured interview method was used to collect research data. During the research, the order of the prepared questions was not followed; the questions were freely swapped to address the situation. The research was based on convenience sampling. The sample was drawn up from the most accessible unit, in cooperation with one of the day centers for homeless people established in one of the largest cities in Lithuania. The survey was conducted between November 2018 and February 2019 and included 6 people experiencing homelessness. For the selection of the research participants, demographic and experience criteria were applied. As for demographic criteria, only male participants aged 30–50, complying with the criteria for family, social, economic status and homelessness experience were invited to participate in the research. As far as the criterion of experience is concerned, only participants who are homeless and do not have a permanent place of residence were invited to take part in the research. After identifying the criteria, in total, 6 participants were purposefully selected for the research.

Characteristics of the research participants were as follows:

1. The research participant Andrius (the name has been changed) is 48 years old, divorced, has a secondary education, and 20 years of service. He maintains a close relationship with his son, who lives abroad. Andrius suffers from alcohol addiction.
2. The research participant Ovidijus (the name has been changed) is 45 years old, divorced, has a secondary education, and 11 years of service as a lifeguard. He has been experiencing homelessness for three years. Because of serious injuries, Ovidijus is unemployed. He maintains a close relationship with his mother, who is struggling in her life. He has no more relationships with the immediate environment. He served a long period of imprisonment. Ovidijus suffers from alcohol addiction.
3. The research participant Marius (the name has been changed) is 35 years old, divorced. He has been a homeless person for 3 years. He does not maintain any relationship with his immediate environment. Marius is unemployed. He suffers from alcohol addiction and health problems associated with it.
4. The research participant Edgaras (the name has been changed) is 45 years old, divorced, and has a secondary education. He has been a homeless person for almost 3 years. At the meantime, Edgaras is unemployed. His mother is dead, and, since childhood, he has not had any contact with this

biological father. Edgaras maintains a closer relationship with his daughter and grandchildren. He lives in a hostel. Edgaras suffers from alcohol addiction.

5. The research participant Gintaras (the name has been changed) is 49 years old, has a secondary education, has no work experience as he served a long period of imprisonment. Gintaras is unmarried, has two children, who live in England. He does not have any close contact with his children and the immediate environment. For 20 years, he has experienced homelessness. Gintaras suffers from alcohol addiction.
6. The research participant Henrikas (the name has been changed) is 40 years old, has a secondary education, and, for a long time, worked as a driver. He is unmarried, has a son, who lives in Germany. Henrikas does not maintain a close relationship with his son and his immediate environment. Currently, he is staying in a hostel. He has been homeless for two months. Henrikas does not suffer from alcohol addiction.

The research was based on the ethical principles described by Flick (2014) and the principles of the Code of Ethics of Social Workers. To be more specific, during the research, the inherent right and dignity of the research participants were respected; the work was done with honesty, impartiality, reliability, and empathy with respect to the participants; the confidentiality of data obtained about the research participants and responsible use of the data for writing the article were ensured. With the consent of the research participants, the interviews were recorded on a voice recorder. The longest interview took 39:49 minutes, whereas the shortest, 17:59 minutes. When collecting data, the participants were approached in a polite manner, they were encouraged to speak freely and not to be afraid to dream. All this was done in order to provide more comfortable conditions for the research participants. The collected research data was analysed on the basis of general steps of data analysis distinguished by Krysik and Finn (2010): conceptualisation of data; creation and development of history; maximisation of accuracy when validating findings and publishing research findings.

Research results

The meaning of home in homelessness. Homelessness literally means the lack of home. Sadauskas (2008) notes that home is the basis for stability, physical security, and welfare. Home is one of the basic needs of people experiencing homelessness, which only increases with age. Tamošaitis and Daujotytė (2008) state that today it is the most urgent social and economic problem faced by humans. People who do not have a permanent and stable place of residence, according to Sadauskas (2008), often spend their nights in stairwells, basements, or district

heating tunnels. The analysis of the research data showed that home in homelessness is a key concern, when a homeless person has no choice but sleep in abandoned buildings or hostels.

As pointed out by Vosyliūtė (2015), only a small number of homeless people spend the night in stairwells, basements, or district heating tunnels. For example, Gintaras (49 y/o) finds shelter in a stairwell, where he has a blanket, a pillow, and a sleeping bag. The research participant states:

> *...Now I spend more time in the stairwell. Almost throughout the whole winter. As that woman knows me, she does not throw me out. Other neighbours have not noticed yet…they know that there is someone here. …one day they came in the morning, knocked, and said: 'Take the tea.'...I was even surprised! ...So, in such places I spend my time. I don't know how much I will stay here… [Gintaras, 49 y/o]*

During the first weeks of homelessness, Henrikas (40 y/o) lived in stairwells, where sleeping was difficult and uncomfortable. As noted by the research participant Henrikas (40 y/o), the main criteria when searching for a stairwell include: no lock, no door code, but it should have a radiator. The research participant Henrikas told the following:

> *So, you sit down on the stairs, and you need to find a stairwell there, so that you could enter it because most of stairwells are locked nowadays…a radiator in a stairwell would also be a plus…you simply lean yourself against the radiator and sleep. Your butt hurts, excuse the saying, and those legs are constantly bent as you can't stretch them. You put some newspaper on those stairs…So you somehow stretch the leg…. But actually, you are noticed and that's all. [Henrikas, 40 y/o]*

Kocai (2017) observes that homeless people do not have constant places to stay. However, the analysis of the research data revealed that people experiencing homelessness tend to stay in the same stairwells longer because they are acquainted with those places and know that it is safe there. Andrius' (48 y/o) home in homelessness is seasonal. In summer, the research participant sleeps in a tent, which is dismantled in the morning and safely locked in a supermarket locker. As the evening approaches, he sets up the tent again. In winter, the research participant spends nights in places where he could hide from the cold. Andrius (48 y/o) says:

> *... in summer… you have a tent. Well, when it's warm in summer, you can sleep in a tent. I have my own tent. I set it up and then dismantle it. I get up in the morning, dismantle my tent and bring it to the supermarkets "Maxima" or "Iki" and lock it the supermarket locker. Then, in the evening, I come and take it and set it up and sleep in it at night. …in winter…well, I sleep in a basement or somewhere else…in hallways or somewhere in stairwells. ... you won't sleep outside in winter. It's really cold outside in winter. [Andrius, 48 y/o]*

As noted by Vosyliūtė (2005), a large proportion of homeless people spend the night anywhere. In the course of the analysis of the research data, it was observed that people experiencing homelessness also have permanent places where they find shelter. Abandoned houses are the most common permanent living places for homeless people. The research participant Ovidijus (45 y/o) finds shelter in an

abandoned house in Savanorių prospect. The house is entered through the roof. There is a bed in this house, but it is very cold there, even colder than outside. The research participant is happy that, even it is cold there, at least it does not rain inside and the wind does not blow. As he tells himself:

> *…there is a board up house at the end of Savanorių prospect. Actually, at the beginning of it! The house is board up so I enter it through the roof. There is a bed there…It's very cold there, really very cold! It's colder there than outside! But you are protected from rain, snow, and wind. [Ovidijus, 45 y/o]*

Marius' (35 y/o) permanent living place in homelessness is a guard cabin without any amenities. When asked what is in the cabin, the research participant mentioned a bed, a table, and a cupboard:

> *Once it was a guard cabin. …A bed, a table, and a cupboard. That's all you can find there. [Marius,35 y/o]*

Other research participants use services provided by hostels. Hostels, according to Busch-Greetsema and Shalin (2007), are an essential element of services provided for homeless people in all European countries. A hostel is a non-residential establishment that provides services of overnight stay or temporary accommodation for homeless people. Hostels also provide protection and control. The research revealed that homeless people use services provided by hostels in order to avoid living on the street or in abandoned buildings. Homeless people state that they have no choice but use services of temporal accommodation. The research participant Edgaras (45 y/o) speaks openly:

> *It seems to be a forced thing…I have no other choice. I'm sure, in summer, I would go somewhere in the forest, and I would sleep somewhere under the bushes… [Edgaras, 45 y/o]*

Henrikas (40 y/o) also uses services provided by the hostel. However, when asked to tell a little bit about the hostel, he was reluctant to speak, only mentioned that there was a room and six beds there:

> *Well, a room and six people... [Henrikas, 40 y/o]*

The analysis of the interview data of Henrikas (40 y/o) and Edgaras (45 y/o) revealed that they receive services of temporary overnight stay. In accordance with the Catalogue of Social Services (2006), this social service can be used once for up to three days. It can therefore be presumed that home in homelessness is the most urgent problem. In homelessness, home is divided in the following way: non-permanent places of residence, which include life in stairwells, basements, corridors, or parks; permanent places of residence, such as abandoned buildings or hostels, which ensure temporary night stay or temporary accommodation for people who do not have permanent place of residence, and in these places they can protect themselves from living on a street.

Construction of a dream home. Home, like homelessness, is a social construct that is constructed through language, which, according to Bergen and Luckamn (1999), enables us to actualize the world. As observed by Steward (2000), living space is associated with the meaning of the changing mode of life, which often

expresses a person's historical past. Somerville (1997) notes that there are different approaches to the meaning of home, such as psychological, phenomenological, and social approaches. The author (1997) argues that every person constructs home by using specific words. The analysis of the research data revealed that, when talking about the construction of a dream home, the research participants divided into two groups: one group of the participants constructed their dream home on the basis of past stories and dream ideals, whereas the other group of the participants constructed their dream home through imaginary ideals.

For the research participant Ovidijus (45 y/o), a dream home is a flat where he would live with his family that would bring happiness and love:

> *A flat...even of one room…well, but if I had more than one child, then, obviously, one room wouldn't be enough. …The most important thing is to have a family! … [Ovidijus, 45 y/o]*

The construct of the dream home of the research participant Ovidijus (45 y/o) is based on the reality experienced in the past. It can be maintained that a dream home is constructed on the basis of one's childhood home in the past. The research participant told the following:

> *This was truly home full of love! Everyone loved me there…I lived in a free-room flat. Five people lived in the flat. …One room was for me and my grandpa. My grandma lived separately, and my parents had a separate room. I had good life there, really good life! [Ovidijus, 45 y/o]*

It can be noticed that the research participant Ovidijus (45 y/o) associates his childhood home with love and family, which provided the basis for living safely with the loved ones. The research participant Gintaras (45 y/o) is dreaming of owning a small but tall house, which he associates with freedom and independence. The research participant states:

> *It can be small. Several rooms…Tall…A private small house, a private yard, a pond…flowers blooming everywhere…But I know that a cop won't come, and that a soldier won't trample my grass with his boots…. [Gintaras, 45y/o]*

As observed by Gintaras, a dream home should be located in a remote and quite area:

> *It would be better if the house was a kilometre away from the city. So that we could enjoy peace. Not far from, for example, a forest. … [Gintaras, 45 y/o]*

The research participant Gintaras (45 y/o) also constructs his dream home on the basis of past stories related to the serving of the sentence in prison. When constructing his dream home, the research participant Gintaras (45 y/o) expresses his experience of the past in the following words:

> *But I know that a cop won't come, and that a soldier won't trample my grass with his boots [Gintaras, 45 y/o]*

Henrikas (40 y/o) is dreaming about his home very timidly, but, encouraged not to be afraid to dream, he told that he wanted to own a private house with a yard:

> *A flat would be fine for me. Of course, a house would be better. Well, as for me, I don't need…a house of two floors, it is too big. …Well, of course, I would like to have a private*

yard, so to say, to go out in summer and to barbecue…Well, you can wish for many things [Henrikas, 40m.]

When asked about what the house should contain and how it should look like, the research participant said that he wanted to have a clean home and live in it with his family:

…I would like to have a clean and tidy home. A woman, of course, and a family…Work. That's all what I need. [Henrikas, 40 y/o]

Henrikas (40 y/o) is also constructing his dream home on the basis of his imagination. When talking about home, he clearly highlights cleanliness and order. The research participant says:

Well, I really liked luxury, I liked my home to be kept clean and in order. My home used to be clean, so to say…Well, my home used to be an ordinary tidy home. [Henrikas, y/o]

It can be assumed that the construction of home is influenced by past experiences and present reality. This can be seen in the stories told by the research participants and in the comparisons that they made. The research data show that the construction of a dream home is associated with the childhood home and also with the created images of home. Other research participants construct their dream home on the basis of imaginary ideals and their own idea of home. In this case, the construct of a dream home does not relate to experiential ideals and past stories. For instance, Andrius' (48 y/o) construct of a dream home is associated with an image of a fairy tale or an ideal home. According to Somerville (1997), an ideal home conveys a material form of a home together with its positive characteristics. The research participant Andrius is dreaming of a two-storey house with a large yard, two garages, a garden, and a summer house:

...my dream home...I would like to have in Kaunas. Let's say, in Žaliakalnis district. To have a two-storey house. A beautiful house, of course! To have two garages in the yard and a summer house. Plus, a greenhouse, to grow cucumbers or tomatoes…of course, to have a good and beloved girlfriend…and a dog in the yard. The dog should be a wolf dog, only a wolf dog! And…there should be a kennel for the dog…Well, in my dreams, I have such a fairy tale house...and warmth should be felt in my home…there should be a garden, several apple trees and pear threes…my dream house has a large yard… [Andrius, 48 y/o]

In his dream house, Marius (35 y/o) would like to have everything that a person needs most: a bed, a closet, and a TV set. He says:

Well, a bed, a table, a closet, a TV set. That's all that I need….I don't need apartments. I don't need it. I am an ordinary person; I don't need it. [Marius, 35 y/o]

Encouraged not to be afraid to dream, the research participant states that if he could afford it, he would like to have a summer house near Kaunas, so that there would be good public transport connections.

Well, if I could afford it...a summer house…but somewhere near Kaunas. So that there would be a bus to this direction. [Marius, 35y/o]

The research participant Edgaras (45 y/o) is dreaming about a small and cosy log village house:

...a privately owned house, such as a village house, a wooden, log house, very cosy…and small, of course. [Edgaras, 49 y/o]

When asked about what that village house should contain, the research participant mentions a fireplace. According to Somerville (1997), a fireplace symbolizes emotional and physical well-being and provides warmth and cosiness to home. The research participant also adds that his home should contain rustic attributes:

A fireplace, it gives a lot of cosiness to home. Probably that is one of the elements…in the yard…well, you could build a small bathhouse and dig a pond, so that you could swim in it…all these attributes, very rustic… [Edgaras, 45 y/o]

When inquired about where his dream house should be located, Edgaras (40 y/o) answers that in the forest or by the river:

In the forest, of course! In the forest or by the river. … [Edgaras, 45m.]

Thus, as the research data show, homeless people construct their dream homes on the basis of past stories, present reality and imaginary ideals. Those research participants who construct their dream home on the basis of past stories or present reality, actually refer to difficult and painful stages of their life. The construction of a dream home, in the same way as the creation of a private and authentic world of each individual, is based on different ideals of home. The research data revealed that the research participants are dreaming about small and minimalist but safe homes.

The construction of the word 'home'. Home, according to Tamošaitis and Daujotytė (2008), is a place of human meaning and value, which is not only a physical space but also a place where human relations and human meaning are created and unfold. The authors state that home is a place where a person is welcomed, respected, loved, where he/she feels safe and can realise his/her needs. Studies carried out by Somerville (1997) revealed the main meanings of home: home is seen as the center of family life and as the place of rest; home is associated with safety and relaxation, freedom and independence, freedom of expression, continuity and permanence, etc. The analysis of the research data shows that the meaning of the word 'home' for homeless people is associated with love and warmth, comfort and fortress, property, security, and freedom. Home for the research participant Andrius (48 y/o) is a place where people do not feel homeless, and, because of this, they do not waste their time and do not need to vagabond. According to him, it is a place where people can feel warmth and love:

A home…you can come home and you…you don't need to wander on the streets and vagabond…You come to your own home, not to a stairwell…so, a home is a place where you can live…as a person who is loved, as an ordinary person. Like all those people who live with love…live with love and warmth...You live in warmth…and you don't feel that you are homeless or whatever…your own home, and you live in it, and you own it. So, this is what I call home. [Andrius, 48 y/o]

Comfort and fortress, "My home, my fortress!". This is how the word home is understood and described by the research participant Ovidijus (45 y/o). According

to the research participant, it is a feeling of inserting the key into the lock, it is when a person can lock or unlock the door, when he/she goes to bed and realizes that he/she is at home. Ovidijus says:

> *Comfort. Fortress! No wonder that it is said, "My home, my fortress!" When you come home, and you can put the key in the lock and lock the door…You lie down, and you know that…you, you are at home…When you can feel relaxed. When you know that it's your corner, and you have it…No one will throw you out. [Ovidijus, 45 y/o]*

The word 'home' is also understood as property. For Marius (35 y/o), home is a place where a person can sleep and eat, and where a person can feel calm and peaceful because he/she knows that it is his/her own property:

> *When you know that you can come, and you know that you have a place to sleep and eat. And you know that it's yours. Well, I don't know, such a place is probably called home. [Marius,35 y/o]*

Safety. For the research participant Edgaras (45 y/o), the word 'home' means safety and confidence for future, and it gives rise to positive feelings, such as peace, trust, and safety. In his opinion, home is an essential thing for any human. Edgaras notes:

> *Safety. First of all. Some assurance for future…that you have something that belongs to you; you have your own roof over your head. That's an essential thing. [Edgaras, 45 y/o]*

Gintaras (49 y/o) associates the word 'home' with the second heart. Home, for him, is a place where a person can feel free and can rest without any disturbance. Gintaras says:

> *…it's impossible to live without a roof over your head. To have a home is the same as to have the second heart!...It is very bad when a person doesn't have a home. But when you have a home, you can go out, you can work if you need, then come back home, and no one gets on your nerves…you feel free. You turn on the TV, read a newspaper or a book. And you know you can rest and not be disturbed!... [Gintaras, 49 y/o]*

For Henrikas (40 y/o), the word 'home' means safety and property. Home, according to him, is a place where you can get a good night's sleep and where no one will throw you out. Henrikas says:

> *…if you have a home, you have a place to come, so to say, and get a good night's sleep; no one will throw you out of that place or tell you anything…you are a master to yourself…. [Henrikas, 40m.]*

When asked if a home is a place where a person can feel safe, the research participant answered 'yes'. For him, this place is associated with warmth and comfort. Henrikas notes:

> *It's a warm and cosy place.When you want, you open the door or close it. [Henrikas, y/o]*

To sum up, homeless people have different understandings of the word 'home'. Some of them associate it with safety and independence, for others, 'home' means love, warmth, comfort, and fortress. However, similarities can be noticed in the answers provided by all research participants. The research data revealed that home

is a place where a person can come back and have a good night's sleep, where he/she can eat and realise that it belongs to him/her and that he/she is a master of this place.

Conclusions

A safe and privately-owned home is one of the most important needs of people who experience homelessness. Homeless people often spend their nights anywhere; therefore, home for a homeless person is always something to strive for; it is a place where he/she could feel safe, loved, valuable and also satisfy and realise his/her needs. Home, like homelessness, is a social construct. The construction of the concept of home is based on past stories, experiential intellectual ideals, and imaginary ideals. Moreover, the concept of home is constructed on past events, experienced past reality, which is associated with the childhood home and created images of home. Every research participant constructs the concept of home in a different and distinct manner because every person creates his/her individual and private world following his/her own ideal of home or reality that is inappropriate to others. Homeless people have different understandings of home: for some, home means safety and independence; for others, it is associated with feelings and emotions. It can be concluded that homeless people view home as a place where they can return, have a good night's sleep, eat and feel that they are the masters of their own home.

The qualitative research revealed that people experiencing homelessness face not only challenges related to the satisfaction of their basic needs but also safety challenges. However, one of the main challenges faced by homeless people is the satisfaction of physiological needs, i.e. food, water, and a place of residence. Homeless people may feel unsafe because of assaults, abuses, and thefts that they face, which adversely affects their self-esteem, motivation and stability and which, in turn, makes them go downhill. As observed from the experiences of the homeless people, they can feel safe only when they can spend their nights at their friends' place.

Though, in this article the attention was focused only on the home as a social construction, the researchers, who are doing researches in this field may continue qualitative studies, aiming to reveal how the different type of addictions make influence that persons become homelessness. Also, good practices from the perspective of whose who are providing social services may be revealed.

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THE SPECIFICITY OF EMOTIONAL LABOR OF SOCIAL WORKERS HELPING CHILDREN

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Abstract. *The article presents the results of the study of the emotional perception of clients conducted among Russian social workers who help children. The research is based on the concept of the role of emotional labor in professional activities. At the same time, we proceed from the understanding that the content and volume of emotional labor depends on the type of clients of social workers: its specificity when working with children will not be the same as when working with adults. The results of the research show that social workers who help children have difficulties in regulating emotions when interacting with clients, and therefore in assessing children's actions and behavior. The results of the study show that the effectiveness of emotional labor of social workers helping children depends on the level of knowledge of the age characteristics of children and the pedagogical mechanisms of communicating with them. We conclude that we should pay more attention to the role of emotional labor in everyday social work with children.*
Keywords: *emotional labor, emotional perception of the client, social work with children, social worker.*

Introduction

The competent approach in personnel training, selection and evaluation of personnel, in contrast to other approaches, focuses on identifying certain characteristics (qualities) of the person that provide the ability to do something, successfully cope with individual tasks and activities in general (Gruzdev, Kasakova, Kuznetsova, & Tarkhanova 2018). The professional activity of the social worker is a manifestation of helping behavior. Helping behavior belongs

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to the category of the prosocial activity and includes any actions related to voluntary assistance or the intention to help other people regardless of the nature of its motives. Social assistance to children due to the high demands, special responsibility and emotional loads, potentially contains the danger of heavy feelings associated with dissatisfaction with professional activities and the probability of professional stress. Refusal of expression in communication with children and the ability to perceive the children's behavior through the prism of social assistance are heavy emotional labor. The ability to understand one's own feelings and manage emotions is now considered by many researchers as professionally important qualities of a social worker. We proceed from the understanding that these qualities are subjects to development in the course of professional activity, and this process forms the basis of the emotional labor of the social worker.

The purpose of this article is to study the emotional perception of children's by social workers, and on the basis of the specificity of this perception, the essence and content of emotional labor of social workers who help children are to be determined.

The object of the research: the process of emotional labor of social workers who help children.

The subject of the research: emotional perception of children's as the basis of the content of emotional labor of social workers who help children.

The theoretical positions

Effective social assistance requires effective interaction between the social worker and the client. In order to achieve the goals of social assistance, the social worker consciously control emotions, using them as a means of social interaction. When working with the client it is necessary to stay calm, it is unallowable to lose temper, even if the client causes the social worker to feel negatively, the social worker must be friendly even in situations of reaction to the anger and aggression of the client. Thus, during the working day the social worker repeatedly performs actions aimed at changing the intensity or qualitative characteristics of his/her own emotions, that is, the social worker does emotional labor.

In the end of the XXth century, the American sociologist A.R. Hochschild (1979) put forward the concept of the sociality of human emotions. Her research emphasizes that individuals know what emotions should be experienced/detected in a given situation. At the same time, the author claims that work on emotions is carried out within the emotional culture that is formed in society as a whole and in the group to which the individual belongs, in particular.

A. Hochschild describes two norms of the emotional culture of society: “feeling rules and display rules” (Hochschild, 1979). The first norm prescribes what emotions, of what intensity and duration should be experienced in this situation, the second norm dictates when and how emotions should be expressed. A. Hochschild notes: “When individuals follow the display rules, they are involved in surface acting, for example, we often “put on a smile” when it is required to greet a friend. With deep acting, the individual makes efforts to really experience the expected emotions; the author calls such efforts emotional labor” (Hochschild, 1979).

Emotional labor is an integral part of the professional activity, that is, it is a part of paid work. Emotional labor is especially noticeable in those professions that are characterized by “face to face” interaction, the desire to influence the worker's emotional state on the client's emotional state. In many ways, it is about caring professions, which includes the work of social workers. Specialists of the social sphere are encouraged to depict and experience the “right” emotions with the aim of influencing the client.

Hochschild (2003) believes that amount and intensity of emotional labor is increasing in modern society. Workers in accordance with the requirements of professional ethics suppress their real emotions and depict or excite the necessary emotions in order to improve the effectiveness of interaction with the client. It should be understood that when the expressed feelings regularly differ from the internal feelings, emotional dissonance is very likely, which has negative consequences, including those expressed in the form of emotional burnout. Hochschild (2011) believes that dissonance is an identity problem and reflects in her works on ways to overcome it.

In the modern understanding, “emotional labor reflects the action of different rules of feeling and different motivations that are regulated in social situations and relationships that are inextricably linked to the wider social context: institutions, power and the stratification system” (Bolton, 2009, p. 544).

In recent years, the notion of emotional labor within the framework of professional relations has significantly enriched: new variables, causes and aspects of these phenomena have been identified, new classifications have appeared (Taylor & Wingfield, 2010; Vandysheva, 2014; Kanasz & Zeilinska, 2017). Scientists clarify that this concept should not be applied to all kinds of occupations and professions and that for each labor context a detailed analysis of the factors affecting emotional labor is needed. One of such factors is the emotional perception of the client, which is natural: if the client is initially perceived positively, then the intensity of emotional labor is lower, if the client's perception is negative, the specialist has to make a lot of efforts to regulate his/her own emotional background, that is, to carry out intense emotional labor.

Materials and methods

A specific part of the emotional labor of the social worker who helps children is interaction with undisciplined children's. The intensity of emotional labor in this case depends on what the children are in the perception of specialists. The identification of the subjective image of the child who is in need of social assistance was carried out by us using the scales of the semantic differential.

The method of semantic differential (Osgood, 1976) is a modified procedure of subjective scaling. The respondent is asked to evaluate the object (children) with the help of the proposed set of pairs of adjectives. The respondent is asked to underline one word in each pair of adjectives, which, in his/her opinion, more characterizes the “object”: active – passive, strong – weak, good – bad, etc. A set of adjectives is bipolar (the respondent chooses one of two possible evaluation poles).

The research was conducted in January-March 2018, 62 social workers working in the services to help children in a difficult life situation took part in it. Sex of respondents is: 93% of women, 7% of men; work experience in social services is from 3 to 18 years. In follow-up personal interviews, we asked teachers to identify problems of interaction with children that require the most intense emotional labor.

To process the results of the research, methods of mathematical statistics were used: primary statistics, single-factor analysis of variance, factor analysis and correlation analysis. Data processing of the empirical study was carried out using the STATISTICA 6.0, statistical software package.

Results and discussion

Figure 1 shows the average profile of emotional perception of children's by social workers who participated in the study.

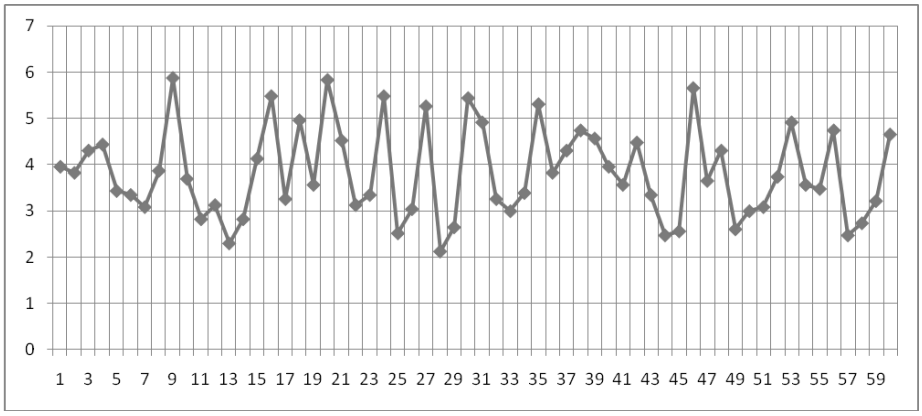

Figure 1 ***Profile of emotional perception of children's by social workers (X-axis-respondents, Y-axis-level of emotional perception of children)***

According to Figure 1, it can be concluded that the emotional perception of children's is mainly within the average values, which indicates a fairly calm attitude of most social workers to the traits of children. At the same time, on the profile it is possible to single out diagnostic points that indicate a more pronounced emotional reaction of specialists to certain traits of children's.

Thus, the following traits of children are perceived most emotionally: noisy, selfish, untidy, scatter brain, immoral, stubborn, indifferent, superficial, aggressive, anxious, rude, irresponsible. The rating of the emotional perception of these traits of children's is shown in Figure 2.

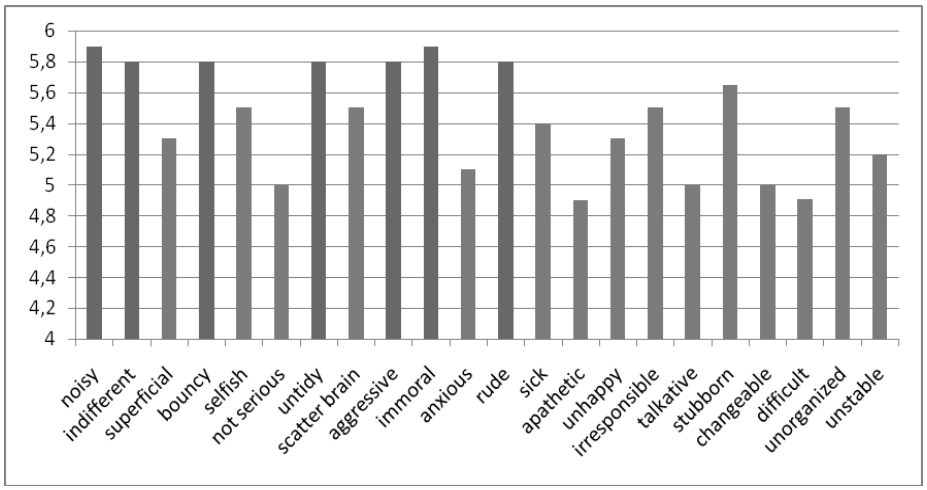

Figure 2 ***Rating of emotionality of perception of traits of children (X-axis - children's character traits, Y-axis-the level of emotional perception of children's character traits)***

As can be seen in Figure 2, the greatest emotionality is the perception of such traits as: noisy, indifferent, bouncy, untidy, aggressive, immoral, rude.

This creates difficulties for specialists in managing the emotional side of interaction, and can also create difficulties in establishing an emotionally warm atmosphere. The main difficulty experienced by social workers in their emotional labor is the establishment of a calm and friendly communication with children who have the above traits.

At the same time, the indicator “insider – outsider” on the average shows the expression vector towards the “insider” characteristic, although it has one of the highest dispersion coefficients, that is, the majority of the respondents perceive the children's as “insider”, but there are respondents, who noted high scores on the pole “outsider”. At the same time, children's are perceived as sick, unhappy, etc., so specialists generally do not have emotional rejection of children, there is an empathic attitude towards children's. This gives grounds to believe that the correction of some negative moments of a socio-psychological

nature in the relationship between social workers and their children's can be carried out with rather high efficiency.

The factor analysis was carried out to identify the factors that determine the perception of children by social workers.

The first factor (17%) is represented by negative characteristics of the children's image and can be interpreted as “Failure to meet the requirements of the adult”; it is expressed primarily in such characteristics of the state of children in which strict discipline is impossible.

Table 1 ***The factor “Inability to meet the requirements of the adult”***

Statements	Factor loads
stereotyped-creative	0,62
dependent-independent	0,60
superficial -wise	0,58
ordinary-unique	0,56
disharmonious-harmonious	0,50
serious-not serious	-0,79
cheerful-tired	0,77
attentive-inattentive	-0,76
resolute-irresolute	-0,71
active-inactive	-0,65
happy-unhappy	-0,65
tidy-untidy	-0,65
caring- indifferent	-0,62

If the social worker sees these traits in the children, he/she feels antipathy towards him/her and, accordingly, makes a lot of efforts to demonstrate friendly attitude. Such perception of children entails unbelief in the success of working with them; the specialist has a feeling of excessive difficulty in work, which means that dissatisfaction with work arises. At the same time, the negative perception of the children leads to mistakes in emotional labor and can lead to violations of pedagogical tact, bias in assessing the child's actions.

Table 2 ***Factor “Emotional safety of interaction with children's”***

Statements	Factor loads
hostile-friendly	0,64
cruel - kind-hearted	0,62
hard-responsive	0,62
harmful-harmless	0,55
dangerous-safe	0,51
cheerful-sad	-0,50
loving-hating	-0,58

The second important factor (15%) is represented by such characteristics of the children's' image, which relate to the possibility of emotionally safe interaction; do not threaten the violation of the internal emotional stability of the social worker. It can be interpreted as “Emotional safety of interaction with children's”.

The obtained data show that social workers, having sufficient professional competence and possessing the methods of emotional labor, can create conditions for the manifestation of the positive traits of children's. At the same time, interaction with them will be emotionally safe and comfortable for specialists.

And only in the third place (12%) the factor represented by positive characteristics of the children's image is, and it can be interpreted as “Emotional acceptance of the children”. This means that the child is emotionally perceived as a part of the specialist, close, pleasant.

Table 3 ***Factor “Emotional acceptance of the children”***

Statements	Factor loads
cruel - kind-hearted	- 0,59
outsiders-insiders	- 0,58
unpleasant-pleasant	- 0,57
incomprehensible- comprehensible	- 0,51
far-close	- 0,50
unstable-stable	- 0,48
evil-good	- 0,41
unorganized-organized	- 0,38
useless-useful	- 0,34
irresponsible-responsible	- 0,23
irritating-soothing	- 0,22

If the social worker sees these traits in the children, he/she feels sympathy for him/her and, accordingly, demonstrates a friendly attitude towards him/her. A friendly attitude towards a child is, first of all, respect for his/her personality, interest in his/her destiny, pedagogical optimism. It constantly manifests itself in the appeal to the children, in the process of using certain methods of pedagogical influence, such as request, encouragement, organization of success in learning, expectation of better results, persuasion, trust, etc. In this way the intensity of the emotional labor of the social worker is the smallest.

To correlate these problems with children's' perceptions, the correlation analysis was carried out using the rank correlation coefficient of Spearman, while a reliable critical value of 0.306 at a significance level of 0, 005 was taken into account.

The analysis of the correlation matrix showed that the emotionally negative perception of children's has a reliable connection with the allocation of discipline as the main problem (r=0.521, p=0.005). This situation can be based on a totalitarian understanding of the essence of pedagogical interaction: the child in the educational process is initially prescribed “what to be”, he/she is not accepted by social workers as he/she is, for totalitarian consciousness openly declares contempt for any non normality.

It was also established the relationship between the identification of specialists the problems of the organization of the therapeutic environment (establishing contact between social assistance subjects, involving parents in the rehabilitation process, creating opportunities for self-realization for children's, etc.) and emotional acceptance of children's (r=0.427, p=0.005). This dependence shows that if children's are emotionally perceived by social workers as close, pleasant, then there are no problems in interacting with them, establishing contact, organizing discipline (r = 0,371, p = 0,005). Social workers with this kind of perception of children are able to see the essential aspects of social assistance.

High correlation values are also noted between the lack of identification of problems (in the interview a part of the respondents stated that they have no difficulties in their work) and fixation of perception in the sphere of disbelief in the ability of children's (superficial, not serious, unstable, etc.) (r = 0.354, p = 0.005). In this case, one can conclude that a number of social workers do not believe in the success of social assistance to children, which results in the lack of desire to put their back into it and solve problems.

Also, emotional perception of the traits of children's, which relate to the possibility of emotionally safe interaction, and fixing problems in the field of negative traits in the children's (aggression, immorality, etc.) have high correlation values (r = 0.317, p = 0.005). Such specialists, as a rule, have in their activities a shift in emphasis towards dealing with demerits of the child instead of encouraging merits. At the same time, the technology of social assistance to children sets the task not “to fight with the bad”, but to find positive and develop it to such an extent that it will become an alternative to destructive behavior.

Conclusions about the dependence of the intensity of the emotional labor of the social worker on the pole of emotional perception of the client are confirmed by earlier studies. So Borgatta, Fanshel and Meyer (1960) proved that the perception of the client by the specialist directly affects the effectiveness of social work. Ashkanasy N. (2000) showed the role of emotions in professional activity.

N. Kader (2006) says that qualities such as empathy and sympathy for the client contribute to the full satisfaction of social workers with their professional activities, despite the high risk of stress and low material rewards.

Modern researches also prove this fact. For example, in the study of Roh, Chul-Young, Moon, Yang, Seung-Bum & Kwangho (2015), the determinants of the emotional labor of social workers in healthcare organizations were identified and it was concluded that managing emotions contributes to job satisfaction and burnout prevention of social workers.

O. Simonova (2017) proved that the analysis of emotional labor in the field of social assistance leads to a deeper and more complete understanding of its specifics and ethics of interaction with the client, helps to understand the importance of the moral mission of provision of social assistance to those in need.

The results of the study of T. Kanasz and I Zeilinska (2017) indicate that the skills of social workers used in managing emotions depend on three factors: the individual psychological characteristics of the social worker, the availability of institutionalized and informal support and professional experience. This conclusion does not contradict the results obtained by us, but we believe that the knowledge of the client's age and social and psychological characteristics, understanding the nature of the client's emotions, understanding the context of his/her life situation are no less important. This confirmed by our previous research (Tarkhanova & Koryakovtseva, 2018).

The conclusion of the need to train social workers the psychological bases of working with clients is confirmed in E. Kume's study (2016), in which such training is called one of the twelve most important factors of social workers' satisfaction with their labor.

Thus, our conclusions do not contradict modern researches in the field of social work.

Conclusions

The conducted research has shown that the intensity of emotional labor of social workers providing social assistance to children depends on their emotional perception of children's. If children are initially perceived emotionally positively by the specialist, then there is no problem in interacting with them, establishing contact, organizing discipline. If children's are perceived emotionally negatively, then the social worker is forced to spend a lot of effort in regulating his/her emotions, experiencing emotional dissonance, his/her emotional labor becomes very intense, which can lead to low job satisfaction and emotional burnout in the future.

Based on the results of the study, we can conclude that to reduce the intensity of emotional labor of social workers who provide social assistance to children, it is necessary to increase their professional competence in the field of

pedagogical communication, understanding the essence of age characteristics of behavior of children's, psychology of children in difficult life situations.

Summary

The relevance of the study is determined by the fact that social assistance to children potentially involved the danger of heavy experiences associated with dissatisfaction with professional activities and the probability of occupational stress. Refusal of expression in communication with children, the ability to perceive their behavior through the prism of social assistance, is a heavy emotional labor. Skills to understand own feelings and manage emotions today are considered by many researchers as professionally important qualities of the social worker. The purpose of this article is to study the emotional perception of children's by social workers and on the basis of the specifics of this perception to define the essence and content of emotional labor of social workers helping children.

The research is based on the concept of emotional labor of A.R. Hochschild, in which it is justified that the work on their emotions is an integral part of the professional activities of some professions, that is, it is, unfortunately, part of the labor that is lowly paid in Russia. Emotional labor is especially noticeable in those professions that are characterized by “face to face” interaction, the desire to influence their emotional state on the emotional state of clients.

A specific part of the emotional labor of the social worker who helps children is interaction with undisciplined children's. The intensity of emotional labor in this case depends on what the children are in the perception of the social worker. The identification of the subjective image of the child in need of social assistance was carried out by us using the scales of the semantic differential. The research was conducted in January-March 2018, 98 social workers working in the services to help children in a difficult life situation took part in it. Sex of respondents is: 93% of women, 7% of men; work experience in social services is from 3 to 18 years.

The conducted research has shown that the intensity of emotional labor of social workers providing social assistance to children depends on their emotional perception of children's. If children are initially perceived emotionally positively by the specialist, then there is no problem in interacting with them, establishing contact, organizing discipline. If children's are perceived emotionally negatively, then the social worker is forced to spend a lot of effort in regulating his/her emotions, experiencing emotional dissonance, his/her emotional labor becomes very intense, which can lead to low job satisfaction and emotional burnout in the future. Based on the results of the study, we can conclude that to reduce the intensity of emotional labor of social workers who provide social assistance to children, it is necessary to increase their professional competence in the field of pedagogical communication, understanding of the essence of age characteristics of behavior of children's, psychology of children in difficult life situations.

The findings do not contradict modern researches in the field of social work.

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SOCIĀLO DARBINIEKU UN RISKAM PAKĻAUTO JAUNIEŠU PERSONĪGO FINANŠU PĀRVALDĪBAS VAJADZĪBAS

Personal Financial Management Needs of Social Workers and Young People at Risk

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Abstract. *Social exclusion is widely recognized as having a lasting negative impact on quality of life and future opportunities. Many young people live in families at risk of poverty. One of the causes of social exclusion is the inability to manage personal finances. Social workers working with these young people may not always be able to help, as they often do not have sufficient knowledge on how to properly consult young people on their personal financial issues. In order to find out the needs of personal financial management, a case study involving social workers and young people from social exclusion groups was carried out with the financial support of Nordplus Horizontal programme. This article analyses data from a Latvian survey that reveals main reasons causing personal financial management problems, as well as ways to overcome them. The study also answers the question of what knowledge and skills, as well as methodological materials, are needed by social workers to support young people at risk and to develop their personal financial management skills.*
Keywords: *budgeting, financial management, money-saving skills, personal finances.*

Ievads
Introduction

Mūsdienās arvien svarīgāka kļūst spēja un zināšanas pārvaldīt personīgās finanses. To nosaka pasaules ekonomikas svārstības, pieaugoša inflācija, bezdarbs, ienākumu līmeņa samazināšanos u.c., kas apdraud indivīdu dzīves un darba kvalitāti (Taft, Hosein, Mehrizi, & Roshan, 2013). Katram cilvēkam ir ļoti svarīgi uzņemties atbildību un kontroli pār savu naudu, kas ietver ne tikai personīgo vai ģimenes budžeta veidošanu, bet arī uzkrāšanu un ietaupījumu veidošanu, ieguldījumus labākas nākotnes labā, finansiālo neatkarību, parādu pārvaldību un citus aspektus, kas saistīti ar personīgajām finansēm u.c.

Personīgo finanšu pārvaldība tiek definēta kā ienākumu kontroles un izdevumu organizēšanas process, izmantojot detalizētu finanšu plānu (Munohsam, 2015). Tai ir izšķiroša loma, ļaujot cilvēkiem pieņemt finanšu

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lēmumus, kas saistīti ar personīgo naudu, lai sasniegtu personiskos mērķus. Personīgos finansiālos panākumus nosaka indivīdu spēja pārvaldīt savus ietaupījumus, tēriņus un savu finanšu resursu ieguldījumus (Garman & Forgue, 2011).

Ir veikti vairāki pētījumu, kas pierāda personīgo finanšu pārvaldības pratības nozīmi. Piemēram, Joo (2008) atklāj, ka personīgo finanšu pārvaldība ļauj cilvēkiem kontrolēt savu finanšu situāciju un realizēt finansiālās drošības sajūtu, radīt labklājību un sekmēt finansiālo brīvību. "Personīgās finansiālās labsajūtas rokasgrāmata" aicina cilvēkus praktizēt labu finanšu pārvaldību, veidojot veselīgus finanšu paradumus vai praksi. Personīgo finanšu pārvaldības galvenais mērķis ir finansiālās drošības un neatkarības veicināšana, kā arī dzīves līmeņa uzlabošana (Joo, 2008).

Finanšu pārvaldība kā uzvedības kopums, kas ietver naudas pārvaldību, kredīta pārvaldību, finanšu plānošanu, ieguldījumus, apdrošināšanu, pensijas plānošanu un īpašuma plānošanu, kam nepieciešama izpratne par finanšu un ekonomikas pamatjēdzieniem, piemēram, procentiem un inflāciju, un dažu aprēķinu veikšana, riska izvērtēšana, izpratne par finanšu produktiem un spēja izvēlēties sev interesējošāko (Dowling, Corney, & Hoiles, 2009). Kļūdainu finanšu lēmumu pieņemšanu nosaka informācijas trūkums un finanšu analfabētisms (Delafrooz & Paim, 2011). Finanšu analfabētisms noved pie lielām saistībām, maziem uzkrājumiem, nepietiekamas nākotnes plānošanas (piemēram, uzkrājumi neparedzētiem izdevumiem, piesardzības ietaupījumi iespējamas neparedzētas finanšu situācijas pasliktināšanās gadījumā, pensijas uzkrājumi) un optimālas ieguldījumu prakses trūkuma (Kozup & Hogarta, 2008).

Nepietiekamas prasmes pārvaldīt savas personīgās finanses ir viens no sociālās atstumtības iemesliem. Plaši tiek atzīts, ka sociālā atstumtība izraisa ilgstošu negatīvu ietekmi uz dzīves kvalitāti un nākotnes iespējām. Saskaņā ar *Eurostat* (2019) datiem, aptuveni trīs no desmit jauniešiem Eiropā piedzīvo sociālo atstumtību. Daudzi jaunieši dzīvo ģimenēs, kas saskaras ar nabadzības risku. Personīgo finanšu vadības prasmes ir nepieciešamas ikvienam - neatkarīgi no vecuma, profesijas vai sociālā statusa. Šī problēma ir svarīga arī Baltijas valstīs. To apliecina arī Lietuvā veiktais pētījums par jauniešu vecumā no 18 līdz 30 gadiem finanšu pratību un tās ietekmi uz personīgo finanšu pārvaldību, kas atklāja, ka zems finanšu pratības līmenis nosaka neapmierinošu personīgo finanšu pārvaldību (Navickas, Gudaitis, & Krajnakova, 2014).

Sociālie darbinieki, kas strādā ar riska grupas jauniešiem, kuri saskaras ar sociālo atstumtību, ne vienmēr var palīdzēt, jo bieži vien viņiem nav pietiekamas zināšanas par to, kā konsultēt šos jauniešiem par personīgo finanšu jautājumiem. Tādējādi, lai noskaidrotu personīgo finanšu pārvaldības vajadzības, ar Nordplus horizontālās programmas finansiālu atbalstu tika veikts gadījuma pētījums, kurā

piedalījās sociālie darbinieki un jaunieši no sociālajam riskam pakļautajām grupām.

Šis pētījums par personīgo finanšu pārvaldības vajadzībām ietvēra divas mērķa grupas: riskam pakļautie jaunieši un sociālie darbinieki.

Riskam pakļauto jauniešu aptaujas mērķis bija apzināt respondentu personīgo finanšu vadības prasmes, novērtēt iemeslus, kas rada problēmas, un noteikt kompetences, kas būtu jāattīsta sekmīgai personīgo finanšu pārvaldībai. Savukārt, sociālo darbinieku aptaujas mērķis bija identificēt personīgo finanšu vadības problēmas, ar kurām sastopas sociālie darbinieki, noskaidrot iemeslus, kas rada grūtības atbalsta sniegšanā personīgās finanšu vadības jautājumos un identificēt, kāda veida zināšanas un metodiskie rīki varētu palīdzēt sociālajiem darbiniekiem izglītot riskam pakļautos jauniešus un attīstīt viņu personīgo finanšu vadības prasmes.

Pētījuma metodika
Research methodology

Pētījuma veikšanai tika izveidotas divas aptaujas anketas, lai apzinātu situāciju un identificētu gan riskam pakļauto jauniešu, gan sociālo darbinieku personīgo finanšu pārvaldības vajadzības un prasmes, kas jāattīsta.

Riskam pakļauto jauniešu grupu pārstāvēja 56 respondenti no dažādiem Latvijas rajoniem, tostarp 33 jaunieši vecumā no 15-19 gadiem, 20-25 grupā 12, bet vecuma grupā no 26 līdz 30 - 11 respondenti. 34 no aptaujātajiem jauniešiem dzīvoja kopā ar vecākiem, bet 16 jaunieši jau bija nodibinājuši savu ģimeni un dzīvoja kopā jau ar saviem bērniem. Tikai trīs jaunieši dzīvoja vieni paši, bet 3 - kopā ar vecvecākiem vai draugu/ draudzeni.

Aptaujas anketa jauniešiem ietvēra 11 jautājumus, no kuriem dažos bija iespēja izvēlēties tikai vienu sev atbilstošo variantu, bet dažos - varēja izvēlēties vairākas atbilžu iespējas.

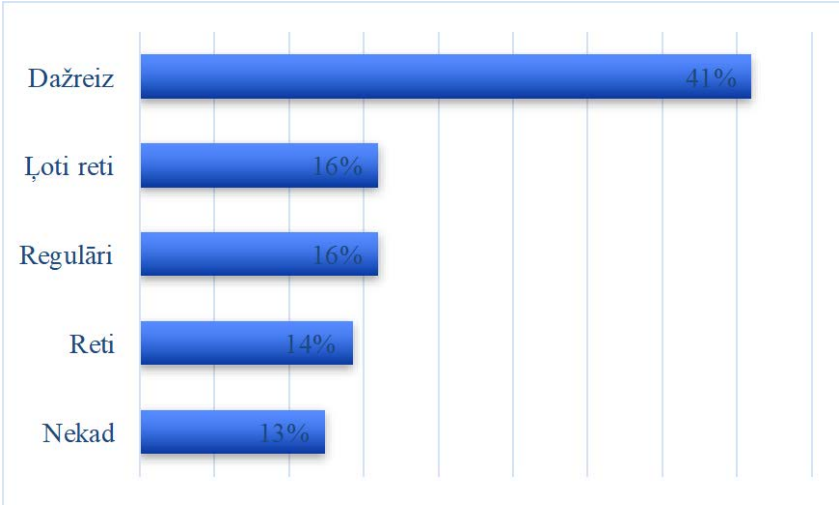
Savukārt, aptaujas anketa sociālajiem darbiniekiem sastāvēja no 9 jautājumiem un ietvēra dažādus jautājumu tipus: atklāti / slēgti, iespēja izvēlēties tikai vienu atbildi / iespēja izvēlēties vairākas atbildes iespējas no dotajām. Kopumā aptaujā piedalījās 45 sociālie darbinieki, no kuriem tikai 12 strādāja ar riskam pakļautajiem jauniešiem, kuru atbildes arī ir izmantotas kā bāze šim pētījumam. Aptaujas anketas elektroniskā versija pieejama šeit: http://www.iipc.lv/surv/index.php/469438/lang-lv.

Pētījuma rezultāti
Research results

Riskam pakļauto jauniešu aptaujas rezultāti rāda, ka 61% respondentu ienākumu avots ir atbalsts no vecākiem un / vai radiem, 32% pelna paši un ienākumu avots ir darba alga. Ar nožēlu jākonstatē, ka 16% no aptaujātajiem jauniešiem ienākumu avots ir dažādi pabalsti (ieskaitot alimentus), bet 14% respondentu uztur laulātais vai draugs.

Neraugoties uz sabiedrības sašutumu par ekonomisko situāciju valstī, gandrīz puse aptaujāto jauniešu (48%) atzīst, ka viņu ienākumi ir pietiekami ikdienas dzīvei, taču norāda, ka tie varētu būt lielāki, 25% respondentu ienākumi sedz tikai pamatvajadzības, bet vienai piektdaļai aptaujāto ienākumi ir nepietiekami. Tikai 2% aptaujāto ir apmierināti ar savu ienākumu lielumu, lai gan 16% apgalvo, ka regulāri sastopas ar finansiālām grūtībām (1. att.).

Jauniešiem tika arī jautāts, ko viņi dara, ja viņiem trūkt naudas. Puse no aptaujātajiem cenšos neaizņemties vai tērēt mazāk, bet 11% izmanto dažādas kredītiestādes vai lombardu. Tikai viena ceturtdaļa jeb 25% centies atrast papildu darbu, lai nopelnītu nepieciešamos līdzekļus. Izvērtējot jauniešu atbildes uz jautājumu par spēju kontrolēt ienākumus un izdevumus, 4% respondentu to vērtē kā ļoti augstu, 43% - gan kā labu, gan viduvēju, bet sliktu - tikai 11%.



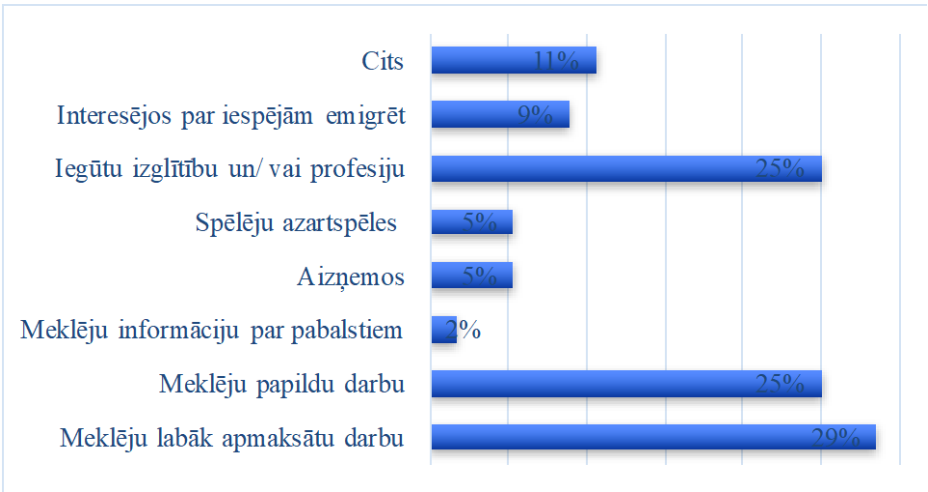
1. attēls. ***Atbilde uz jautājumu "Cik bieži Tu sastopies ar finansiālām grūtībām?"***
Figure 1 ***Answer to the question "How often you encounter (face) financial difficulties?"***

Lai noskaidrotu iemeslus, kāpēc jauniešiem trūkst naudas, tika piedāvāts izvēlēties atbildes no dotā saraksta, kā arī ierakstīt savu iemeslu, ja tāds nebija uzskaitīts starp dotajām iespējām. Jauniešu lielākā problēma ir naudas tērēšana dažādām izklaidēm (2. att.). Finansiālas grūtības jauniešiem radot arī aizņēmumi, īpaši, tā sauktie, ātrie kredīti.

2. attēls. ***Iemesli, kāpēc trūkst naudas***
Figure 2 ***Reasons for short of money***

Ir dažādi iemesli, kāpēc riskam pakļauti jaunieši nevar pārvaldīt pareizi savas finanses. Viņi paši atzīst, ka būtiskākais iemesls ir trūkst gribasspēka (32% no aptaujātajiem). Citi iemesli: 16% aptaujāto nezina, kā ietaupīt, 14% nespēj orientēties informācijas un piedāvājumu pārpilnībā, bet 11% norāda uz grūtībām saprast finanšu iestāžu finanšu pakalpojumus un noteikumus. Šis jautājums ietvēra arī vienu atvērto atbildi, uz ko jaunieši raksta: "Es spēju pārvaldīt savas finanses", "Man patīk tērēt naudu", "Bieži vien rodas neparedzēti izdevumi", utt.

Labāk apmaksāta darba vai papildu darbs meklēšana, kā arī izglītības iegūšana vai kādas profesijas apgūšana ir populārie veidi, kā jaunieši mēģina palielināt savus ienākumus (3. att.). Atvērtā atbilde ietver tādus apgalvojumus, kā "Es tērēju mazāk", "Es strādāju vairāk", kā arī "Es strādāju vasarās", ko noteikti dara jaunieši, kas mācās.

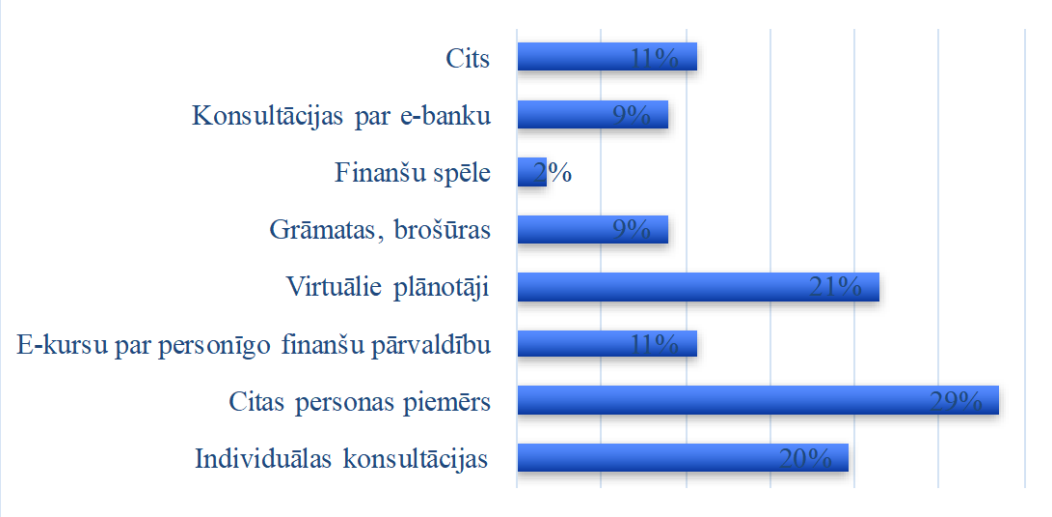


3. attēls. ***Veidi, kā jaunieši palielina savus ienākumus***
Figure 3 ***Ways young people increase their income***

Lai sekmētu riskam pakļauto jauniešu personīgo finanšu pārvaldes prasmes, viņiem tika jautāts, kas būtu vislabākais palīgs savu finanšu pārvaldībā. Visbiežāk ir sniegta atbilde "Citas personas piemērs" (4. att.). Šis jautājums ietvēra arī atbildi "Cits", ko bija nepieciešams konkretizēt, ierakstot savu variantu. Atbildes ietver tādas iespējas, kā iemācīties plānot savu budžetu, iemācieties rīkoties ar savām finansēm, u.t.t., kas liecina par jauniešu ieinteresētību apgūt personīgo finanšu pārvaldības prasmes.

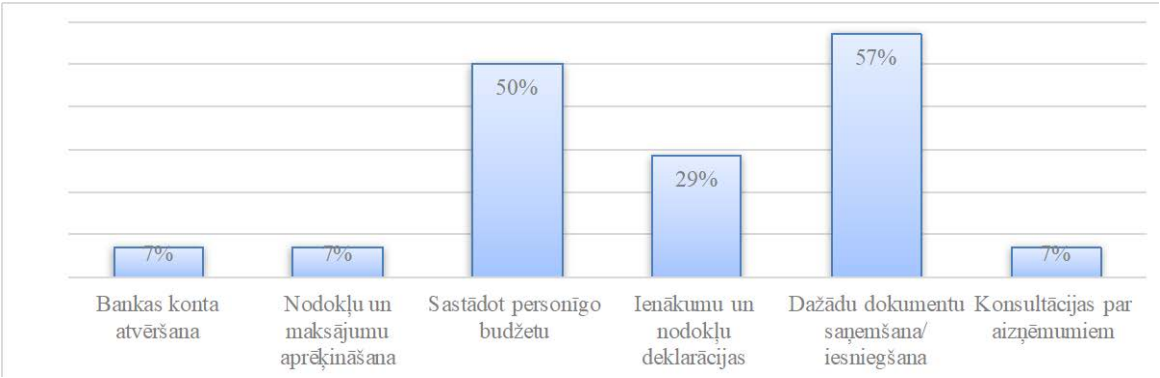
Kā minēts iepriekš, sociālo darbinieku aptaujā piedalījās 45 respondenti, no kuriem tikai 12 strādāja ar riskam pakļautajiem jauniešiem. Jautājumā par finanšu problēmām, ar ko sastopas riskam pakļautie jaunieši, visbiežāk atzīmēta atbilde "naudas trūkums" - 41% gadījumos. 28% respondentu apgalvo, ka finanšu problēmas rada aizdevumi un aizņēmumi, bet 24% - naudas izšķērdēšana.

Galvenais iemesls, kas sociāli riskam pakļautajiem jauniešiem rada finansiāls problēmas, ir nespēja plānot savas finanses. Tā norāda 79% aptaujāto sociālo darbinieku. Puse respondentu kā iemeslu min sociālo vidi un sociālo iemaņu trūkumu, bet 43% gadījumos - atkarības. Tiek norādīts arī, ka finanšu problēmas rodas, jo jaunieši nevar atrast darbu, zemās kvalifikācijas vai pat tās neesamības dēļ. Saskaņā ar Pantea (2015), slikta izglītība un bezdarbs ir arī galvenie sociālās atstumtības faktori.



4. attēls. ***Atbilde uz jautājumu "Kas Tev palīdzētu vislabāk pārvaldīt savas finanses?"***
Figure 4 ***Answer to the question "What would help you to manage your personal finances in a better way?"***

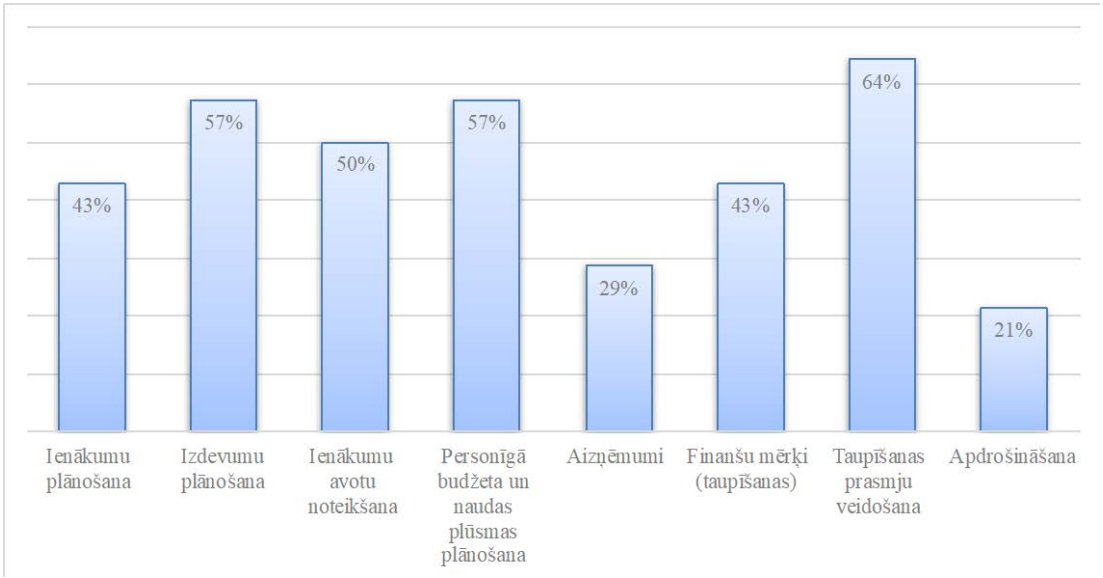
Saprotams, ka sociālie darbinieki sniedz dažādas ar finansēm saistītās konsultācijas, tādējādi nodrošinot atbalstu riskam pakļautajiem jauniešiem. Visbiežāk atbalsts tiek sniegts dažādu dokumentu saņemšanā vai iesniegšanā, kā arī personīgā budžeta sastādīšanā (5. att.).



5. attēls. ***Sociālo darbinieku sniegtās finanšu konsultācijas***
Figure 5 ***Financial consultancy by social workers***

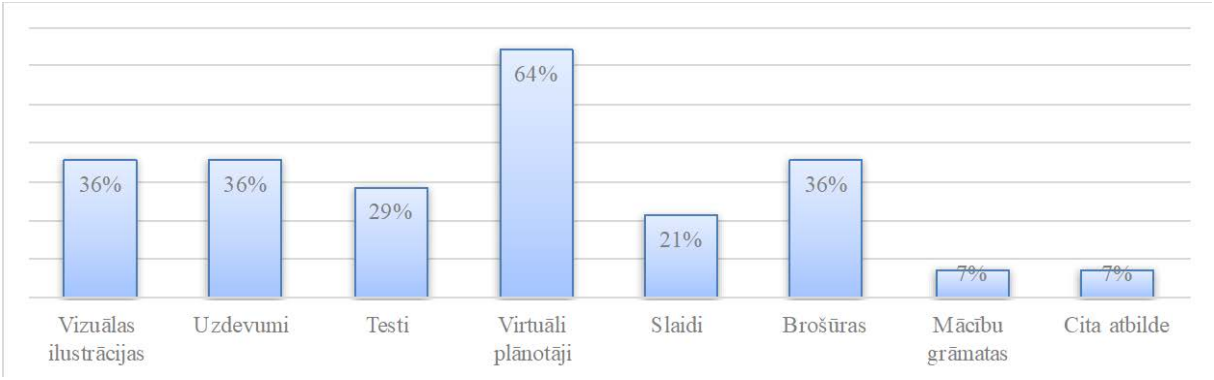
Jāatzīmē, ka 57% gadījumos sociālo darbinieku finanšu padomi tiek ņemti vērā, taču 29% visbiežāk tos neievēro

Lai apzinātu, kāda veida zināšanas un metodiskie rīki varētu palīdzēt sociālajiem darbiniekiem izglītot riskam pakļautos jauniešus un attīstīt viņu personīgo finanšu vadības prasmes, sociālajiem darbiniekiem tika lūgti no piedāvātajām iespējām izvēlēties sev atbilstošāko variantu. Aptaujas rezultāti liecina, ka taupīšanas prasmju veidošana, budžeta sastādīšana un izdevumu plānošana ir problemātiskās jomas arī sociālajiem darbiniekiem pašiem (6. att.).



6. attēls. ***Sociālajiem darbiniekiem nepieciešamās zināšanas***
Figure 6 ***Knowledge required by social workers***

Sociālajiem darbiniekiem tika arī jautāts, kādi mācību līdzekļi, viņuprāt, būtu visefektīvākās, lai attīstītu personīgo finanšu pārvaldības prasmes. Šeit vadošā loma ir dažādiem virtuālajiem plānotājiem (7.att.).



7. attēls. ***Sociālajiem darbiniekiem nepieciešamās zināšanas***
Figure 7 ***Knowledge required by social workers***

Sociālo darbinieku aptaujā konstatētas arī nepieciešamās prasmes dažādām jauniešu riska grupām. Piemēram, sociālā riska ģimenēm vislielākā problēma ir ienākumu avotu noteikšana, arī izdevumu plānošana un taupīšanas prasmju veidošana. Savukārt, jauniešiem ar atkarībām būtiska ir personīgā budžeta un naudas plūsmas plānošana. Personām, kas atgriežas no cietuma, vienlīdz svarīga ir visu prasmju sekmēšana.

Secinājumi
Conclusions

1. Sociālajam riskam pakļauto jauniešu aptaujas rezultāti parādīja, ka divām trešdaļām aptaujāto jauniešu ienākumu avots ir vecāku atbalsts, bet viena trešdaļa pelna paši.
2. Lai gan gandrīz puse jauniešu savas personīgo finanšu pārvaldības prasmes vērtē kā labas vai pat ļoti labas, tomēr ar finansiālām grūtībām ikdienas saskaras 57% respondentu, kuru galvenie iemesli ir pārlieku lieli tēriņi izklaidēm, kā arī nespēja atrast darbu, kas reizēm saistīta ar kvalifikācijas trūkumu.
3. Kā ienākumu palielināšanas iespējas jaunieši saskata labāk apmaksāta vai papildu darba meklēšanu, kā arī izglītība vai kvalifikācijas iegūšanu.
4. Kā svarīgākās riskam pakļauto jauniešu personīgās finanšu pārvaldības problēmas sociālie darbinieki identificēja ienākumu un naudas trūkumu, kā arī aizdevumus un naudas izšķērdēšanu.
5. Pētījuma rezultāti liecina, ka galvenie iemesli, kas rada personīgās finanšu pārvaldības problēmas jauniešiem, ir nespēja plānot savus izdevumus, kā arī sociālo prasmju trūkums, sociālā vide un atkarības.
6. Analizējot personīgo finanšu pārvaldības prasmju attīstīšanai nepieciešamās kompetences, tika atzīts, ka sociālajiem darbiniekiem nepieciešams

metodiskais rīks - vizuālais materiāls un citi līdzekļi, kurus varētu izmantot, lai uzlabotu viņu izglītošanas prasmes personīgo finanšu pārvaldībā.

7. Analizējot atbildes uz aptaujas atvērto jautājumu, tika identificēts, ka kompetences, kuru pilnveidošana palīdzētu risināt personīgo finanšu pārvaldības problēmas, ir:
   a) spēja tērēt mazāk, nekā nopelnīts;
   b) plānot personīgo budžetu un ievērot finanšu pārvaldības principus;
   c) spēja atrast nepieciešamo informāciju un pareizi izmantot to personīgo finanšu jomā;
   d) spēja novērtēt aizņemšanās sekas, tās priekšrocības un trūkumus.

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Summary

Social exclusion is widely recognized as having a lasting negative impact on quality of life and future opportunities. In Latvia many young people live in families at risk of poverty. One of the causes of social exclusion is the inability to manage personal finances. In order to find out the needs of personal financial management, a case study involving social workers and young people from social exclusion groups was carried out with the financial support of Nordplus Horizontal programme.

For the study, two questionnaires were developed to identify the situation and identify the personal financial management needs and skills gaps of both at-risk youth and social workers.

The aim of the questionnaire for young people at risk was to identify respondents' personal financial management skills, assess the causes of the problems and identify competencies that should be developed for successful personal financial management. The at-risk youth group was represented by 56 respondents from different regions of Latvia.

The aim of the social worker survey was to identify the personal financial management problems faced by social workers, to identify the reasons for difficulties in providing personal financial management support, and to identify what types of knowledge and methodological tools could help social workers educate and develop their personal financial management skills. In total, 45 social workers participated in the survey, of which only 12 were working with young people at risk. An electronic version of the survey is available at: http://www.iipc.lv/surv/index.php/469438/lang-en.

The results of the survey of young people at risk of social risk show that two-thirds of young people surveyed have their parents' source of income while one-third earns their own income. Although almost half of young people in Latvia rate their personal financial

management skills as good or even very good, 57% of respondent daily face financial difficulties, mainly due to excessive spending on entertainment and inability to find jobs, sometimes linked to qualifications shortage. Young people see better-paid or additional jobs as well as education or qualifications as opportunities to increase their income.

Social workers survey results demonstrated that income and money shortages, loans and borrowings, and money wastage were identified by social workers as the most important personal financial management problems for young people at risk. The main causes of personal financial management problems for young people were identified: inability to plan their own expenses, lack of social skills, social environment and addictions. Analysing the competencies needed to develop personal financial management skills, it was recognized that social workers would need a methodological tool - visual material and other tools that could be used to improve their educational financial management skills.

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CHINESE CULTURAL VALUES AS A PART OF "BELT AND ROAD INITIATIVE" PROJECT

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Abstract. *The Belt and Road Initiative (BRI) is a global development strategy adopted by the Chinese government in 2013. Some experts believe that this project is an attempt to spread Chinese dominance in the region and adjacent territories through the economical initiative. But together with the economic purposes, the BRI aims spreading the Chinese cultural and citizenship values over the local cultures of the countries involved by forming a common cultural space. This article aims to show how the Chinese government uses the BRI Project to demonstrate the achievements of Chinese society in social and cultural life, introduce the modern China to the world, level stereotypes about the Chinese worldview and lifestyle, which were formed in the world due to a certain isolation of China, lack of reliable information about China in the world and some other reasons. At the article the following methods, typical for theoretical research, were used: observation, analysis, synthesis, analogy, comparing, narration, conclusion making etc. The result of the research is the summation of implicit information and the confirmation of the hypothesis that this project is of great cultural importance (to familiarize the world with modern China and its socio-cultural achievements more than in the opposite direction) and uses a wide range of tools to achieve goals.*
Keywords: *"Belt and Road Initiative"(BRI) Project, China, citizenship values, culture, economics, social values, traditions.*

Introduction

The Belt and Road Initiative (BRI) was introduces in 2013 by China as a global development strategy involving infrastructure development and investments for 152 countries and international organizations. The leader of the People's

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Republic of China, Xi Jinping, originally announced the strategy during official visit to Indonesia and Kazakhstan in 2013 (Kuo & Kommenda, 2018). The initiative aims to join all the Project members by organizing a common transport system (railway + seaway), which, as a belt, "rings" the Eurasian continent. The most used name for the Project is «One Belt One Road» (OBOR) where under the "Belt" is recognized the overland routes for rail transportation (also called "New Silk Road Economic Belt»). The word "Road" refers to the sea routes, also known as "Century Maritime Silk Road". It should be mentioned, that the Project name "One Belt, One Road" also can be seen as a not quite correct translation from the Chinese. (Kuo & Kommenda, 2018). Originally the phrase "一带一路" got the mistranslation because the word "一"can be translated from the Chinese not only as "one", but also as "common". It is this idea of community that is dominant for the Chinese vision of this Project, especially in terms of the cultural and social space that should accompany its functioning. For today in the literature and mass media the following names can be met: OBOR (One Belt One Road) Project, BRI (Belt and Road Initiative) Project, «New Great Silk Road» Project, New Silk Road Civilization. The above mentioned terms are synonymous and are used in parallel to designate the Project in general as well as its separate components (geo-economic and socio-cultural).

The BRI Project has both its critics and active followers. Some experts believe that this project is an attempt to spread Chinese dominance in the region and adjacent territories through the economical initiative. Others believe that it corresponds to the idea of the economic globalization, which leads to simplification (and, therefore, activation of international trade process). At the same time, the idea of preserving the socio-cultural aspect of the Project's activity, which is achieved by joint ownership and organization of the Project's infrastructure by all of its participants provision, is noted as an undeniable bonus.

The project has a targeted completion date of 2049, which coincides with the 100th anniversary of the People's Republic of China (Official site of SRI, 2020). But together with the economic purposes, the BRI aims spreading the Chinese cultural and citizenship values over the local cultures of the countries involved by forming a common cultural space. Today China has already started a unique in its scope and analytics work, analyzing the legislation, social structure, behavioral habits and algorithms of the countries participating in the Project to develop common principles and models acceptable for use (the results of this work with specific recommendations for each country are planned for publication by the end of 2029).

The far-reaching, bold, and ambitious international trade network envisioned by General Secretary Xi is reminiscent of the ancient, unrivaled, and legendary Silk Road. The revival of the ancient trading route through the BR-Initiative is

not only an ambitious economic trading proposal and a long term strategic geo-political strategy, but it is also a major marketing tool to promote China throughout the world (Eberle, Bradley, & Tafero, 2018).

This article aims to show how the Chinese government uses the BRI Project to demonstrate the achievements of Chinese society in social and cultural life, introduce the modern China to the world, level stereotypes about the Chinese worldview and lifestyle, which were formed in the world due to a certain isolation of China, lack of reliable information about China in the world and some other reasons. This huge amount of work in its long-term perspective has an idea of a unified "BRI culture" based on common economic goals and mutually beneficial cooperation construction, which would, to a certain extent, "insure" the economic interests and investments of the People's Republic of China into the economy of Silk Road as a road with an infrastructure as well as to the economy of the countries involved. At the article were used methods, typical for theoretical research: observation, analysis, synthesis, analogy, comparing, narration, conclusion making etc.

Theoretical framework

Cultural values are important factors that impact economic growth, international trade, marketing, finance, and politics. A deep and thorough understanding of cultural values is essential for success, failure to understand cultural values and their impact is a recipe for failure. Misunderstandings are more likely the larger the cultural differences, resulting in miscommunication, mix-ups, and unintended insults, creating stress between partner countries, and leading to a much higher cost of doing business and decreasing the chances of success in the relationship. When people in one country display norms, values, languages, communication patterns, and distinctive behaviors that do not match, and often may conflict with the norms, values, and behaviors in another country, additional time, resources, and effort are needed to overcome the differences. Consequently, there exists a preference for doing business with countries that have similar cultural values (Eberle, Bradley, & Tafero, 2018).

Chinese, starting a new business, are not inclined to underestimate the importance of socio-cultural processes and foundations that exist in the format of "here and now." In these matters, they are of the opinion that culture is a reflection of the collective thinking of a particular nation as a whole and lays down social and behavioral algorithms for each adherent. Having understood and studied them, one can find the shortest and the most effective way to solve almost any problem at the new territory. In this regard, the study of cultural and social features of the territory always accompanies Chinese economic projects abroad. Also, traditional Chinese ethics suggests that it is the introduction of a new reality

or algorithm into the culture that allows people to change their attitude to something. Therefore, the ability to influence the cultural and social background is considered an integral part of the Chinese innovations both within their own country and abroad.

China can protect its interests through an active presence in the countries involved in the Project (similar to the United States, which have their own military bases in different countries and thereby consolidate their presence in the region). But the Chinese have chosen the other way – to create a unified "BRI culture" based on common economic goals and mutually beneficial cooperation of the nations and peoples who take part in the Project.

The idea is to create a common cultural space around the Project, which, on the one hand, will connect the BRI Project participants at a deeper than financial gain. On the other hand, it will make the Project not only an interstate initiative, but also an internal concern of every country and nation. On the third, the Project will be autonomous that will minimize such risk factors traditional for interstate projects as the "change of power or political elites". Becoming supra-economic and supranational for any participating country, and for all together, the BRI Project (and with it the interests of the PRC) will be maximally protected from external influences.

Being quite immune to cultural and social innovations and changes in the new socio-cultural space, the Chinese are moving towards production of their own behavioral algorithms and their adaptation to new conditions. This, on the one hand, is explained by the longevity of Chinese traditional views throughout history, and on the other hand, by the Chinese traditional perception of change as chaos, leading to the destruction of an established system. That's why today the Chinese government pay much attention to introducing the traditional Chinese culture and modern Chinese social and cultural views to the countries that are involved into the BRI Project.

«One belt - One road - One Civilization" concept

Initially, the BRI Project aimed to create a railway system to accelerate the delivery of goods from China to Germany (Beijing and Berlin were originally seen as extreme points). Using this analogy (delivering goods from China to Europe by land rout), the BRI Project also got the informal name "New Great Silk Road". However, with time, there turned out to be an unspoken separation of the BRI Project components into "One Belt, One Road» as a pure economic project and the "New Great Silk Road" as a socio-cultural initiative. Considering the BRI Project as a common for all the countries one undoubtedly entails changes in the cultural background of the countries which territory the Project passes. In order to realize the economic and trade interests, which are laid down as the priority of

the BRI Project, countries should, on the one hand, adapt and unify their own cultural and value background for the possibility of "friendship by economies" and in a certain way level down their own geo-political interests. On the other hand, it is necessary for the countries to open their own socio-cultural space both for nearby cultures (direct neighbors and closest partners in the Project), and for the cultural and value views of modern China as the main financial sponsor of the BRI Project. These objective issues help to enhance the multilateral cultural impact of the BRI Project over the cultural space of the countries involved. (Pourtajrishi & Shirvani, 2018).

Since ancient times, the Silk Road has promoted not only economic, but also cultural interpenetration of various peoples. The idea of OBOR civilization was also conceived not only as an economic project, but also as a platform for social interaction. On this platform, various ethnic, religious and cultural traditions can merge together, thereby forming a new culture with new civilizational-value principles and guidelines. Traditionally cultural, religious and value principles of a nation (ethnic group, country) belonging to the sphere of collective unconscious and archetypal turn out to be a "foretaste stone" in such initiatives that unite many peoples and cultures (Roman Empire, British Empire, USSR, European Union etc.). Today, using the traditional name for the Project - New Great Silk Road - China, as if, says: our system works and has proved its viability in various historical situations. We know how to make it for ourselves, and so we can do it for the whole OBOR Project family. Throughout its history, China has already proved that sometimes opposing and diverse elements of Chinese culture (Confucianism, Buddhism and Taoism) can be united united and form a common philosophical and cultural space. For 2500 years, Chinese culture was based on unified categories that did not contradict the views of each concept: to love the world, seek a quiet life, respect nature, strive for harmony, avoid extremes, not participate in ethnic and religious wars, respect the state and government, etc.

Using this positive experience, China seeks to revive the concept of the Great Silk Road Civilization and build a new civilization space along the OBOR Project. This will undoubtedly change the geo-cultural picture of the world and strengthen both the geo-civilizational role and influence of China. By investing and creating the New Great Silk Road Civilization as a cultural initiative, China hopes to create a community of interests and values that will protect China's economic interests and form a common economic system as a new form of interstate interaction.

China initiated the OBOR Project as a new form of relations between countries and peoples, a new civilizational model based on respect for local traditions and beliefs, peculiarities and habits. The main unifying principles in New Silk Road Civilization should be: China's non-interfering in the internal affairs of the states involved into the Project, obvious economic benefits for countries, implicit

dominance of China and principles of collegiality in solving all the problems related to the Project. This principle during 5000 years allowed the Han people, as the Chinese-forming nation, successfully manage the Chinese state - a multinational, multicultural and multi-religious unit. Throughout the history of their existence, the Han people (who eventually became fully associated with the Chinese and China) managed even the farthest borders of their state and culturally influenced these areas.

Prime Minister Zhou Enlai proposed "harmony and goodwill" (Pourtajrishi & Shirvani, 2018) as the main idea of peaceful coexistence inside the Project. President Xi Jinpin proposed "common interest" as the slogan of OBOR. Cooperation between peoples within the framework of OBOR Project should be based on the principles of peaceful coexistence, mutual concern, mutually beneficial cooperation and common development, which contribute to common prosperity. (Pourtajrishi & Shirvani, 2018). Creating a new concept of culture - BRI culture (civilization) - China is trying to appeal to the emotional and social values of nations and peoples living along the New Silk Road. And, as it is known, these categories belong to public unconscious and form stronger and more stable motivational basis than just economic profit.

As it is planned by the PR China, China and the countries involved into the OBOR Project should jointly participate in geopolitical and geo-economic cooperation and form a community with common interests, values, culture and security. (Pourtajrishi & Shirvani, 2018). At the same time, each of the countries autonomously acts on the world stage (the OBOR project does not impose restrictions over the countries as to their foreign policy and inner country strategies). This principle in particular distinguishes the OBOR Project as an allied unit from organizations like NATO, European Union, USSR etc. The New Silk Road Civilization is planned as a superstructure that independently acts on the international arena with the full autonomy of all the countries involved. The New Silk Road Civilization can be seen as a fundamentally new civilizational concept, based on the conscious choice of this form of interaction by all participants of the Project, unification of culturally unconscious archetypes of peoples and respect of countries to each other.

Cultural component of Economic Projects

Today China uses different sources to promote its own culture heritages and contemporary values over the world, through the BRI Project territory as well. Following the extended wording of the main goal as "One Belt - One Road – One Civilization" the country invested obligations to disseminate and proclaim Chinese social and cultural values in the form of cultural interaction with local cultures to the duties of official non-core organizations of a rather high level.

Silk Road Chamber of International Commerce (SRCIC) is an interstate structure that includes national chambers of commerce of countries involved into the New Silk Road Project. SRCIC is headquartered in Hong Kong; the Secretariat is located in Xi'an with offices in Beijing and Shanghai. The number of SRCIC members is constantly growing and today it includes 218 organizational members from 82 countries (state-level chambers of commerce and their local representatives). 62 cities from 22 countries that have special status in the New Silk Road Project formed the Urban Alliance as an autonomous organization within the SRCIC Directorate. The goal of the SRCIC is to serve as a "bridge connecting enterprises and governments, providing a platform for collaboration between business associations and members of the OBOR Project". (Official site of SRCIC, 2020). SRCIC plays a key role in promoting road construction, economic, cultural and social development of relationships within the Project with emphasis on mutual respect and the rule of law. Five sub-organizations also operate within SRCIC: "www.eSilkRoad.com" platform, International Silk Road Development Fund, International Art Center, New Silk Road Cultural Park and New Silk Road Transnational Financial Leasing Alliance. These organizations provide a platform for practical collaboration among SRCIC members. (Official site of SRCIC, 2020).

Silk Road Association is a registered international Civil Society Organization with non-profit and non-political status created to promote Silk Road civil society Initiatives in Asia CIS, Middle Eastern, Mediterranean and European countries having its regional offices located in France, Kazakhstan, Turkey, Hong Kong, SAR, PRC, Main land China and India. Silk Road Association is a member of various international organization, government institutions and chamber of Commerce of various Silk Road countries and has been instrumental in creating bridge between countries involved into the BRI Project for promoting cultural and educational programs, business, trade investments opportunities and promotion of sustainable green and smart city concepts sharing. The prime objective of Silk Road Association is to create platform for intergovernmental and intercultural communication within cities along the New Silk Road to enhance and revive and rejuvenate the ancient Silk Road by unveiling various civil society initiatives together. Since, ancient Silk Road was not only the main trading route of the world, but also a melting point of knowledge and cultures. Silk Road Association undertakes several initiatives to promote educational and cultural exchanges including people to people interactions between the countries involved into the OBOR Project (Official site of SRI, 2020).

OBOR Culture and Trade Association - is a nonprofit organization which consists of a group of abroad countries` businessmen who are interested in China. Through their presence and personal business relationships, they have an opportunity to promote their countries as perspective business partners for the Chinese

government and non-government organizations. By forming a business network common platform, the Association aims to promote regional and cross-continental connectivity between countries and China, South East Asia and Eurasia. To support own business business, OBOR Culture and Trade Association provides social and cultural opportunities for countries involved into the OBOR Project. The Association gives opportunities for trade and other communications not only in "other countries` and China" perspective, but also to countries between each other without involving China. (Official site of OBOR CTA, 2020).

The organizations mentioned do not limit the amount of ones sponsored, organized or somehow in the other way supported by the Chinese government and local authorities to proclaim the Chinese culture idea through the official organizations, NGOs etc.

Education opportunities for Chinese culture values promotion

Understanding that BRI Project belongs to the sphere of global and long-term initiatives that will have a visible effect in 50-100 years, China wants to insure for itself the continuity of the course and ideas. The stake is placed on the young generation, which should consciously perceive the Project as the existing reality of the world, existing fact and an integral part of world and local economic systems (and not just economic necessity). It is such continuity that can ensure the constant renewal of the Project, despite the enormous amount of resources (political, financial, human, time, etc.) that are already and still to be spent by all the participants without any visible return. And in this matter, the Chinese went according to their well-developed scheme: through the system of education.

The PRC education system for a long time evolved in isolation from the idea of globalization and served to a greater extent the needs of the Chinese state than contributed to the development of a personality. Therefore, it is natural that in the situation of OBOR Project forcing, the higher education system, in particular, faced the internationalization problem which is seen as a requirement to the economic and social initiative declared implementation. Most Universities and institutions responsible for managing education in China recognize internationalization as an essential component of training qualified personnel process in the context of "One Belt, One Way" strategy. The PR China Ministry of Education sees high adaptability as possibility of student mobility programs' implementation, experience of studying in 2-3 universities (only 1 of which can be Chinese) during the period of study (experiencing of different educational systems), education and training of highly qualified specialists with knowledge in several areas, skills of creating and working in international professional teams as professional competencies of new specialists able to work for BRI Project.

University Alliance of the Silk Road (UASR) - is a cross-university union centered at Xi'an Jiaotong University. The Alliance aims to support the BRI Project with specialized researches and to foster academic exchange between the countries involved. In particular the Alliance is to provide the OBOR Project with the legal support and to produce mechanisms to agree national legislations of the countries involved (by the means of law schools attached to the UASR) (Ma, 2016). Also the Alliance should create conditions for the Chinese higher education system internationalization and provide opportunities for the Chinese youth to get education in a Chinese and a foreign university at the same time. In addition, the UASR sponsors international cultural events including the UASR Educational Exhibition and Cultural Festival (Yojana, 2015) as well as other cultural events through the countries of BRI Project. It can be said, that this organization forms the strategy of cultural expansion of China through the countries of the Project. The UASR was founded in 2015 by uniting 100 universities from 22 countries. For now it includes 132 universities across 32 countries and regions on 5 continents (Martin, 2018).

Global-Silk Road University Consortium. In 2015, the Silk Road Association passed a resolution for the creation of GLOBAL – SRUC (Global-Silk Road University Consortium) a platform where elite universities along the Silk Road could become a member and these member universities together could create a platform where various academic exchanges could be derived for mutual benefits through scholarly interactions, cultural interchanges, cooperative research projects, Exchange of Undergraduate, Post Graduates students including academic staff, Setting up of Dual Degree Program for the Bachelor & Master programs, Short Study Program, Semester Exchange Programs, Summer Programs. This initiative enables the students along the countries of Silk Road to pursue their academic studies with any academic institutions-members of the Global - SRUC (Silk Road University Consortium).

Confucious Institute - is a public educational organization under the Ministry of Education of the People's Republic of China. The Institute aims to promote Chinese language and culture, support learning and teaching of Chinese internationally and facilitate cultural exchanges. The Confucius Institute program began in 2004 and was initiated by Hanban (International Office of Chinese Language Council attached to Ministry of Education of the People's Republic of China). The Confucius Institute also has non-academic goals. The Economist says that the Confucius Institutes is “an important part of China's overseas propaganda set-up» (A message from Confucius: New ways of projecting soft power, 2009).Many foreign scholars characterize the CI program as an exercise in soft power, expanding China's economic, cultural, and diplomatic reach through the promotion of Chinese language and culture (Park, 2013), while others suggest a possible role of it in intelligence collection abroad (Pierrebourg & Juneau-Katsuya, 2009). The

CI works in co-operation with local affiliate colleges and universities around the world. It provides foreign partners with opportunities of cooperation, studying Chinese, awarding of students and teachers, exchange programs. Other CI initiatives include Chinese contemporary art exhibitions, television programs, concerts of popular singers, modern Chinese literature translations and the expansion of state-run news channels such as Xinhua News Agency and China Central Television. As of 2019, there are 530 Confucius Institutes in dozens of countries on six continents (Hanban-Confucius Institute, 2019), though the organization is constantly criticized due to concerns of rising Chinese influences in the countries in which it operates.

Arts and music opportunities

The Chinese use the OBOR Project opportunity to promote their culture very actively. In modern Chinese art a whole branch of "The Silk Road Art" appeared: it is designed to adapt the Chinese national musical, dance, choreographic, graphic traditions to the forms that foreigners are able to perceive. Gradually, China accustoms the world to its sound, plastic, color. Chinese cinemas are actively working with abroad local directors and actors, bringing to films not only the financial component, but also their own values and social touches. Contracts were made with leading cinematographic and animation associations to shoot products with the Chinese component (the animated films "Mulan", "Everest", films on historical subjects can be considered examples of such cooperation). China constantly organizes concerts and exhibitions in the BRI Project countries. According to promoters, the low cost of tickets (China pays 50-70% of the cost) and the high quality of events makes them "sold out" ones. The duties of students receiving a master's degree in art in foreign universities include the mandatory organization of several public events – concerts, exhibitions etc. (without proof of such activity, a master's degree will not be recognized at the Ministry of Education of the PRC). The Chinese are regular participants and diploma holders of art competitions of both local and the highest levels in the BRI Project countries. To familiarize the world with China, art tools are used to appeal to the emotions and soul of a person, which means that they remain in the emotional picture of a person as something pleasant that cannot but contribute to enhancing the image of Chinese culture and the PRC as a whole at the external arena.

Conclusions

The resurrection of the ancient Silk Road with the BR-Initiative is an ingenious move by China that illustrates China's ability for long-term strategic thinking and their vision for the future. Even if the BR-Initiative is only a moderate, or

even minimal success, it will still be a great achievement. It will assure China's dominant role in the world economy for many years to come. How various countries will respond to either the success or failures over time will determine both the economic and geo-political changes that are certain to happen. The variety of cultural dimensions present in these nations will also influence dramatically this response. It cannot be over-emphasized that there is this influence and needs to be taken into consideration as a major factor beyond the economics of trade. To achieve this goal China uses a huge toolbox, acting in the long term perspective and with a soft invocation of the Chinese worldview and socio-cultural values as the basis for New Silk Road Civilization`s culture to appear. Appealing to cultural and value orientations of those countries that are involved in the Project, China seeks not only to establish its socio-economic initiative, but also to consolidate it, as if to "integrate" it into own cultural and value models and spaces of other peoples. Therefore, the cultural component in this case is not only equivalent to the economic one, but also to a large extent ensures the success of all economic initiatives of China abroad.

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CULTURAL ADAPTATION OF CHINESE STUDENTS AS THE NEED OF THEIR EDUCATION ABROAD PROCESS

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Abstract. *The article is devoted to a sharp problem of educational practice: ways of cultural adaptation of foreign (in particular, Chinese) students in new host society as a condition of their successful education abroad. Chinese students now form the largest abroad students` community in main countries of the world. As the Chinese way of living and the education traditions differ a lot from the countries` they usually would like to continue their education at, cultural adaptation is seen in the article as the need for a comfortable education process both for the students came and the University host them. The Main methods of Chinese students` cultural adaptation process are under consideration of the research, paying attention to the period (stage) a student finds himself / herself at that also can be seen as the aim of the research. As to the methods, the ones traditionally used in social studies and general research work were used: ethnographic descriptions and census data, scientific method to collect empirical evidence, method of analysis, etc. As the result was presented a set of methods that can be used by a host University on condition of the Chinese students` cooperation to level down the cultural shock period for the student and to speed up his/her entering the host culture society.*
Keywords: *Chinese students, host culture society, native culture society, cultural adaptation, University, educational process, cultural shock.*

Introduction

The Modern world gives young people wide educational opportunities including abroad education. State governments and local authorities stimulate young people to get education abroad in different reasons: some countries and

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educational systems consider it to be a normal and obligatory practice for their students to have abroad educational experience (Central European countries, USA, Canada etc.), some try to encourage the best ones by proposing them grants and financial support to gain new knowledge and skills at abroad educational institutions (Ukraine, North European countries, former USSR countries), some try to solve the problem of own educational systems' gabs by the sources of other countries' ones (Mongolia, Brazil, African countries), etc.

It's a fact that many students (regardless of maturity, disposition, previous experience abroad, or knowledge of the country in which they will be living) experience some degree of culture shock while studying abroad. This feeling of being lonely and overwhelmed in a new culture is both a normal and predictable experience (Hui, Sheng, & Min Zh, 2003). On the other hand, the shock period can become quite long blocking a foreign student`s emotional and mental perception of the educational process and reducing both the effectiveness and expediency of his/her stay at a foreign university. The only way to overcome the negative trends of a cultural space`s sharp change is the process of a student`s cultural adaptation to a host culture. The sooner the active perception of the host culture begins (not rejection or suppression), the sooner a foreign student will be able to begin high-quality education. It should be mentioned that this process is individual for every person, depended on his/her self-motivation, adaptation abilities, personal aims, but can be regulated and speeded up by the host University in cooperation with the student (Li & Li, 2013). The readiness and orientation of the student to cultural adaptation as a necessity can be seen as a prerequisite for the process mentioned.

The aim of the paper is to present the main methods of Chinese students` cultural adaptation process in different periods (stage). The stages are recognized not by a student`s psychological and emotional state principle (that is quite typical for researches on the problem chosen), but the period of physical stay at a host University one. Methods typical to social studies and general scientific research methods were used: observation, data matching, cross-scientific research (as the problem is seen in other sciences, such as psychology, medical science, and behaviorism), ethnographic descriptions and census data (in particular for the Chinese students studying abroad), scientific method to collect empirical evidence, method of analysis, etc.

General Problematic

Finding themselves in a different cultural space people (and the Chinese students as well) usually have to choose one of two behavior algorithms to be used: cultural self-isolation or cross-cultural adaptation:

Cultural self-isolation - a situation of deliberate non-inclusion of the person into the cultural space different from his/her native one even while living in it for a long period. In light variant, it means not taking part in social (university) activities, limiting himself/herself in food or clothes stick to native cultural space traditions and requirements, forming an enclosed cultural space. In a hard variant, it can bring to social problems and appearing of uncontrolled units and territories (like so-called «fawells» in Rio-De-Janeiro - districts with independent criminal culture, law, traditions, values etc uncontrolled by Brazilian government). Countrywide the practice of Chinatowns all over the world shows the ability of the Chinese to live successfully in cultural self-isolation. As to the Chinese students, traditionally they try to become members of the host cultural society as soon as possible, but sometimes use the cultural self-isolation way especially when they come for short-time courses or the host cultural space already has a strong Chinese Diaspora and the University is not quite active in including the Chinese newcomers into the local cultural space (Zhang, Zhan, & Xie, 2017).

Cross-cultural adaptation is a socio-psychological process of adopting by the person cultural patterns appropriate for the society different from his/her native one. It involves reviewing and changing the structure of a program or practice to the one more fitting needs and preferences of a particular cultural group or community. Put another way, cultural adaptation involves modifications to service delivery and/ or modifications to context, structure, and practice to meet the particular language, communication, spiritual, sexual identity, geographical, social and other needs of the population of focus (Booth & Lazear, 2015). Cross-cultural adaptation refers to the process of internal change in individuals to be able to function in an unfamiliar culture. Newcomers learn to make adjustments in their original cultural habits and can attain a level of efficacy in the new environment. Long-term and extensive experiences of cross-cultural adaptation may lead to the individual's assimilation into the mainstream culture of the host society (Kim, 2012).

The host cultural society uses all the sources to make a newcomer to choose the second one as it brings to the homogeneity of the community which in this case has an opportunity of predictable existence and evolutionary development. Self-isolation brings to the appearance of independent cultural units inside of the community and it may bring to local conflicts on the cultural ground or even disintegration of the community (Arasaratnam, 2006). Having such kind of «community in community» (no matter nationwide or university-wide) cost the host community additional expenses (in our particular case starting from the University staff able to speak Chinese and teach courses using

this language and up to adopting new behavior rules that fit the Chinese traditions) (Sun, Feng, Lin, & Huang, 2009).

The theoretical framework of the problem

The process of cross-cultural adaptation involves the deculturation of some of the original cultural habits and the acculturation of new ones. Both processes occur through communicative engagements between the individual and the host environment. (Gu & Dai, 2012). Usually, a person comes through cross-cultural adaptation passes several phases that can be determined as follow:

- analysis of a new cultural environment (usually in behavior it reflects as self-isolation for observation);
- comparing the new cultural environment with the patterns and algorithms formed by the native culture (in this period a person trying to enter a new cultural society needs supervision from the locals to explain the peculiarities and support him/her in cases where the native culture patters comes in conflict with the ones traditional for the new culture);
- making analogues between new and native cultural environment patterns;
- choosing the patterns from the native cultural environment can be used in the new one;
- adopting native cultural environment patterns to the new cultural environment (usually, this period is characterized by communication activity the person goes for to “practice” his/her new habits);
- blocking the cultural patterns can`t be adapted to a new cultural environment;
- making an unified behavior-value system appropriate for the new cultural environment based on host cultural environment and some native culture environment patterns adopted for the new one.

Sketchily the process mentioned can be seen as followed:

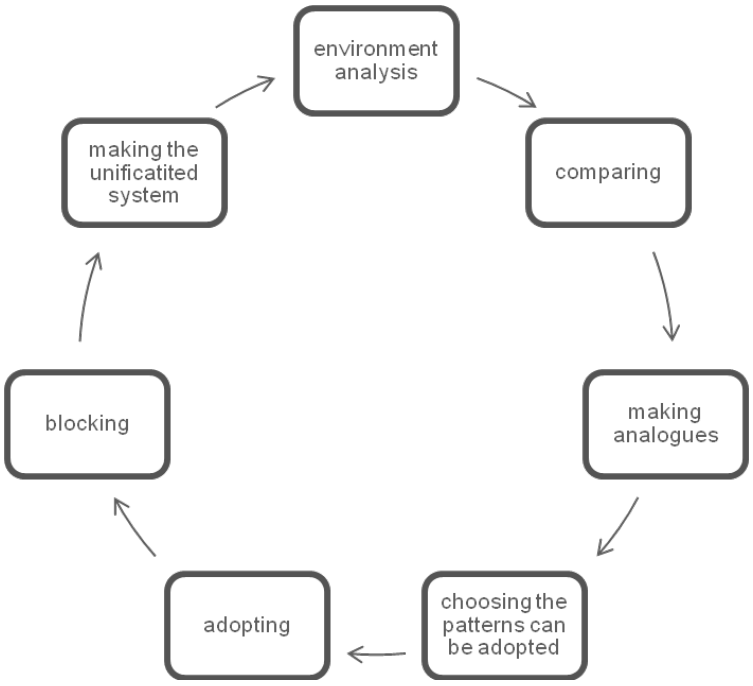

Figure 1 ***Culture adaptation circle***

Some researchers add to the previously mentioned phases one more which is seen as "taking the new cultural environment patterns as own ones; complete replacement of a native value, behavior algorithm, pattern etc. by the one from the new cultural environment" (Zeng, 2017). In our mind, this phase more belongs to the process of cultural socialization and re-socialization and should be under consideration only in cases when the individual has to stay in the new cultural society for a long time or forever (marriage, migration, refugee, etc.) and has to fit the new cultural environment completely. Such cases are not under consideration in this particular article.

Also, it can be mentioned that during his/her life a person can make this culture adaptation circle many times depended on personal needs and changes in the ultimate reality developing universal cultural and behavioral algorithms (patterns) applicable to all cultural realities with which a person actively pushes and interacts. The universal patterns form a new value-behavioral system that a person combines from the cultures he has (had) an experienced of being involved. Sketchily the process mentioned can be seen as followed:

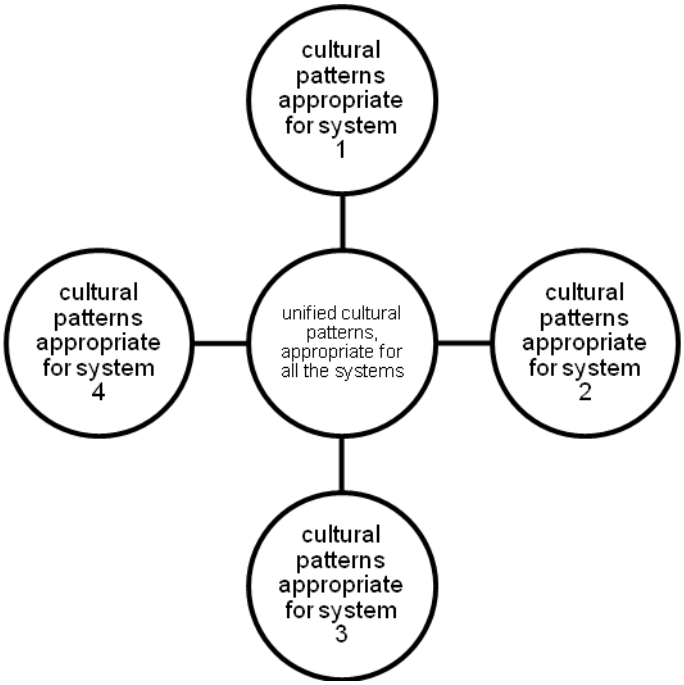

Figure 2 ***Developing universal cultural and behavioral patterns` process***

The farther cultures are from each other, the more time a person spends for universal patterns` system developing, and the more unlike all the cultures used is the result.

Social framework of the problem

Today students from China form the largest group of students getting education abroad and can be met at the top Universities and colleges all over the world. By letting their young people go abroad for education, China aims several particular issues:

1) spreading Chinese values and world view for breaking stereotypes as to this county and its ideology (as the main task forced by the Chinese Government according to such kind of normative documents as «Compulsory Education Law of PR China» (1985), «Patriotic Concept of PR China» (2015), Final Decisions of 19th CCP National Congress (2019), etc.);
2) increasing of Chinese students' educational level and their specialization profiling (for such purposes the Chinese students have government support for MA degrees and post-graduate programs to famous abroad Universities which rank in QS World University Rankings is not lower than 130) (Yang, 2009);

3) fulfilling the needs of Chinese educational market as to high education and MA degree programs for Chinese young people who haven't pass the state academic exams there in China (and that's why do not have the right to continue education in the Chinese educational system), but have the financial opportunity to obtain education abroad (the leading places as to this market niche for the Chinese students belong to Ukraine, Belarus, Russia);
4) fulfilling the needs of Chinese New Universities (the ones appeared according to «211 Project» start 1985) and high education institutions of provincial and regional\city level as to teachers obtaining Ph.D degrees (the Chinese educational system can't fulfill the requirements of Ministry of Education of China as to academic level of teachers needed for a University or Institute that makes the education institution look for alternative opportunities for their teachers as to obtaining degrees. Usually, the education institute stimulates its teachers to go abroad to obtain Ph.D degree by cost recovery (including travel, host, education program and article publishing expenses) after providing diploma and passing the abroad diploma recognition procedure from the Ministry of Education of China. Also quite often the institution provides special bonuses for teachers obtaining PhD from abroad universities: it can be a one-time material reward, preferential mortgage, etc.);
5) providing the opportunity for MA (seldom - PhD) degree obtaining for those teachers who work in informal education sector (according to the Chinese high education practice as to obtaining academic degrees, teachers working in formal education sector (state colleges, institutes, universities) have privileges over those work in informal education institutions though informal education sector gives better financial conditions for teachers).

The reasons mentioned bring to a great increase in Chinese students' amount in high education institutions all over the world. In such a situation the problem of their cultural adaptation becomes really actual and up-to-date. In the article, only the practice of long-term residence (more than half a year) of the Chinese students in a different culture society is under consideration.

Analysis of the problem in the literature

Though the Chinese students form the largest abroad students` community all over the world, there is still a very small amount of the research pay attention to the problems of their cultural adaptation in the European and American

scientific space. Mostly the researches declare the gravity of the problem without giving ideas and methods of its solving for the Chinese (or even Eastern countries` students), trying to use the methods common for the cultural adaptation work with the European students (this way we find as the semiskilled one because the gap between the Chinese (or Taiwanese, Filipino, Cambodian, etc.) culture tradition is too far from the European or US one in comparison with, f.e. the US and British ones). Also, there is more research describing the process of cultural adaptation of foreigners to Chinese culture. The phenomena can be explained by the lack of researchers can speak Chinese and communicate with the Chinese students coming to abroad Universities with basic language proficiency. Also, about 90 % of the Chinese students going to European and US Universities (and about 60% going to former USSR countries) (Lu, 2015) for study have passed the elementary cultural adaptation while studying the language needed abroad and face the problem of readaptation or change of views while coming to the host culture country.

Results

All the Universities try to include the Chinese students in the host cultural society as soon as possible using various methods and sources. The following stages and methods correspond to each particular stage of the process that can be mentioned.

Stage one: Preparation

Self-preparation. It is started in China while the enrollee chooses the country and the particular University. Thanks to the Internet it is not a problem now to get information almost about all the issues the person is interested in: food, behavior traditions, leisure, clothes, etc. Also, the «word of mouth» method is widely used to spread the non-official and informal information about the particular place and this method is quite popular in China as they have a habit of relying upon informal information got from an associate more than upon the official information. but in the other hand, informational support got from the official sources (embassy, University sight, Ministry of Education of China ads etc.) is also very important. For making a positive decision the Chinese needs the information got from the formal and informal sources to match as much as possible. For this purpose, the University sight needs to have not only the official information (amount of students and teachers, books and dormitories, curriculum, etc.), but also some recommendation as to dress-code if the University has one, food, university traditions and the other for the student-to-be know what challenges to face and psychologically be ready for it (Ran & Yun, 2015). For example for Chinese students it is a great problem to have

classes between 11:30 a.m. and 2:00 (2:30) p.m. as in the Chinese education system this time goes to lunch and rest. So when they come to Ukraine they are expecting to have the same timing as well and often do not come for classes at first. If they have the information about the inner University timing beforehand it levels the problem down. So the University is to give the enrollees as much information as they can for students-to-be to prepare themselves;

Education from the recruiting agency. Mainly the Chinese enrollees come to Ukrainian, Russian, East European countries' universities through recruiting agencies that are authorized by the country's and the Chinese Ministry of education to make recruiting work, draw up exit documents and help the Chinese yang people to go abroad for education. Abroad Universities often send their representatives to such recruiting agencies to China to meet with the enrollees while they are still in China to support them with the information. During such visits, the enrollees can ask the representatives any questions they like and get any additional information they need. In cases the University has no opportunity to organize the representative visit to China such meetings are held online. Also, the language problem can be seen as one of the biggest ones that raises and slows down the cross-cultural process. To solve it abroad universities organize language courses for the Chinese enrollees during the last year before they come to the University (or at least half-year courses because half of a year is a normal time needed for a Chinese enrollee to make all the documents ready to go to get education abroad). The language courses from an abroad university can be made full-time (a teacher goes to China) or distance (Internet education) format. When the students-to-be come to the University even with very low language level it levels down their state of nervousness and shock caused by finding themselves in new circumstances and facilitates their entry into different cultural space.

Internet chat and "word of mouth". In the Internet world, there are no borders and no privacy neither for a person nor for a University. The students-to-be before choosing the higher education establishment today have the opportunity to get not only the official information but also receive real-time one from the people from their country and other foreigners who are at the university, undergo a training course and have their vision over internal university processes and share it actively through the Internet. Such information lets the enrollee be ready for the day-by-day reality faced at the particular University.

Stage two: Active phase

In-University Activities:

Local language and culture education course. When a student comes for education, he\she obligatory takes a local language and culture educational

course. Traditionally it can be organized in two ways: an additional one academic year language course or additional lessons added to the standard educational program. This problem is solved by each University according to own educational strategy and the current legislation of the country.

Patronage from students: Most Universities use other students as cultural adaptation agents for newcomers. As an Agent, both local students and foreign students (senior ones) are used. When a student has just arrived in a country, communication with senior students from his country (or a country whose culture is as close as possible to the student's native one) is invaluable for his/her cultural adaptation: no language gap, no cultural misunderstandings or distortion, common perception of a host culture. After a while, students from the local society can join this process widening newcomer`s information and correcting his/her views over the host culture. This method is quite effective for the Chinese students in particular as it correlates with the Chinese social and educational tradition of collectivism and mutual assistance.

In-class activities: Over this method is commonly seen the idea of including the foreign students into the cultural and social life of the University through additional activities such as cultural activities (concerts, sharing information about their native cultures activities, and sport activities, posting, etc.)

Out-University Activities

***Culture Adaptation Agencies` work:*** Such things as society, reality, city, media, etc. can be seen as culture adaptation agencies for a foreign student even if his/her local language level is rather low. A students` life out of the University campus brings him/her a lot of information and practical skills helping and forcing the cultural adaptation process. Shopping, eating at a café or restaurant, using public transport etc. make a foreign student compare his/her behavior traditions with the local ones, adopt and gain skills needed for the host cultural society as well as feel himself/herself a part of this new society. A great role in the cultural adaptation process can play a religious organization or a social community (such as a club) if the student visited the same one in his/her country (it can be seen as a bridge from the culture the student is adopted to – such organizations all over the world have the same basic principles and behavior algorithms with some peculiarities traditional to the particular territory) and the new host culture). Through media, pictures, ads, urban architecture, anything a student meets outdoors he/she gets information and emotions. That helps him to find the place and adapt to the new cultural reality as it is.

Travelling: usually, students have a lot of opportunities to travel and it helps them in the emotionally positive way to see the new country and adapt to the new cultural reality.

Conclusions

The list of the methods used for the Chinese students` cultural adaptation is not limited can be widened. In our mind the main criteria for choosing the method should be seen in the following: the method should force the Chinese student to face and interact with the new cultural reality as soon as possible and should correlate with his/her education, social and behavior patterns (skills and algorithms) gained in the native culture. In this case a Chinese student being self-motivated and quite adaptive can overcome a cultural shock faster and start his/her full-fledged education.

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INFORMĀCIJAS TEHNOLOĢIJU IZMANTOŠANA IZGLĪTĪBĀ

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STUDENTS' READINESS FOR MASSIVE OPEN ONLINE COURSES (MOOCS) IN LATVIA

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Abstract. *MOOCs have gained popularity increasingly more and more with their open online approach and mass engagement. They could play an important role in higher education. But the question remains whether students are ready for it. The aim of the study was to find out what students' understanding of online learning was and to what extent they were prepared for MOOCs. A research question was raised: there is a relationship among technical competencies, socio-communication competencies, self-efficacy, self-directedness and MOOCs readiness. The survey-monkey's electronic platform was used for data extraction. Open-ended questions were asked on the 4-point Likert scale. According to the research question raised, items were grouped in 5 blocks. Two hundred and forty-seven (247) students participated in the study from different Latvian universities. The descriptive statistics (Mean, Standard Deviation), Mann-Whitney U tests were used in data processing in order to compare the opinions of full-time and part-time students, Kruskal Wallis test for finding out the differences among the opinions of students who are of different age about the engagement in MOOCs. The factor analysis was used for determination main dimensions of the MOOCs readiness – socio-communication competencies, self-efficacy, self-directness, and technical competencies. Spearman's correlation was used for identifying the correlations among these factors. The results obtained showed that there was a relationship among student's self-directness and socio-communication competencies, and self-efficacy, and readiness for MOOCs, although most students prefer face to face learning.*
Keywords: *MOOCs readiness, self-directedness, socio-communication competencies, technical competencies.*

Introduction

Massive Open Online Courses, short MOOCs, are well known for many years and is an important part of the research area of Technology Enhanced Learning (Ebner, Schön, & Braun, 2020, p. 75). MOOCs is a significant phenomenon that transforms the higher education (Sanagustín, Maldonado, & Morales, 2016), a recent development in distance education improving the learning experience (Katsarova, 2015), a myth, paradox and the "fashion word" of 2012 in education (Daniel, 2012), a "big thing" in open education and distance

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education (Kim, 2014; Schuwer et al., 2015; Kaplan & Haenlein, 2016), revolution in education (Bates, 2018). Since 2008 it has been a major issue in higher education worldwide (Kim, 2016). The USA identified 2012 (Salmi, 2016) and Europe - 2013 (Goglio, 2019) "The year of the MOOCs", providing massive and open learning opportunities for all, promoting engagement in the knowledge society (Brown, 2018). MOOCs as open and online education is seen as an innovation driver for improving education with the aim of increasing the access and engagement in education by removing barriers and offering multiple ways of learning and sharing knowledge (Patru & Balaji, 2016).

European countries are late adopters of MOOCs compared to the USA, where since 2012 MOOCs has had an impressive growth, accompanied by an enthusiastic media coverage (Goglio, 2019). In Europe and also Latvia, MOOCs are considered as (usually shorter) online courses offered by higher education institutions and which do not result in a degree qualification. Finally, higher education institutions in more than half of the countries (28) also provide courses as MOOCs (European Commission / EACEA /Eurydice (2018).

However, despite the promising opportunities for the introduction of MOOCs in higher education, its implementation is very slow. The huge number of drop-outs, students' lack of motivation to finish these courses because they do not provide official credit points and, probably, also students themselves not being ready for the self-guided study process serve as evidence for this (Fisher, 2014).

The aim of the study was to find out what students' understanding of online learning was and to what extent they were prepared for MOOCs. The research question: there is a relationship among technical competencies, socio-communication competencies, and self-directedness and MOOCs readiness - was raised.

MOOCs implementation in higher education

MOOCs – definition. The development of terminology is dynamic and therefore changes over time show the historical continuity (Al Lily et al., 2017). Mariana Patru and Venkataraman Balaji (2016, p. 17) suggest using the adapted definition recommended by Fred Mulder and Darco Jansen (2015) "MOOCs are online courses designed for large numbers of participants, can be accessed by anyone anywhere as long as they have an Internet connection, are open to everyone without entry qualifications and offer a full/complete course experience online for free". This definition includes the essence of the abbreviation MOOCs, underlining that "*Massive*" means designed for an unlimited number of participants, "*Open*" – there is a free access for anyone and without entry qualifications, "*Online*" – the access from the internet using the laptop or desktop computer, a tablet computer or a smartphone); "*Course*" – designed reflecting a

study course (with concrete learning goals, developed course materials, worked-out assessment tools such as quizzes, feedback, an examination and a certificate of completion) and which should be implemented in a definite period of time.

Types of MOOCs. Mainly there are two types of MOOCs: xMOOCs and cMOOCs.

xMOOCs is a term coined by Stephen Downes (2012) for courses developed by Coursera, Udacity and edX. xMOOCs were the most common MOOC in 2015. The characteristic feature of them is the use of specially designed platform software, video lectures, a computerized assessment, pair assessment, supporting materials, comment/discussion space, and the presence/absence of the discussion moderation, badges or certificates, and learning analytics. It means that xMOOC tend to transmit information to a wide audience, to use short video lectures and to make assessment (Open Education Handbook, 2014; Kim, 2014).

cMOOCs are based on network learning, where learning develops through the connections and discussions between participants over social media. They have a more different education philosophy than xMOOCs, and they are more focussed on the course participants' cooperation (Bates, 2018). Actually they are more based on the learner interaction by use of connectivist and constructivist pedagogies (Open Education Handbook, 2014; Kim, 2014).

Pedagogical aspects of MOOCs. It is considered (Five ways MOOCs are influencing teaching and learning, 2016) that there are five ways how MOOCs could affect teaching and learning: (1) separating design, development, delivery and support for learning, (2) changing the nature of credit granting and credentials, (3) developing blended learning, (4) supporting the development of learning portfolios, (5) demonstrating the power of learning communities and peer tutoring.

In order to find out to what extent students of higher education institutions of Latvia are prepared for using MOOCs, it was important to explore what has been understood by the term "readiness for learning" as a holistic way of looking at the learners' preparedness to learn, emphasizing both the characteristic features of the learner himself and his social adaptation to the electronic teaching/learning environment and his technological skills. As Widodo Winarso (2016) considers readiness to learn is a situation of students who are ready or willing to do activities with full consciousness to obtain results in the form of changes in knowledge, understanding, skills, habits, values, and attitudes by observing, imitating, exercise, investigate, and the entry of new experiences on students (p. 81). In order to cooperate successfully in MOOCs courses, the following skills should be taken into account: study, self-direction, self-efficacy, motivation, communication, computer, Internet skills and access to ICT facilities. As the study of the authors about the experience of the students and academic staff of Latvia and Thailand shows (Birziņa & Na-Songkhla, 2019) the participant's engagement is an

important factor. Studying the learners' activities in the concrete MOOC, it was found out that active participation in the course has three interconnected dimensions that ensure engagement cognitively, emotionally and socially. It is an opportunity for learners to develop of independent and self-determined learning for lifelong learning, to develop information and digital literacy, as well to improve foreign language skills (Birzina, 2015). *Student Online Learning Readiness* (SOLR) *Model*, which was used in designing the questionnaire, is well suited to evaluate students' preparedness. The model consists of four components that describe students' readiness for online learning, i.e., social competencies with the instructor, communication competencies, social competencies with classmates, and technical competencies (Yu & Richardson, 2015).

Methodology of the research

In order to clarify students' readiness for MOOCs, a questionnaire was designed. The conceptual framework of this study was adapted from the *SOLR Model* proposed by Taeho Yu and Jennifer C. Richardson (2015), Cecilia Mercado (2008) and the questionnaire developed by *Open University Malaysia* (Subramaniam, Suhaimi, Latif, Kassim, & Fadzil, 2019). *Survey-monkey's* electronic platform was used for data extraction. Open-ended questions were asked on the 4-point Likert scale (1 – strongly disagree, 4 – strongly agree). Items of the conceptual part were grouped in 5 blocks – four independent variables (socio-communication competencies, technical competencies, self-directness, and self-efficacy) and one dependent variable– MOOCs readiness (Figure 1).

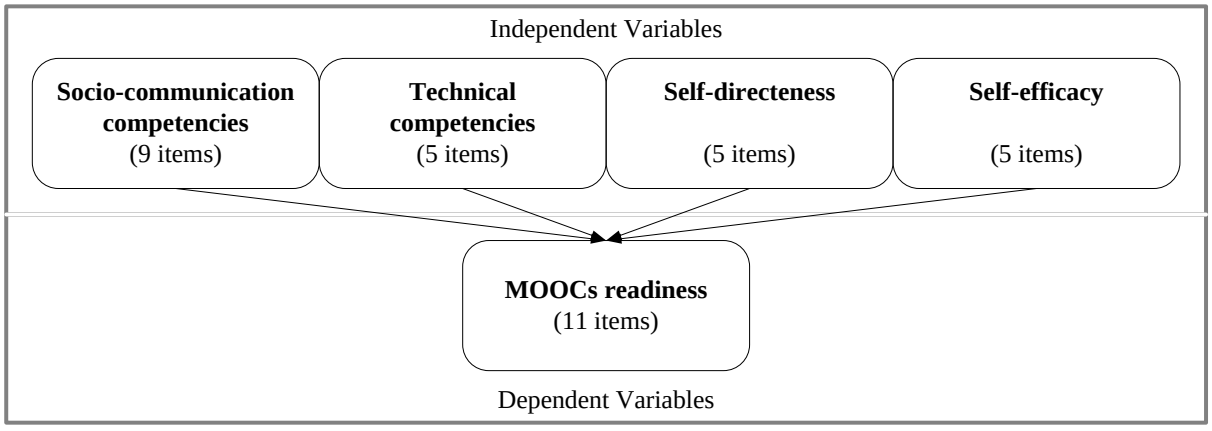

Figure 1 ***The conceptual framework*** *(Adapted from T. Yu & J.C. Richardson, 2015; C.A. Mercado, 2008; T.T. Subramaniam et al., 2019)*

Principal component analysis (PCA) with a varimax rotation was used. In order to find out whether PCA is suitable for these data sets the Kaiser-Meyer-

Olkin (KMO) measure of sampling adequacy tests and Bartlett's tests for sphericity were used. In order to establish a definite number of correct factors, the parallel analysis was applied. Spearman's correlation was used to clarify the correlations between these factors.

To compare the opinions held by full-time and part-time students, the Mann-Whitney U tests were used in data processing, the Kruskal Wallis test was used for sorting out differences in students' of different age groups opinions about the participation in MOOCs.

The study was carried out from January 25 to February 27, 2017; the participants were 391 students from higher education institutions of Latvia, of whom the questionnaire was fully filled in by 247 students. Of them, 196 were female (79%) and 51 male (21%) aged from 18 to 55 years. Most students belonged to the age group 18-25 years (n = 167; 68%), which means that the majority (53%) were the students of bachelor level study programmes. Two-hundred fifteen (87%) respondents study full time. Actually all 246 students (99.6%) have access to the internet, 234 (96.4%) have a smart phone as well as 97.6% have a PC / Laptop / Tablet. Approximately only 9% (n = 22) of these students have enrolled in MOOCs and 23 % (n = 57) plan their participation.

Findings of the research

In order to explore students' opinion about their preparedness for MOOCs, first, their motivation to enrol in these courses was found out. As seen in Table 1, students are most motivated for enrolling in MOOCs by the possibility to widen their knowledge (69%), socialising (39%), personal interest (84%) and networking (65%), less (10%) by professional development.

Table 1 ***Students' motivation to engage in MOOCs***

Enrol in a MOOC Course:	***n***	**%**
To widen knowledge	171	69.2
Socialising	95	38.5
Personal interest	84	34.0
Networking	65	26.3
Credit for university course	33	13.4
Continuous professional development	24	9.7
Exposure to online learning	13	5.3
Compulsory university course	11	4.5
Added value to resume	10	4.0

The use of the Mann-Whitney U tests allowed clarifying whether there were differences in separate items about the MOOCs readiness in the opinions

expressed by the full-time (FT) and part-time (PT) students. Table 2 demonstrates that there are statistically significant differences in the items about communication, the student's self-efficacy, self-directed learning and engagement. PT students in these items have higher *p* values, which could be explained by their experience and the choice of the study form where MOOCs have a greater importance.

Table 2 ***Full-time and part-time students' different views on enrolment in MOOCs***

Item	PL		NL		*p*
	M	***SD***	***M***	***SD***	
I am keen on meeting many new peers in my online course	2.61	.74	3.00	.63	.015
I find learning online is highly engaging and interesting	2.67	.69	3.00	.63	.030
I am confident that I can perform well in an online course	2.69	.68	3.12	.52	.002
I manage my studies in accordance to my study plan	2.93	.67	3.23	.65	.035
I look forward to engage in MOOCs	2.51	.75	2.88	.77	.018
I can commit the time needed to complete a MOOC	2.53	.85	2.88	.86	.042
Searching for MOOCs	2.06	.70	2.38	.80	.041

The Kruskal Wallis Test was used to find out the differences in students' opinions depending on their age. As shown in Table 3, there are statistically significant differences in the item *"I am ready to enrol in massive open online courses"* among students of different age. Students aged 26-45 years who have a greater life experience and thus are able to assess better the MOOCs possibilities choose more to enrol in such courses, while younger (18-25 years) and older students appreciate less such a possibility. As the number of students in different age groups is very different, it could serve as a limiting factor for the data interpretation.

Table 3 ***Response distribution depending on the respondents' age (N = 247)***

18-25 years (*n* = 167)		**26-35 years (*n* = 49)**		**36-45 years (*n* = 16)**		**46-55 years (*n* = 8)**		**Chi-Square**	***df***	***p***
M	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***			
2.62	.81	3.00	.76	2.94	.77	2.38	.74	10.296	3	.016

In order to find out whether the respondents' answers make reciprocally non-correlating sets of items corresponding to the developed blocs of items which afterwards could be used in designing indicators describing the MOOCs readiness, the factor analysis was performed.

The KMO measure of sampling adequacy was 0.90 and Bartlett's test of sphericity was significant (c^2 (247) = 3711.22, $p < .001$), thus the data were

meaningful and compatible to perform the factor analysis. The principal component analysis (PCA) was performed using the extraction method with the succeeding rotation of varimax with Kaiser normalization. Items with the factor loading no less than 0.50 were subjected to the analysis. The parallel analysis (PA) was used for establishing the number of principal components that had to be retained for the factor analysis. Thus, the three most important factors that explain 48% of the variance were defined (see Table 4 and Figure 2).

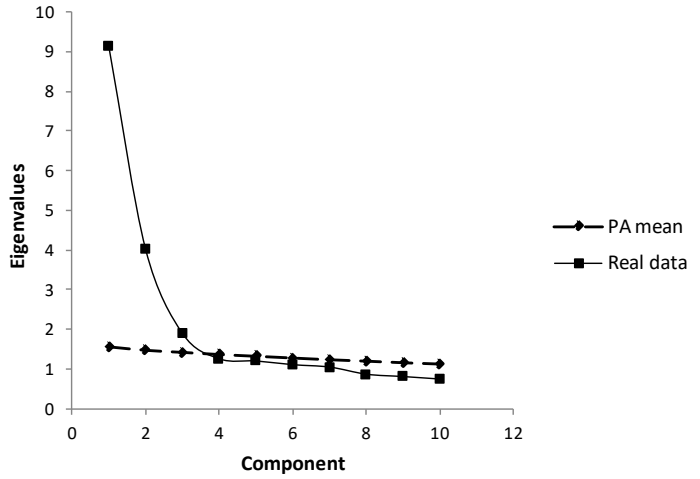

Figure 2 ***Plot of real data (PCA) and randomly generated eigenvalues (PA)***

The pattern matrix of the factor analysis in Table 4 depicts factor loadings above 0.5 and indicates that 24 items out of 35 original items were retained (with all 8 items under MOOCs *Readiness* (Factor 1 (F1)) retained), and the remaining factors were reduced from four to two. The final three-factor structure in this study was of 11 items for Factor 2 (F2) re-labelled as *Self-directness and Socio-Communication*, 5 items for Factor 3 (F3) labelled as *Self-efficacy*. The factor *Technological competencies* was not singled out because the separate items characterizing this factor correlate similarly with the items of other factors and do not provide intrinsic interpretation in the description of the factors therefore these items were excluded from the factor analysis.

Table 4 ***Results of the principal component analysis with a varimax rotation of items***

Item	***M***	***SD***	**Rotated factor load values**		
			F 1	**F 2**	**F 3**
29. MOOCs it is accredited by my University	2.90	.77	.86		
28. MOOC only if it contributes towards a degree	2.94	.81	.83		
25. MOOC if it is equivalent to a conventional course	2.82	.74	.82		
30. Ready to enrol in a MOOC	2.72	.81	.81		

31. Commit the time needed to complete a MOOC	2.58	.85	.74		
26. Look forward to engage in MOOCs	2.56	.76	.72		
27. Like to learn more about MOOCs	2.92	.73	.67		
34. Open for online assessments	2.70	.70	.64		
3. Able to express myself in a clear manner	2.98	.54		.67	
4. Able to give constructive feedback to others	3.13	.69		.65	
1. Comfortable in responding to other people's ideas	2.95	.69		.62	
22. Manage studies in accordance to my study plan	2.96	.68		.62	
8. Able to connect with others (peers and tutors)	3.13	.64		.62	
24. Seeking for resources and completing learning tasks independently	3.03	.64		.61	
21. Set up learning goals and study plan independently	3.10	.64		.60	
2. Comfortable in seeking for help when necessary	2.88	.69		.59	
23. Seek assistance when unable to solve problems	3.10	.60		.56	
20. Have high expectations for doing well my studies	3.06	.69		.53	
7. Confident in posting questions online if does not understand something	2.75	.75		.54	
11. Learn well in online course	2.45	.79			.71
12. Confident for performing well in an online course	2.75	.68			.66
10. Learning online is highly engaging and interesting	2.72	.69			.65
14. Confident in using ICT system and tools	3.08	.66			.59
13. Believe anyone can learn in an online environment	2.56	.80			.58
% of variance explained			30	12	5
Eigenvalues			2.77	3.01	2.54
Cronbach's alpha			.93	.87	79
Total variance explained: 48%					

The description of the separated factors. F1 - MOOCs *readiness* describes the students' readiness to engage in such courses, mainly connecting them with such a possibility from the position of their academic studies.

F2 - *Self-directness and Socio-Communication* describe the student's choice to learn in a self-directed way, to determine one's own learning goals, to plan independently one's own study process and to feel independent both in choosing the study resources and the performance of tasks, at the same time not refusing consultative support. This factor also shows students' readiness to participate in the communication with course mates and the teacher, forming a constructive dialogue.

F3 - *Self-efficacy* demonstrates the student's confidence in oneself, that MOOCs are a challenge that could make learning more interesting and engaging. They are certain that everyone can study very well in the electronic environment.

A Spearman's correlation was run to determine the relationship between the newly designed factors. There was a medium good, positive correlation between MOOCs *readiness* (F1) and S*elf-efficacy* (F3) (r = .55, n = 247, p < .001) and a

weak, positive correlation between MOOCs *readiness* (F1) and *Socio-Communication and Self-directness* (F2) (r = .34, n = 247, p < .001).

Conclusions

The study clarified the students' of higher education institutions of Latvia readiness for MOOCs in the context of technical competency, students' self-directness, and self-efficacy. The obtained results showed that students' understanding about the MOOCs readiness differs a bit different from the division blocs of the model used in the methodology. According to Latvian students' understanding the MOOCs readiness is mainly connected with self-directedness, socio-communication competencies, and self-efficacy. Technological competencies are considered as transversal skills (the skill to work in the internet obtaining the necessary resources, the use of the e-mail and social media) and do not create problems in using the multimodal MOOCs technologies. Students with certain life experience value higher the possibilities given by MOOCs for increasing the efficiency of the study process. MOOCs are more widely accepted as courses that may be suitable for study: they must be accredited and equivalent to a conventional course, and contributes towards a degree.

Students' self-directed learning process has an essential importance for enrolling in MOOCs. Free planning of one's time and performance of concrete learning tasks attract them. The approach of the digital generation is observed in the communication aspect, admitting that in order to communicate successfully with other they need such socio-communication competencies as providing constructive feedback, constructive expression of one's own thoughts in a way that is understandable to others, and feeling comfortable in case of seeking the help. However, if they have to make a choice between face-to-face learning and online learning, they give preference to the face-to-face study process.

In general, it can be considered that MOOCs are a challenge and students are ready to accept it because they find technology-enriched learning environment attractive for themselves.

The findings of the study prove that there is a necessity for further research about pedagogical and psychological factors that affect the learning in online courses.

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ЭЛЕКТРОННЫЙ ОБРАЗОВАТЕЛЬНЫЙ РЕСУРС В ВЫСШЕЙ ШКОЛЕ: ПРЕПЯТСТВИЯ И ВОЗМОЖНОСТИ

E-Learning Resources in Higher Education: Obstacles and Opportunities

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Abstract. *The purpose of the work is to create and use an electronic training course for University students (bachelor's level) on the topic "Fundamentals of Linguistics" on the Moodle platform. The methodological basis of the work is the principle of consistency, which correlates with the subject area of the project. In connection with the ideas of instructional design the modeling and design methods are also leading. With the help of private methods, methodological recommendations, skills of practical analysis of language phenomena are worked out. The novelty of the project consists in the integrated development of an e-learning course that has no analogues and uses the approved platform productively, based on the author's content. The analysis of distance learning in higher education in relation to the theoretical humanitarian discipline showed the great possibilities of the Moodle system: multi-channel information delivery, variability of forms, flexibility of the structure, taking into account all types of educational activity of students. Despite the relevance and demand for distance education, the work revealed its shortcomings: the lack of direct communication between the student and the teacher, and other psychological and pedagogical factors that form the academic environment. It is recommended to use the e-learning course developed and structured taking into account new trends in instructional design as a tool for supporting mixed education.*

Keywords: *distance education, educational technology, e-learning course, instructional design, Moodle platform.*

Введение
Introduction

Работа посвящена созданию и использованию электронного образовательного ресурса, основанного на платформе Moodle, в преподавании гуманитарных дисциплин.

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Целью работы является создание электронного учебного курса по теме «Основы языкознания» как составной части смешанного образования. Теоретические задачи исследования связаны с анализом и оценкой дистанционной формы обучения в высшей школе применительно к теоретической дисциплине. В работе также ставится задача разработки понятийного аппарата области исследования. Научно-практическая задача сопряжена с разработкой модели электронного учебного курса для студентов университета (уровень бакалавриата) по теме «Основы языкознания» на платформе Moodle.

Под электронным образовательным ресурсом понимается «образовательный ресурс, представленный в электронно-цифровой форме и включающий в себя структуру, предметное содержание и метаданные о них» (Elektronnye obrazovatel'nye resursy, 2015).

Система Moodle (от англ. Modular Object-Oriented Dynamic Learning Environment) – среда дистанционного обучения, успешно используемая в мировой практике начиная с середины 2000-х годов. В Псковском государственном университете (ПсковГУ) внутривузовский портал на платформе Moodle реализует обучение главным образом в рамках дисциплин физико-математического и естественнонаучного направлений. Платформа Moodle, будучи уже хорошо апробированной в образовательном процессе, тем не менее, слабо используется в гуманитарной сфере, а между тем она обладает большими возможностями для формирования компетенций путем использования активных форм обучения.

Традиционная классификация видов учебной литературы (учебник, учебное пособие, учебно-методическое пособие, курс лекций и т.д.) не может быть автоматически применена к электронным образовательным ресурсам, требующим учета их специфики. Наиболее адекватно отражает эту специфику понятие «электронного учебного курса» (ЭУК), которое определяется как «дидактическая компьютерная среда, содержащая систематизированный материал по соответствующей научно-практической области знаний (дисциплине), объединенная единой программной оболочкой» (Bezdol'nyj, 2009, p. 76). Таким образом, в работе приняты понятия электронного образовательного ресурса и электронного учебного курса, связанные отношениями общего и частного.

Методы исследования
Method of research

Методологической основой работы является принцип системности, коррелирующий с предметной областью проекта. В работе используются идеи нового перспективного направления в образовательной деятельности –

педагогического дизайна, в связи с чем одним из ведущих являются методы педагогического моделирования и проектирования. С помощью частных методик, методических рекомендаций отрабатываются умения и навыки практического анализа языковых явлений.

Исходные положения ЭУК «Основы языкознания» были апробированы в 2016–2017 учебном году. В последующем работа велась по структурированию курса на основе имеющегося авторского контента. Разработанный ЭУК «Основы языкознания» предназначен для обучения в рамках ряда смежных учебных дисциплин: «Введение в языкознание», «Теория языка», «Русский язык с основами языкознания», которые изучаются на первом курсе бакалавриата. Существенно, что дисциплины с названием «Основы языкознания» в учебных планах ПсковГУ нет, что создает бóльшие возможности вариативности обучения по конкретным учебным дисциплинам в отборе тем, дидактического и контролирующего материала, степени теоретической глубины изучаемого предмета.

Нам близка идея проектирования методов обучения «в соответствии с диагностируемыми психолого-педагогическими ситуациями» (Semenova & Slepuhin, 2013, p. 97), так как вышеперечисленные дисциплины включены в учебные планы разных направлений и профилей подготовки бакалавров. Так, очевидно, что выбор методов для приобретения знаний будет отличаться от методов, вырабатывающих умения. Но и в пределах каждой группы в зависимости от контингента обучающихся, например, при формировании системы знаний, выбор методов широк: объяснительно-иллюстративные, эвристические, проблемные и др.

Обзор литературы по электронным образовательным ресурсам
Literature review on e-learning resources

Об электронных образовательных ресурсах для высшей школы, а также в целом о внедрении информационных технологий в образовательный процесс за последние 15–20 лет опубликовано много информационных и аналитических работ, в которых обобщены преимущества и недостатки использования электронных ресурсов, продемонстрирована педагогическая технология обучения разным дисциплинам в компьютерной среде (Semenova & Slepuhin, 2013; Zaporozhko, Dyrdina, & Parfyonov, 2016). Так, при обучении в рамках учебных дисциплин информационно-технологической направленности «использование среды электронного обучения Moodle позволяет расширить возможности образовательного процесса» (Pisarev, 2011–2012, p. 73).

Как показывает изучение литературы по проблеме и наш педагогический опыт, создание электронной образовательной среды

является приоритетной и актуальной задачей современного вузовского образования.

Гуманитарная область знания, в том числе языкознание, в меньшей степени оснащена средствами и технологиями электронного образования. Так, например, в системе дистанционного обучения Moodle ПсковГУ функционирует более 150 курсов по разным дисциплинам, при этом филологии посвящен единственный курс «Основы языкознания». Вместе с тем именно лингвистика, благодаря системной организации самого языка, более других гуманитарных научных направлений восприимчива к внедрению структурированных электронных форм в научно-исследовательскую и научно-педагогическую деятельность (Zubov & Zubova, 2004; Potapova, 2012; Hrolenko & Denisov, 2012; Shchipicina, 2013).

Наибольшую эффективность система Moodle демонстрирует при обучении иностранным языкам (Bekhterev & Loginova, 2013; Zubov & Zubova, 2004; Plekhanova, 2014), том числе русскому языку как иностранному (Azimov, 2012, 2009). Педагогические технологии, включающие систему тренингов, применяемых в практических курсах, дают безусловный положительный эффект, даже с учетом издержек дистанционного обучения.

В высшей школе существует опыт использования дистанционных электронных ресурсов при подготовке магистров, причем при освоении ими теоретических лингвистических дисциплин: «Общее языкознание и история лингвистических учений» и «Речевая деятельность общества» для магистров-лингвистов профиля подготовки «Теория массовых коммуникаций и международные связи с общественностью» (Hromov, Skorikova, & Dneprovskaya, 2016). Авторы рассматривают разработанную ими модель дистанционного образования как движение в сторону создания предпосылок для внедрения сетевого обучения.

Без сомнения, информатизация учебного процесса признается одной из актуальных проблем современного образования. В мире происходит смена образовательной парадигмы с традиционной модели обучения к электронному обучению (e-learning) и далее к Smart-education (Tihomirov & Dneprovskaya, 2015). При этом изменяется сам вектор движения относительно образования: вместо прежнего направления учеников за образованием в один центр образовательный процесс направляется из одного центра – ко всем обучающимся (Nazarenko, 2015; Hromov et al., 2016). Эта педагогическая метафора отражает саму сущность инноваций в образовательном процессе, в первую очередь в высшей школе.

Вместе с тем, при всей актуальности и востребованности дистанционного обучения в преобладающем большинстве публикаций российские педагоги склонны рассматривать его как одну из технологий

смешанного образования. Под смешанным образованием понимается паритетное использование дистанционного обучения и обучения в аудитории. При этом в большинстве университетов о тотальной дистанционной системе высшего образования речь пока не идет. Дистанционность становится основным или единственным каналом получения образования в связи с удаленностью или ограниченными возможностями здоровья обучающегося.

Основные результаты исследования
Main results of the study

Проведенное исследование показало безусловную эффективность включения вузовского образования в процесс информатизации системы обучения. Более того, от преподавателя, вступившего на путь уже интенсивно развивающегося процесса, время требует особенно креативного осмысления сложившегося опыта. Разработанный нами ЭУК «Основы языкознания» на платформе Moodle построен на авторском образовательном контенте. Содержательную базу теоретической части составляет объемный терминологический словарь энциклопедического типа (Bol'shakova, 2013), доступный также в электронной версии (http://rusdict.pskgu.ru/).

Теоретический по преимуществу характер учебных дисциплин, содержание которых составляют основы языкознания, определяет главную сложность в организации учебного материала. Невозможно просто переместить на сайт готовый учебный материал из традиционно используемого формата, так как требуется организовать этот контент по законам электронного ресурса.

Модульная природа самой образовательной платформы Moodle детерминирует принцип организации и структурирования учебного материала. Курс содержит четыре учебных модуля:

1. Фонетика. Основы фонологии.
2. Лексикология. Лексикография.
3. Грамматика. Части речи.
4. Общетеоретические вопросы языкознания (условно объединяющий общелингвистические темы: социальная природа языка, происхождение языка, связь языка и мышления, классификации языков, виды и происхождение письма и т.д.).

Возможности платформы Moodle, разнообразие ее ресурсов определили состав учебных элементов. Электронный учебный курс в Moodle состоит из элементов двух типов: статических (лекция, книга,

презентация, задание, гиперссылка, видеоролик и др.) и динамических (тест, форум, чат).

Преимуществом электронной формы учебного пособия является возможность обновления и достраивания элементов. Так, с 2016–2017 учебного года курс «Основы языкознания» обновился более чем наполовину. При активном функционировании статических элементов динамические, такие как форум и чат, пока занимают резервное положение, так как проблемные вопросы обсуждаются со студентами на аудиторных занятиях (либо в соцсетях).

Не имея возможности охарактеризовать содержание и функционирование каждого элемента курса «Основы языкознания», покажем, как при восприятии и усвоении теоретического материала учитываются разные типы учебной активности студента. Система позволяет использовать: модуль «Книга», где создан многостраничный ресурс, подобный книге; модуль «Лекция», где теоретический материал структурирован на небольшие по объему фрагменты, завершающиеся контрольным вопросом, после ответа на который осуществляется доступ к следующему теоретическому фрагменту. Кроме того, студент может воспользоваться подготовленной преподавателем презентацией, где он встречает не сплошной текст, а систематизированный с помощью схем, таблиц материал с примерами. Таблицы, схемы, алгоритмы и образцы языкового анализа прилагаются в формате PDF. Гиперссылки открывают перед студентом другие содержательные ресурсы за пределами Moodle, в том числе электронные словари, энциклопедии, научные статьи и монографии, что расширяет и обогащает базовое знание. К отдельным темам осуществлены или запланированы элементы визуализации (например, видеоролик по обучению фонетической транскрипции).

Таким образом, в системе осуществляется принцип многоканальности подачи информации, что в итоге за счет многократного вхождения в материал разными путями и с помощью разных средств позволяет ученику освоить азы и далее в зависимости от личных предпочтений наметить индивидуальную траекторию по углубленному освоению дисциплины.

Считается, что основной трудностью создания электронного учебника является разработка содержательной базы. Работа над нашим проектом показала, что даже при наличии качественного, апробированного в аудиторной работе контента (содержательная подсистема) формирование нового электронного учебного комплекса, каким является ЭУК, требует разработки навигационной и диагностирующей подсистем (Bezdol'nyj, 2009, 76–77). Программная оболочка Moodle предлагает стандартное разнообразие форм, при этом максимальное заполнение их (книга, лекции, презентации и др.), выстраивание их взаимодействия, вариативность

использования в зависимости от разных учебных дисциплин и контингента обучающихся – все это области новаторской деятельности авторов курса, которые являются также и преподавателями учебных дисциплин.

Таким образом, новизна проекта состоит в комплексной разработке не имеющего аналогов электронного учебного курса, продуктивно использующего апробированную платформу, основанного на авторском контенте.

Помимо анализа проблем проектирования и функционирования электронного образовательного ресурса, наш педагогический опыт выявил и существенные психологические противоречия, сопровождающие дистанционное обучение. Система дистанционного обучения в идеале предполагает некоего абстрактного ученика, полностью готового к инновационной модели обучения и, главное, заинтересованного в «бесконтактной» форме получения высшего образования. Напротив, как следует из наших наблюдений, профессиональный и человеческий опыт педагога, совместное «переживание» новых знаний, сама академическая среда – все, что относится к сфере оценочного, «правополушарного» восприятия человеком действительности, не может быть устранено из естественного образовательного процесса. Считаем это одной из главных причин утверждения практики именно смешанного образования.

С другой стороны, и преподаватель высшей школы должен быть психологически готов к изменению своей роли: в современных условиях образовательной среды он выступает как «путеводитель» по курсу, организатор учебной деятельности. Дело в том, что в лингвистике преподаватель никогда не являлся только транслятором информации. Лингвистика, будучи самой точной из гуманитарных наук, требует от учителя высокой степени педагогической активности, применения «разъяснительной силы» при изложении учебного материала, чего можно достичь лишь при живом общении с учеником. Вместе с тем, в современных условиях креативность личности педагога целесообразно поддержать и дополнить новизной педагогических технологий.

Проектирование ЭУК в аспекте педагогического дизайна
Designing a training course in the aspect of instructional design

Создание электронного учебного пособия по гуманитарной дисциплине, в том числе по языкознанию, – это междисциплинарная задача, которая в идеале требует интеграции усилий разработчика, специалиста по программированию, и преподавателя-лингвиста, задача которого подготовить контент. Однако на практике новая компетенция появляется у самого ведущего преподавателя-филолога, совмещающего в себе не только

специалиста в области академической науки и соответствующей учебной дисциплины, но и также разработчика контента, а в дальнейшем – и тьютора, контролирующего и направляющего индивидуальную работу студента.

Выбор методов, форм и средств также осуществляет преподаватель в зависимости от конкретной учебно-педагогической ситуации (контингент, количество обучающихся, направление подготовки и ее профиль).

Таким образом, встав на путь освоения сферы электронного обучения, преподаватель в еще большей степени начинает осваивать «практику построения учебных материалов», что составляет сущность такой новой области, как педагогический дизайн (Voronina, 2016, 62). В указанной работе автор делает обзор развития педагогического дизайна (instructional design) за рубежом и в современной российской педагогике, подходов в понимании термина, дает критическую оценку самого термина, отягощенного посторонними ассоциациями.

За последние 15 лет в российской педагогике сложился круг теоретиков и практиков-разработчиков, вдохновленных идеями педагогического дизайна. Тиражируется суждение о том, что «информация сама по себе еще не обучение», подчеркивается необходимость формирования компетенций на основе триединства знаний, умений и навыков: «Важно не просто разместить информацию на экране, нужно выстроить систему управления (руководства) процессом обучения, которая проведет обучаемого от незнания к знанию, от неумения к умениям и навыкам, иначе – к формированию ключевых образовательных компетенций» (Abyzova, 2010, 14).

Несмотря на то, что педагогическому дизайну посвящено уже много исследований, в том числе и диссертационных (Patarakin, 2015), в российской педагогике нет общепринятого определения этого актуального термина. Содержанием педагогического дизайна признается «совокупность двух технологий: технологии педагогического проектирования, направленной на построение методической теории для конкретной предметной области, и технологий Web-дизайна, направленных на компьютерную реализацию этой методической теории для Internet-пространства» (Kurnosova, 2011, 748).

Таким образом, разработчик компьютерного учебного пособия должен руководствоваться не только своим научно-педагогическим опытом, но и учитывать новые тенденции в междисциплинарной сфере. Помимо анализа содержания и категорий педагогического дизайна, в российской науке и практике уже существуют разработки, обучающие проектировать учебные предметы в вузе и школе (Kurnosova, 2011; Lisicyna, 2018). Подчеркивается мысль о том, что педагогический дизайн как понятие распространилось из

американской учебной сферы и актуализировалось в эпоху интернета, однако идея педагогического проектирования содержательно коррелирует с идеями российской философии и методологии – «позицией Г.П. Щедровицкого и продолжает намеченную им линию» (Kurnosova, 2011, 750).

Так, эмпирическая деятельность преподавателя по структурированию учебных курсов (например, при создании рабочих программ, учебно-методических комплексов), по отбору средств и методов обучения, планированию самостоятельной работы студентов и т.д., а тем более многоаспектная деятельность по проектированию электронного учебного ресурса, приобретает в новых условиях статус педагогического проектирования, или педагогического дизайна. Представляется, что дело не в изменении терминологии, а в понимании многообразия информационно-образовательного пространства.

Выводы
Conclusion

Разработанный и структурированный с учетом новых тенденций педагогического дизайна электронный учебный курс «Основы языкознания» функционирует на платформе Moodle в Псковском государственном университете. Ресурс является авторской разработкой как по содержанию, системе дидактических средств, так и по проектированию.

Электронный учебный курс представляет собой программно-методический комплекс, позволяющий студенту самостоятельно освоить учебный курс или его раздел и при необходимости может быть использован как инструмент дистанционного образования.

Разработка гибкой модели управления знаниями студентов, основанной на взаимосвязи статического и динамического элементов курса, позволяет осваивать сложный, теоретически насыщенный контент с использованием современных электронных технологий. Вместе с тем в своем проекте мы не стремимся к введению полномасштабного дистанционного обучения, так как потери при отсутствии живого общения не компенсируются несомненными достоинствами проекта. Обладая технологическими возможностями дистанционного ресурса, сайт используется в качестве сопровождения смешанного образования.

Формируемая нами глубоко структурированная интерактивная обучающая система, как представляется, соответствует принципам фундаментальности программы академического бакалавриата и одновременно способна формировать практические умения и навыки. К числу ее основных характеристик относятся: модульный принцип

организации курса, многоканальность подачи информации, учет всех типов учебной активности студентов.

Опыт создания не имеющей аналогов модели электронного учебного курса позволил объединить такие взаимосвязанные компоненты информационно-образовательной среды, как: образовательные ресурсы, образовательная коммуникация и управление образовательным взаимодействием.

Проделанная работа показала, что платформа Moodle, будучи уже апробированной в образовательном процессе за пределами гуманитарной сферы, может успешно использоваться в филологии, так как обладает большими возможностями для формирования компетенций путем использования активных форм обучения.

Summary

The e-learning course "Fundamentals of linguistics", developed and structured in accordance with new trends in pedagogical design, functions on the Moodle platform at Pskov State University. The resource is the author's development both in content, system of didactic means, and in design.

The training manual is a software and methodological complex that allows the student to master the course or its section independently and, if necessary, can be used as a tool for distance education. However, in our project, we do not seek to introduce full-scale distance learning, as the losses in the absence of live communication are not compensated by the undoubted advantages of the project. Having the technological capabilities of a remote resource, the site is used as a support for mixed education.

The profoundly structured interactive learning system that we are developing seems to be in line with the fundamental principles of the academic baccalaureate program and at the same time is capable of developing practical skills. Among its main characteristics are: the modular principle of the course organization, multi-channel presentation of information, taking into account all types of educational activity of students.

The work done has shown that the Moodle platform, being already tested in the educational process outside the humanitarian sphere, can be successfully used in Philology, as it has great opportunities for the formation of competencies through the use of active forms of learning.

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ПЕДАГОГИЧЕСКАЯ МОДЕЛЬ ИНТЕГРАЦИИ ОБРАЗОВАТЕЛЬНЫХ КАРТ В ЦИФРОВУЮ ОБРАЗОВАТЕЛЬНУЮ СРЕДУ

Pedagogical Model for the Integration of Educational Maps in a Digital Educational Environment

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Abstract. *The processes of digitalization of all aspects of social life are also completely manifested in the field of education. The most comprehensive form of digitalization in education is the digital educational environment. The purpose of our study: to develop a pedagogical model for the integration of educational maps in that environment.*
The problems of analyzing modern approaches to building a digital educational environment and determining its structure, identifying the didactic properties of educational maps, as a structural element of such an environment are considered in the article. The digital educational environment should provide support for collective forms of learning and contain a continuously operating system of information interaction between students and teachers which allows flexible change of scenarios of that interaction. It is indicated accordingly that the digital educational environment should provide equal access rights for the student and teacher to the information and the ability to quickly restructure educational maps when the content of educational material changes. Two main scenarios of the functioning of the digital educational environment with integrated educational maps - synchronous and asynchronous are discussed in the article and a system of quality criteria for assessing the effectiveness of the functioning of that environment is proposed.
Keywords: *concept map, digital educational environment, educational map, intermodality, openness in education.*

Введение
Introduction

Процессы цифровизации всех сторон общественной жизни в полной мере проявляются и в сфере образования. Одной из наиболее актуальных и всеобъемлющих форм цифровизации в образовании является цифровая образовательная среда. К её функционалу относятся, в частности, отслеживание и оценка продвижения обучающегося по учебному материалу, обеспечение совместной работы и коммуникации обучающихся и преподавателей. Реализация данных функций возможна на основе

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создания, хранения и обработки формальных моделей учебного материала и знаний обучающегося. Соответственно необходимым элементом цифровой образовательной среды является инструмент, обеспечивающий работу с такими моделями, создающий предпосылки не только для отслеживания хода учебного процесса, но и для построения прогнозов его дальнейшей динамики и направленности. Проблема поиска таких инструментов относится к наиболее актуальным вопросам цифровизации образования. Многие современные исследования (Annansingh, 2019; Cañas, 2003; Cosentino de Cohen & Chu Clewell, 2015; Schwendimann, 2014) показывают значительный потенциал, которым обладают образовательные карты в данном плане.

Цель нашего исследования состоит в разработке педагогической модели интеграции образовательных карт в цифровую образовательную среду, позволяющей повысить уровень активности и самостоятельности обучающегося, обеспечить поддержку его позитивной мотивации и индивидуализацию процесса обучения.

В соответствии с поставленной целью задачи нашего исследования заключаются в анализе современных подходов к построению цифровой образовательной среды и определению её структуры, выявлении дидактических свойств образовательных карт, как структурного элемента такой среды. Также необходимо определить цели, задачи и методологические подходы и принципы построения образовательных карт и их интеграции в цифровую образовательную среду, выявить структуру образовательных карт, технологии их интеграции в цифровую образовательную среду и соответствующие требования к этой среде, описать сценарии функционирования цифровой образовательной среды с интегрированными образовательными картами, построить систему методов, критериев и соответствующих показателей эффективности функционирования цифровой образовательной среды с интегрированными образовательными картами.

В работе использовались следующие методы: анализ научной литературы по теме исследования, метод логического обоснования, сравнительный анализ.

Анализ проблемы и постановка задачи
Solving the problem

Проблема структуры образовательной среды, её свойств и технологической основы её создания является исключительно актуальной в настоящее время, она затрагивается в многочисленных исследованиях (Annansingh, 2019; Blažič & Blažič, 2019; Boyarinov, 2019; Cañas, 2003;

Cosentino de Cohen & Chu Clewell, 2015; Miller, 2004; Schwendimann, 2014). Большинство авторов рассматривает современную образовательную среду через призму информационно-коммуникационных технологий, что отражает интенсивно проходящие в обществе процессы цифровизации. Одним из результатов такого рассмотрения является понятие цифровой образовательной среды, основная функция которой состоит в «поддержке преподавания и учебной деятельности в среде Интернет» (Annansingh, 2019, 3). Ф.Аннансингх выделяет в её составе следующие элементы:

- различные сообщества;
- блоги и микроблоги;
- кооперативные, коллаборативные, социальные хабы;
- изображения, инфографика и средства обмена графической информацией;
- видео, стримы, подкасты, анимация и средства публикации обмена видеоинформацией;
- презентации и карты концептов;
- инструменты редактирования различных документов и обмена ими;
- различные Geo-сервисы (Annansingh, 2019, 3).

Обратим внимание на включение Ф. Аннансингхом карт концептов в состав цифровой образовательной среды. Характерными особенностями учебного процесса, протекающего в цифровой образовательной среде, являются его интерактивность и наличие интенсивных взаимодействий и взаимовлияний между обучающимися (Annansingh, 2019, 16).

Понятие «образовательная карта» (Cosentino de Cohen & Chu Clewell, 2015; Miller, 2004), как и родственные ему понятия «карта концептов» (Cañas, 2003) и «карта интеграции знаний» (Schwendimann, 2014) весьма широко распространены в современной педагогике. Ц. Козентино де Коэн и Б.Чу Клевелл трактуют понятие «образовательная карта» как совокупность промежуточных целей, задач, путей их достижения в рамках решения обобщенной задачи обучения (Cosentino de Cohen & Chu Clewell, 2015, 1). Таким образом, данные авторы в неявном виде связывают понятия «образовательная карта» и «образовательный маршрут». Сходных взглядов придерживается Р. Миллер, он рассматривает образовательную карту как набор всевозможных потенциальных альтернатив для обучения и личностного развития субъекта (Miller, 2004, 1). Карта концептов – это «графическое представление знаний, основными элементами которого являются понятия и отношения между ними» (Cañas, 2003, 5). Б.А. Швиндеманн вводит понятие «карты интеграции знаний» (knowledge

integration map) с целью упорядочить количественные методы анализа информации, содержащейся в карте (Schwendimann, 2014, 18). Характерной чертой карт интеграции знаний является наличие весов у элементов знаний и связей между ними.

Можно сделать вывод о наличии в современной педагогике предпосылок для разработки педагогической модели интеграции образовательных карт в цифровую образовательную среду, позволяющей повысить уровень активности и самостоятельности обучающегося, обеспечить поддержку его позитивной мотивации и индивидуализацию процесса обучения.

Результаты
Results

Основные блоки предлагаемой нами педагогической модели интеграции образовательных карт в цифровую образовательную среду представлены на рисунке 1:

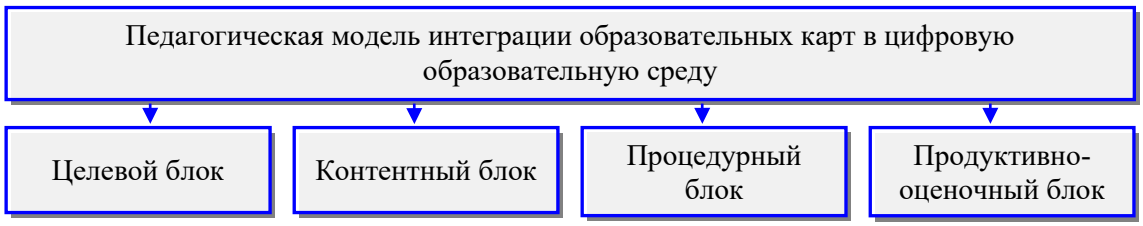

Рисунок 1. ***Педагогическая модель интеграции образовательных карт в цифровую образовательную среду***
Figure 1 ***The pedagogical model for the integration of educational maps in the digital educational environment***

Целевой блок. Целевой блок состоит из целей, задач, методологических подходов и принципов построения образовательных карт и их интеграции в цифровую образовательную среду.

Целью является повышение уровня активности и самостоятельности, поддержка позитивной мотивации обучающегося в условиях обучения в цифровой образовательной среде, индивидуализация процесса обучения.

Для достижения поставленной цели необходимо решение следующих задач:

1) формирование гибкой и индивидуализированной информационной среды, отражающей личностные установки и особенности обучающегося;

2) предоставление обучающемуся возможности взаимодействия с другими обучающимися и преподавателями в рамках различных сценариев, отражающих его индивидуальные особенности;
3) предоставление обучающемуся и преподавателю возможности непрерывно, в режиме реального времени, отслеживать движение обучающегося по образовательному маршруту, проектировать и прогнозировать дальнейший ход этого процесса;
4) создание индивидуализированных механизмов хранения и использования результатов обучения, создание системы поддержки сбора и анализа информации об индивидуальных образовательных достижениях.

Интеграция образовательных карт в цифровую образовательную среду должна проводиться на основе дидактических принципов интермодальности, адаптивности, обеспечения обратной связи и открытости.

1. Принцип интермодальности предусматривает наличие у каждого обучающегося возможности вовлечения в разнообразные формы учебной деятельности (Boyarinov, 2019, 30). Обучающийся должен выступать в различных ролях – собственно обучающегося, преподавателя, тьютора, координатора проектной деятельности, эксперта в определенной области знания.
2. Принцип адаптивности предусматривает способность цифровой образовательной среды изменять сценарии взаимодействия с основными субъектами учебного процесса (обучающимся и преподавателем) и менять определенные компоненты внутренней структуры в зависимости от содержания изучаемого учебного материала.
3. Принцип обеспечения обратной связи предусматривает наличие непрерывно действующей системы информационного взаимодействия между обучающимися и преподавателями.
4. Принцип открытости предусматривает возможность «внешней» и «внутренней» интеграции. «Внешняя» интеграция – это интеграция в информационную среду города, региона, государства и международное информационное пространство. «Внутренняя» интеграция подразумевает возможности включать в себя в качестве отдельных структурных элементов информационные системы более низкого уровня (электронные библиотеки, задачники и генераторы учебных упражнений, мультимедиа-контент учебного назначения и т.п.).

Контентный блок. Контентный блок включает описание структуры образовательных карт, технологий их интеграции в цифровую

образовательную среду и соответствующих требований к этой среде. Ещё одним элементом контентного блока является характеристика возможностей количественного анализа информации, содержащейся на этих картах.

Образовательная карта представляет собой графическое представление учебной информации, основными элементами которого являются понятия и отношения между ними. Элементам образовательной карты приписываются веса (в терминологии теории графов), описывающие следующие их атрибуты: степень усвоения данного элемента данным обучающимся в данный момент времени; объективную значимость элемента; порядок усвоения данного элемента данным обучающимся в рамках его образовательного маршрута; субъективную значимость элемента для обучающегося с учетом его личностных установок и особенностей. Веса используются, в частности, при построении образовательного маршрута обучающегося (индивидуального образовательного маршрута). Таким образом веса являются инструментом индивидуализации модели, позволяющим отразить личностные установки и особенности обучающегося.

Структурно карты состоят из набора вершин (соответствующих понятиям), рёбер (соответствующих отношениям между понятиями), массива весов вершин и ребер и множества образовательных маршрутов, описывающих ход процесса обучения каждого из обучающихся. Образовательные маршруты задаются последовательностью усвоения элементов карты.

Интеграция образовательных карт в цифровую образовательную среду осуществляется на этапе её проектирования за счет применения единого языка формального моделирования, унификации интерфейсов и процедур обмена информацией и применения модельно ориентированного подхода.

Реализация предлагаемых нами принципов обусловливает следующие требования к цифровой образовательной среде и интегрированным в неё образовательным картам:

1. Обеспечение равных прав доступа для обучающегося и преподавателя к информации, содержащейся в образовательных картах. Реализация в ходе учебного процесса коллективных форм работы, в том числе учебных проектов. Объединение в рамках одного проекта обучающихся разных возрастов.
2. Возможность оперативной перестройки образовательных карт при изменении содержания учебного материала. Использование при построении образовательных карт информации о текущем

уровне компетенций обучающегося и его индивидуальных особенностях.

3. Наличие информационных инструментов обеспечения обратной связи обучающегося с преподавателем как в рамках синхронного сценария (чаты, видеочаты, видеоконференции), так и в рамках асинхронного (форумы, социальные медиа).
4. Цифровая образовательная среда должна содержать в себе интерфейсы, обеспечивающие обмен информацией с другими информационными системами регионального и федерального уровня.

Возможности количественного анализа информации, содержащейся в образовательных картах, достаточно обширны. Это отмечалось некоторыми исследователями (Cañas, 2003; Schwendimann, 2014; Yin et al., 2005). И. Йин с соавторами охарактеризовали процесс создания карты концептов, как «измерение структуры знаний» (Yin et al., 2005, 167). К элементам, допускающим количественную оценку, относятся понятия, уровни иерархии, связи между понятиями, предложения (Cañas, 2003, 5; Yin et al., 2005, 166). Возможно количественное описание общей структуры построенной модели, основывающееся на оценке количества уровней иерархии. Б.А. Швиндеманн особо отмечал, что большее количество таких уровней свидетельствует о более высоким уровне знаний конкретного обучающегося (Schwendimann, 2014, 24). Предложения (тройки вида «концепт – связь между концептами – концепт»), являющиеся содержательно значимыми утверждениями о каком-либо объекте или событии (Cañas, 2003, 5) также допускают количественное описание. Количественно их можно оценивать одинаковым образом, либо дифференцировать веса (количественные меры), приписываемые предложениям, в зависимости от их относительной значимости в данном блоке учебного материала. Б.А. Швиндеманн предлагал оценивать только самые важные, «индикативные» предложения (Schwendimann, 2014, 25-26). Важным нам представляется интегральный количественный показатель, арифметическая сумма весов всех предложений на образовательной карте – общая оценка точности. Наиболее распространенный экспертный метод – оценка конвергенции (Schwendimann, 2014, 24). В рамках такого метода карта, построенная обучающимся, сравнивается с картой, построенной экспертом (контрольной картой). Оценка конвергенции количественно представляет собой удельный вес совпадающих предложений на двух сравниваемых картах. Для того чтобы исключить из процедуры анализа малосущественные связи, можно проранжировать все имеющиеся связи между элементами знания на карте по уровню их значимости (абсолютной или относительной, отражающей личностные

установки и особенности обучающегося) и включать в анализ только те, которые имеют уровень значимости, превышающий некоторое пороговое значение. Ранжирование и установление пороговых значений должен осуществлять эксперт. Известны также алгоритмы автоматического анализа образовательных карт, не требующие использования экспертных оценок (Schwendimann, 2014, 36).

Процедурный блок. Процедурный блок включает в себя описание сценариев функционирования цифровой образовательной среды с интегрированными образовательными картами. В составе цифровой образовательной среды образовательные карты должны реализовывать различные дидактические функции на различных стадиях проектирования и реализации учебного процесса:

- в качестве инструментов проектирования индивидуального образовательного маршрута обучающегося (Schwendimann, 2014, 33);
- в качестве инструмента обучения, для информационной поддержки обучающихся и организации индивидуальной или коллективной учебной деятельности в процессе освоения нового учебного материала (Schwendimann, 2014, 33);
- в качестве инструментов оценки уровня сформированности компетенций у обучающегося, для построения описания общей структуры знаний учащегося в данный момент времени;
- в качестве инструмента организации информационного взаимодействия обучающихся между собой и с преподавателями;
- в качестве инструмента информационной поддержки обучающегося, его мотивирования и визуализации процесса его продвижения по образовательной траектории;
- в качестве инструмента получения количественных характеристик учебного процесса.

Основные сценарии функционирования цифровой образовательной среды относятся к двум классам – синхронному и асинхронному (Annansingh, 2019, 3). С технологической точки зрения асинхронный сценарий основывается на использовании таких информационно-коммуникационных сервисов, которые не предполагают взаимодействие обучающегося и образовательной среды в реальном времени (форумы, электронные доски объявлений, электронная почта и т.д.). Такой сценарий может вызывать определенные затруднения у обучающихся, относящиеся прежде всего к отсутствию оперативной обратной связи с преподавателем и низкому уровню социального взаимодействия с ним (Annansingh, 2019, 4). Данные, полученные Б.Дж. Блажичем и А.Дж. Блажичем,

убедительно показывают, что в условиях цифровой образовательной среды поддержка и советы от других обучающихся не обеспечивают успешную адаптацию обучающегося во всех разнообразных сценариях её функционирования (Blažič & Blažič, 2019, 14). Соответственно есть необходимость в постоянной коммуникации с преподавателями (фасилитаторами). Цифровая образовательная среда сама по себе, без применения дополнительных технологий, не сможет обеспечить глубокое вовлечение обучающихся в учебный процесс (Annansingh, 2019, 17). Для того, чтобы обеспечить такое вовлечение, необходима «инструктивная поддержка», источником которой является преподаватель. Образовательные карты в рамках такого сценария должны служить инструментом организации взаимодействия преподавателя и обучающегося, так как они содержат всю необходимую информацию, описывающую движение обучающегося по образовательной траектории. Синхронный доступ преподавателя и обучающегося к таким картам в сочетании с наличием виртуальной коммуникативной площадки позволит обеспечить необходимый уровень их взаимодействия.

Особенность синхронного сценария состоит в том, что обучение происходит в режиме реального времени. Это обеспечивается использованием соответствующих информационных сервисов сети Интернет. В рамках синхронного сценария используются такие инструменты, как чаты, аудиоконференции и видеоконференции, совместное использование приложений и просмотр слайд-шоу и мультимедиа-презентаций. Синхронный сценарий также может вызывать некоторые затруднения у обучающихся при обучении в условиях цифрового образовательного пространства. Одним из основных является «проблемы с управлением временем» (Annansingh, 2019, 4). В рамках такого сценария образовательные карты позволяют обучающемуся получать информацию, необходимую для расчета времени для выполнения учебных действий, визуализировать этапы продвижения по образовательному маршруту, выступая в качестве ориентировочной основы учебной деятельности. В рамках синхронного сценария существенное значение имеет возможность взаимодействия с преподавателем как в форме плановых консультаций, так и в форме, названной Ф. Аннансингхом «помощь по запросу» (Annansingh, 2019, 4).

Продуктивно-оценочный блок. Продуктивно-оценочный блок разработанной нами педагогической модели содержит описание методов, критериев и соответствующих им показателей эффективности функционирования цифровой образовательной среды с интегрированными учебными картами.

Основным методом оценки эффективности функционирования является непрерывный педагогический мониторинг.

Система из четырех критериев оценки качества цифровой образовательной среды представлена на рисунке 2:

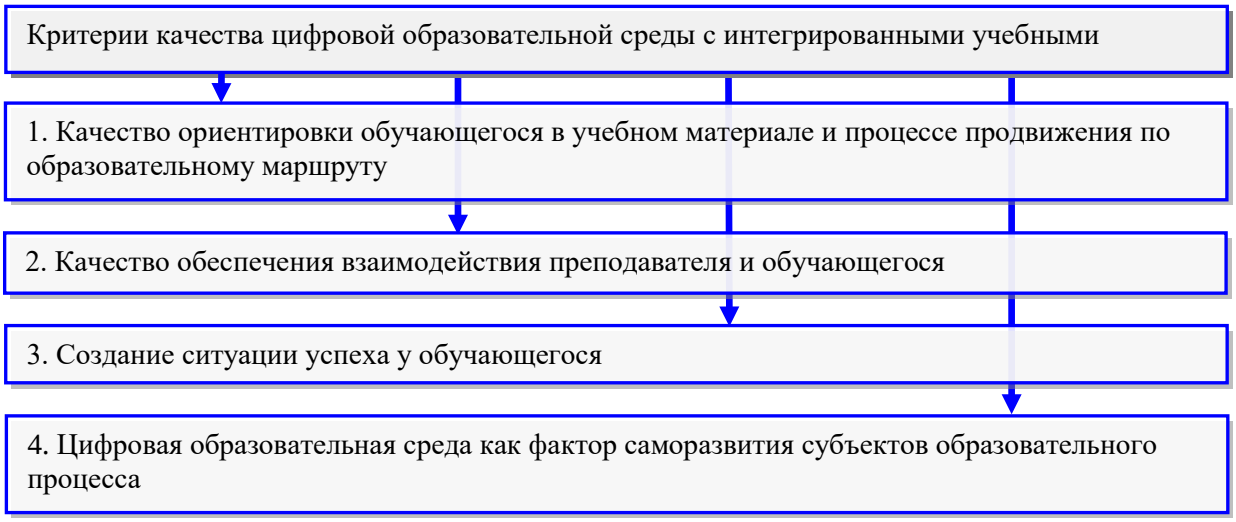

Рисунок 2. ***Критерии качества цифровой образовательной среды с интегрированными учебными картами***

Figure 2 ***Quality criteria for a digital educational environment with integrated learning maps***

Для каждого из критериев выделяются соответствующие ему показатели эффективности:

1. Основным показателем эффективности по первому критерию является академическая успеваемость обучающегося.
2. Показатели эффективности по второму критерию делятся на количественные и качественные. К количественным показателям относится количество сеансов взаимодействия преподавателя с обучающимся в рамках асинхронного сценария, объём времени, затраченного на взаимодействие в рамках синхронного сценария и удельный вес запросов обучающегося, адресованных преподавателю, на которые был получен полный ответ (последний параметр имеет нормативное значение, равное единице). К качественным показателям относится уровень удовлетворенностью обратной связью у обучающегося и у преподавателя.
3. К показателям эффективности по третьему критерию относятся: степень учета индивидуальных особенностей обучающегося; мотивирование обучающегося на успешное продвижение по образовательному маршруту; субъективные оценки

обучающимся степени успешности своей учебной деятельности и степени успешности себя, как личности.

4. К показателям эффективности по четвертому критерию относятся: наличие целей и задач, направленных на саморазвитие обучающегося и преподавателя; наблюдаемая динамика развития личности субъектов образовательного процесса.

Выводы
Conclusions

Цифровая образовательная среда, как отражение процессов цифровизации образования, представляет собой актуальный объект для педагогического исследования. Применение в рамках этой среды такого инструмента, как образовательные карты, позволяет, при определенных условиях, проанализированных в нашей статье, повысить уровень активности и самостоятельности обучающегося, поддержать его позитивную учебную мотивацию, индивидуализировать процесс обучения. Эффективность реализации предлагаемого подхода будет зависеть от соблюдения принципов интермодальности, адаптивности, обеспечения обратной связи и открытости.

Предложенную нами модель можно использовать при проектировании цифровых образовательных сред, ориентированных на поддержку позитивной мотивации и повышение уровня активности и самостоятельности обучающегося, индивидуализацию процесса обучения в условиях цифровизации образования. Дальнейшие исследования в данном направлении должны быть связаны в первую очередь с практической апробацией разработанной теоретической модели.

Summary

The digital educational environment, as a manifestation of the digitalization of education, is an actual object for pedagogical research. The subject of our study is educational maps, as a means of increasing the level of activity and independence, supporting the positive motivation of the student and individualizing the learning process in a digital educational environment. An educational map is a graphical representation of educational information, the main elements of which are concepts and relationships between them. Educational maps consist of a set of vertices (corresponding to the concepts), edges (corresponding to the relations between the concepts), an array of weights of vertices and edges, and a set of educational routes that describe the learning process of each student.

The pedagogical model for the integration of educational maps in a digital educational environment we propose consists of four blocks: target, content, procedural, and productive-evaluative. The target block of the model consists of goals, objectives, methodological approaches and principles for constructing educational maps and their integration into the

digital educational environment. The principles of intermodality, adaptability, providing feedback and openness are considered as the key principles. The content block includes a description of the structure of educational maps, technologies for their integration into the digital educational environment, and relevant requirements for this environment. The procedural block includes a description of the scenarios of the functioning of the digital educational environment with integrated educational maps. The productive-evaluative block contains a description of the methods, criteria and the corresponding performance indicators of the functioning of the digital educational environment with integrated educational maps.

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FUZZY LOGIC LEARNING METHODS IN STUDENT EDUCATION

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Abstract. *There is a rapidly growing interest in Artificial Intelligence applications in various modern areas. Students are very interested in modern data mining methods such as artificial neural networks, fuzzy logic and clustering. Teaching experience in study work shows that students perceive graphical information better than analytical relationships during learning process. Many training courses operate with models that were previously only available in mathematics disciplines. The solution would be to use the Matlab package to implement different models in Artificial Intelligence areas. Often, an analytical solution or simulation model is much simpler than a visual Matlab model, but it provides an insight into the usefulness of using such models for prospective training purposes. In previous articles, the author has provided examples of how Matlab's capabilities can be used in economic studies, artificial neural networks, and clustering. Fuzzy logic methods are often undeservedly forgotten, although the implementation of their algorithms is relatively simple and can be implemented even for students. In the research part of the study the modelling capabilities in data mining studies are demonstrated with fuzzy logic algorithms and real examples.*
Keywords: *data analysis, fuzzy logic, Matlab, modelling, teaching.*

Introduction

The purpose of studying various simulation models is to provide students with theoretical knowledge and practical skills in applying simulation methods to research in solving specific problems of modelling real applications and programming - cluster analysis, neural networks or fuzzy learning methods (Grabusts, 2019). During the study of such methods, students get acquainted with the means of simulation of the processes of functioning of systems, master the methods of simulation, typical stages of modelling the processes that make up the chain: building a conceptual model and its formalization - model algorithmization and its computer implementation - simulation experiment and interpretation of simulation results; master practical skills in the implementation of modelling algorithms to study the characteristics and work of complex systems (Kay, 1984; Karel & Tomas, 2015; Karris, 2006; Smith, 2013; Xue & Chen, 2013).

As a result, students acquire knowledge of:

- the basics of the theory and practice of simulation;
- main classes of domain system models, technology for their modelling.

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They should be able to:

- use the method of simulation for research, design of various systems;
- develop schemes of modelling algorithms for processes and systems;
- implement models using the application package of modelling software Matlab Fuzzy Logic.

Simulation is the most powerful and versatile method for studying and evaluating the effectiveness of systems which behavior depends on the influence of random factors.

Implementing such features in programming languages is a very difficult matter. Currently, there are quite a few software products that allow you to simulate processes. You can set aside a software product that allows you to solve these problems very effectively - the MATLAB package, which contains the visual modelling tool Fuzzy Logic Toolbox. This is a tool that allows you to quickly simulate the system and obtain indicators of the expected effect and compare them with the energy required to achieve them (Esfandiari, 2013; Kiusalaas, 2016).

The aim of the article is to show Matlab suitability for the purpose of visualizing simulation models of Fuzzy Logic Toolbox. To reach the aim, the following research tasks have been set: identification of Matlab possibilities for fuzzy logic realization; demonstrate visualization models on the basis of examples. Common research methods are used in this research: descriptive research method, statistical method, mathematical modelling, fuzzy logic algorithms.

Fuzzy Logic concept

Classical logic only admits conclusions that are either true or false. The mathematical theory of fuzzy sets and fuzzy logic are generalizations of classical set theory and classical formal logic (Dubois & Prade, 1980). These concepts were first proposed by the American scientist Lotfi Zadeh in 1965. The main reason for the emergence of a new theory was the presence of fuzzy and approximate reasoning when a person described processes, systems, objects (Zadeh, 1965; Zadeh, 1989).

Membership function is a characteristic of a fuzzy set. Let $MFc\ (x)$ denote the degree of belonging to the fuzzy set C, which is a generalization of the concept of the characteristic function of an ordinary set. Then a fuzzy set C is a set of ordered pairs of the form $C = \{MFc\ (x)\ /\ x\}, MFc\ (x)$ [0,1]. The value $MFc\ (x) = 0$ means the absence of membership in the set, 1 - full membership (Mamdani, 1977).

We formalize the inaccurate definition of "hot coffee". The use of fuzzy logic is mainly applied when some elements are not precisely defined by a classification; e.g. are 35^0 considered as hot for a cup of coffee? It might be too extreme to say that 35^0 is not hot for a cup of coffee. However, it might more precise to say that 35^0 are considered 40% hot for a cup of coffee.

The temperature scale in degrees Celsius will act as X (the domain of reasoning). Obviously, it will vary from 0 to 100 degrees. A fuzzy set for the term "hot coffee" may look like this:

$$C = \{0/0^0;\ 0/10^0;\ 0/20^0;\ 0{,}15/30^0;\ 0{,}30/40^0;\ 0{,}60/50^0;\ 0{,}80/60^0;\ 0{,}90/70^0;\ 1/80^0;\ 1/90^0;\ 1/100^0\}.$$

So, coffee with a temperature of 60^0 belongs to the set "hot" with a degree of membership 0.80. For one person, coffee at 60^0 may turn out to be hot; for another, it may not be too hot. This is where the fuzziness of the task of the corresponding set indicates itself.

For fuzzy sets, as for ordinary ones, the basic logical operations are defined. The most basic ones needed for calculations are intersection and union. To describe fuzzy sets, the concepts of fuzzy and linguistic variables are introduced.

A fuzzy variable is described by the set (N, X, A), where N is the name of the variable, X is the universal set (the domain of reasoning), A is the fuzzy set on X.

Possibilities of the software package Matlab Fuzzy Logic Toolbox

Of particular interest for modelling is the Fuzzy Logic Toolbox, designed specifically for modelling dynamic systems. It has a library of standard graphic blocks with built-in mathematical functions. Sometimes it is called a visual modelling tool (Fuzzy Logic, 2019).

Although Matlab is intended primarily for solving engineering, scientific and technical problems, the possibilities of its application are practically unlimited. The input parameters are set in an interactive mode by graphically assembling the circuit diagram of the elementary blocks, resulting in a model of the system under study. The blocks included in the model are interconnected, both by information and by management. The type of connection depends on the type of block and the work logic of the model.

The Fuzzy Logic Toolbox is the MATLAB extension package that contains tools for designing fuzzy logic systems.

The package allows to create expert systems based on fuzzy logic, conduct clustering with fuzzy algorithms, as well as design fuzzy neural networks. The package includes a graphical interface for interactive step-by-step design of fuzzy

systems, command line functions for developing programs, as well as special blocks for building fuzzy logic systems in Simulink (Karel & Tomas, 2015).

All functions of the package are written in the open language MATLAB, which allows to control the execution of algorithms, change the initial code, and also create its own functions and procedures.

Fuzzy Logic Toolbox features:

- graphical interface for interactive step-by-step design of fuzzy systems;
- functions for creating expert systems based on fuzzy logic;
- standard types of expert systems of fuzzy logic (Mamdani, Sugeno);
- functions for neuroadaptive and fuzzy clustering with learning;
- inclusion of fuzzy systems in the Simulink model.

When modelling, the principle of visual programming is implemented, according to which the user on the screen from the library of standard blocks creates a model of a device, process or system and performs calculations. At the same time, unlike classical modelling methods, the user does not need to thoroughly study the programming language and numerical methods of mathematics, but rather general knowledge is required when working on a computer, and, of course, knowledge of the subject area in which he works.

Having created the model in this way, running it, you can observe the simulation results. When modelling, the user can choose a solution method, as well as a method for changing the model time (with a fixed or variable step). During the simulation, it is possible to monitor the processes occurring in the system. Simulation results can be presented in the form of graphs or tables.

Research part

Fuzzy Logic Toolbox provides MATLAB functions for analysing, designing, and simulating systems based on fuzzy logic. Functions are provided for many common methods, including fuzzy clustering and adaptive neuro-fuzzy learning. That lets you model complex system behaviours using simple logic rules, and then implement these rules in a fuzzy inference system. You can use it as a stand-alone fuzzy inference engine (Fuzzy logic, 2019).

A series of studies were carried on to demonstrate the suitability of the Fuzzy Logic Toolbox for visualization of simulation models of various engineering disciplines. It should be noted that often the analytical solution is much simpler than the visual model, but in perspective it gives an idea of the usefulness of using such models.

The Tipping Problem: this example creates a fuzzy system using on a two-input, one-output tipping problem based on tipping practices. Given a number between 0 and 10 that represents the quality of service at a restaurant (where 10 is

excellent), and another number between 0 and 10 that represents the quality of the food at that restaurant. For this article, the example is adapted from (Fuzzy Example, 2019).

The starting point is to write down the three rules of tipping:

- If the service is bad or the food is bad, then tip is small.
- If the service is good, then tip is average.
- If the service is excellent or the food is good, then tip is big.

Assume that a small tip is 5%, an average tip is 10%, and a big tip is 20%.

In the Matlab Command Window run *fuzzy*. The Fuzzy Logic Designer opens and displays a diagram of the fuzzy inference system with the names of each input variable on the left and those of each output variable on the right, as shown in Fig. 1.

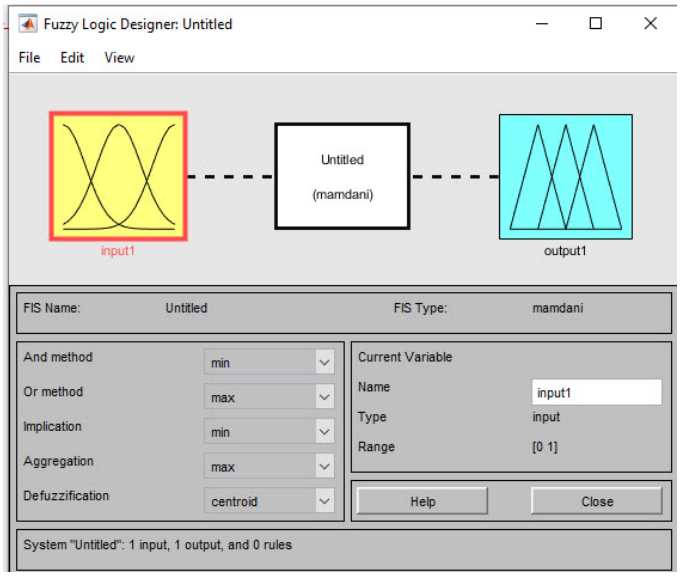

Figure 1 ***Fuzzy logic designer window***

In this example, we construct a two-input, one output system. The two inputs are “service” and “food”. The one output is “tip”.

The First step is defining the variables

Click on *input1* and change the name to “service” then add a new variable “food” to *Edit / Add Variable / Input*. Change *Otput1* to “tip” (see Fig.2).

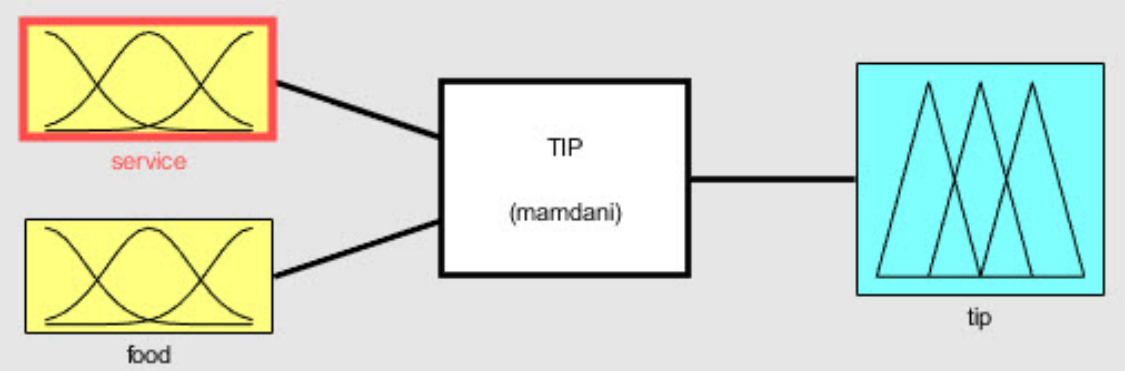

Figure 2 ***Fuzzy logic model variables***

Step Two - Membership Functions (Edit / Membership Functions)

Next, define the membership functions associated with each of the variables. To do this, open the Membership Function Editor. The Membership Function Editor is the tool that lets display and edit all of the membership functions associated with all of the input and output variables for the entire fuzzy inference system.

For the "service" enter the following data (see Fig. 3):

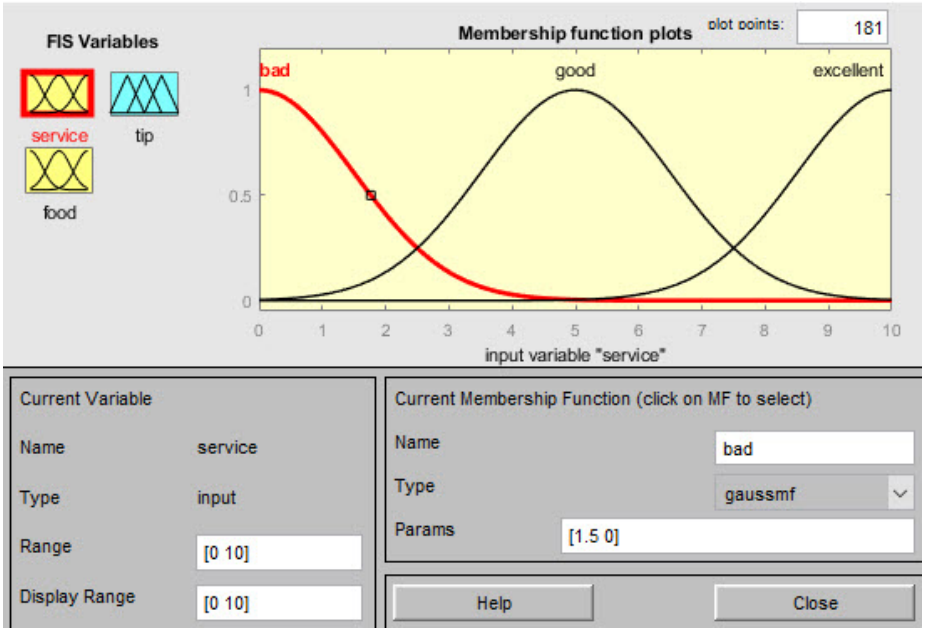

Figure 3 ***Membership function editor for variable "service"***

For “food”, enter the following data (see Fig. 4):

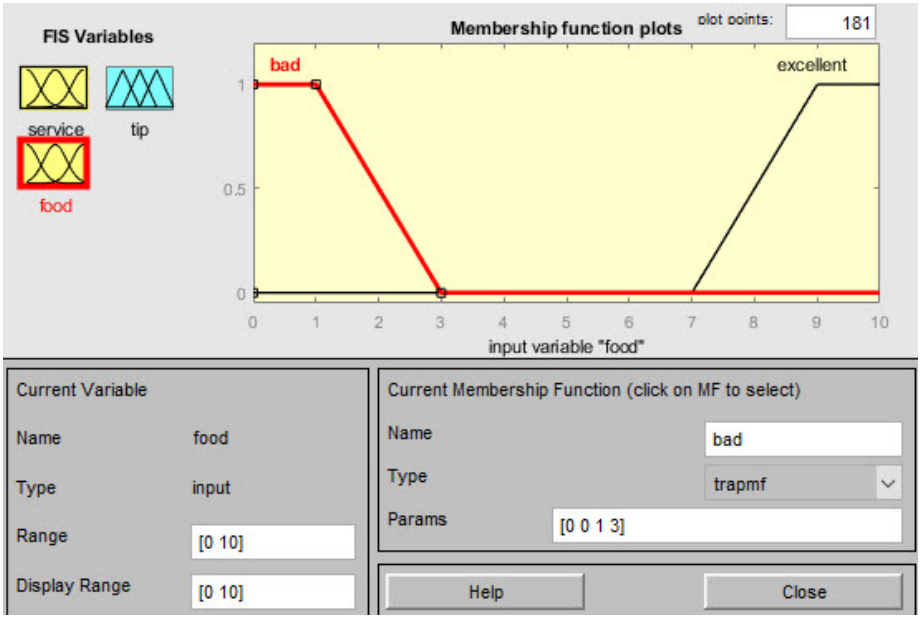

Figure 4 ***Membership function editor for variable “food”***

For “tip” enter following data: for “small” [0 5 10], for “average” [5 10 15], for “big” [15 20 25] (see Fig. 5):

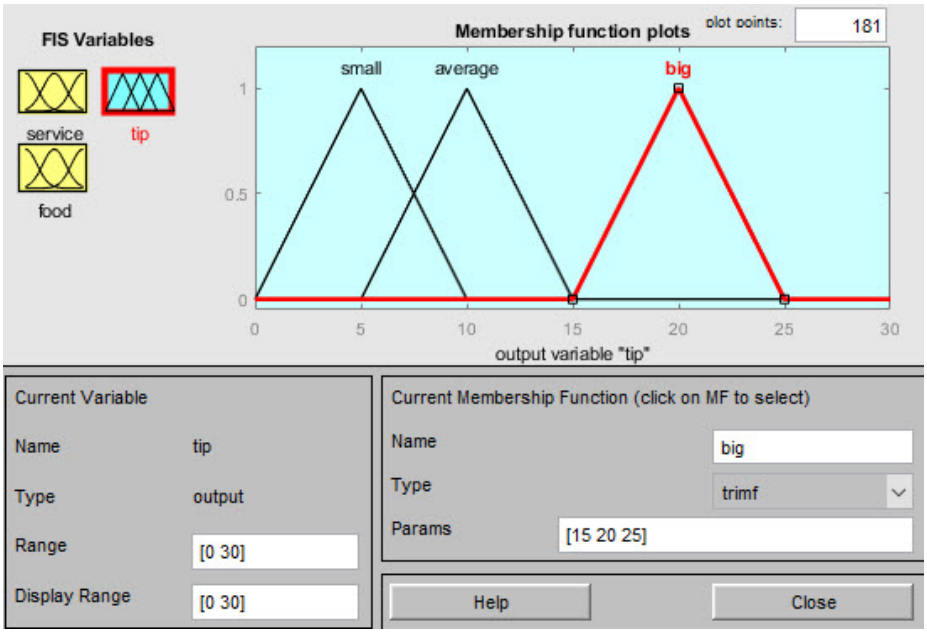

Figure 5 ***Membership function editor for variable “tip”***

Step Three - Rule Editor (Edit/ Rules/ Add Rule)

The result is shown in Fig. 6.

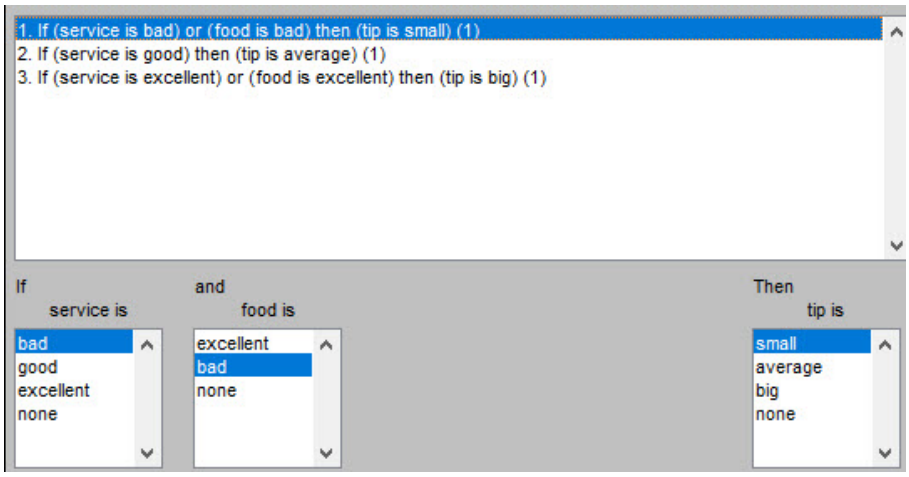

Figure 6 ***Rule editor window***

At this point, the fuzzy inference system has been completely defined, in that the variables, membership functions, and the rules, necessary to calculate tips, are in place.

Step Four – View Rules (see Fig. 7)

The Rule Viewer displays a roadmap of the whole fuzzy inference process. The Rule Viewer allows you to interpret the entire fuzzy inference process at once. The Rule Viewer also shows how the shape of certain membership functions influences the overall result.

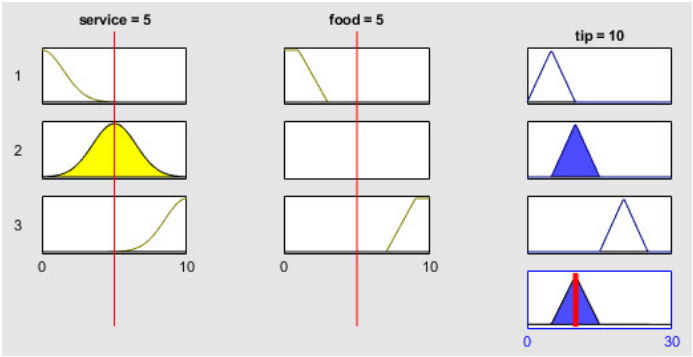

Figure 7 ***Rule viewer window***

Step Five - Checking the acquired Rules.

By moving the vertical red line for “service” and “food” with the mouse, you can verify the accuracy of the rules.

a) If the "service" is bad or the "food" is bad, then "tip" is small – result "tip" is 5.03 (see Fig. 8).

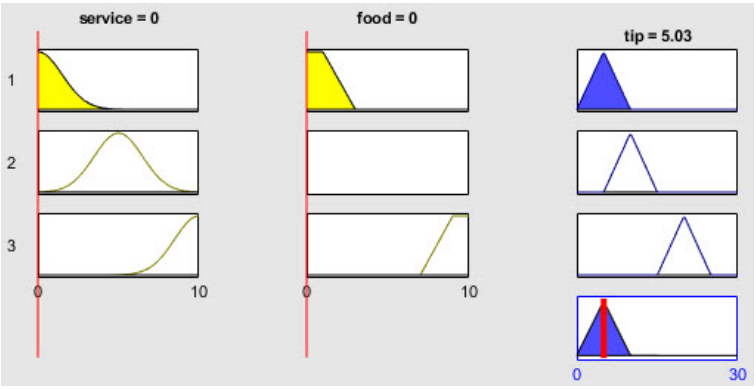

Figure 8 ***Result for first rule***

b) If the "service" is good, then "tip" is average – result "tip" is 12.5 (see Fig. 9).

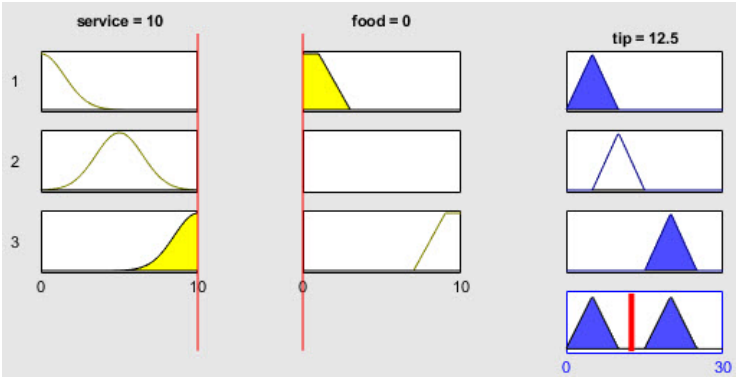

Figure 9 ***Result for second rule***

c) If the service is "excellent" or the "food" is good, then "tip" is big – result is 19.9 (see Fig. 10).

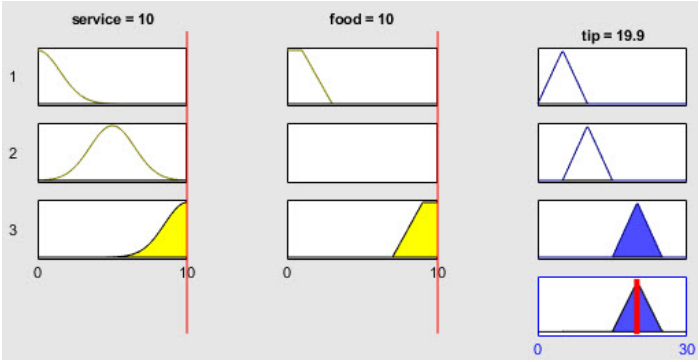

Figure 10 ***Result for third rule***

The graphical depiction of “tip” versus “food” quality is shown in Fig. 11.

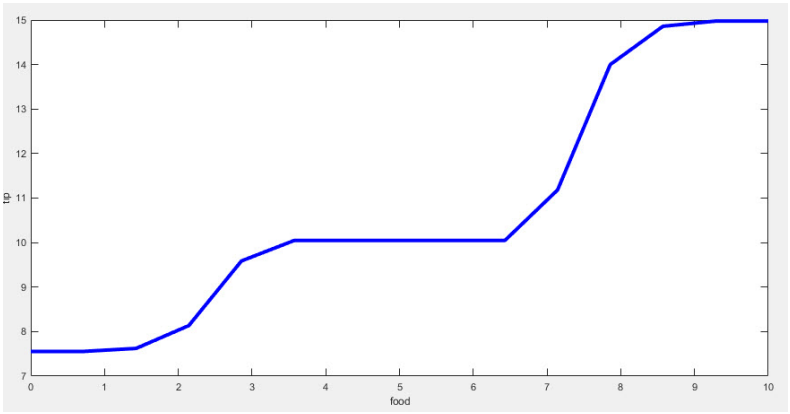

Figure 11 ***“Tip” dependence of “food” quality***

Other variants can be tested. In this system “service” is valued higher than “food” quality. For example, for “service = 10, food = 3” the system recommends “tip” = 20, but for “service” = 3, “food” = 10 the system recommends “tip” = 15.

It means that the fuzzy logic system is working correctly.

Conclusions

This work substantiates the usefulness of introducing simulation models in the initial learning process, when simulation models can also be introduced for the acquisition of analytical relationships for modelling purposes. This allows not only to understand the possibilities of using formulas, but also to visualize different relationships graphically.

The following research was carried out in this work: in the field of data analysis, Matlab's Fuzzy Logic package is explored with the aim of finding out how it solves practical problems. These types of packages make it easier for the user to take working decisions, increasing the efficiency and quality of taken decisions.

It has been concluded that fuzzy logic class tasks can be successfully applied in the early stages of data analysis. Such systems can show good results in information selection and analysis.

Thus, it can be concluded that Matlab Fuzzy Logic modelling tool is a very suitable tool not only for calculations in engineering, but it can also serve as a visualization tool for simulation models in various artificial intelligence applications.

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IMPLEMENTATION OF E-LEARNING AS AN INTEGRAL PART OF THE EDUCATIONAL PROCESS

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Abstract. *The paper aims to examine current tendencies in implementing e-learning as an integral part of the educational process. The relevance of e-learning as an advanced and effective technology of intensification and digitalization of teaching is proved. Theoretical research methods are used to analyze scientific, pedagogical and psychological researches on the issues of using e-learning while teaching students. Synthesis and analysis refine the conceptual apparatus of the study. Methods of induction and deduction have been used to establish links between basic concepts and their peculiarities, the research method has been applied to formulate conclusions of the study, the prognostic method has helped to substantiate innovations in the educational process with the use of e-learning. Scientific views have been analyzed regarding the definition of e-learning. A scientific approach to implementing e-learning in educational institutions has been carried out. Modern methods forms of e-learning have been identifies and their classification into person-oriented and group-oriented ones have been developed depending on the target audience and particular objectives of the class. It is resulted that blended e-learning can be considered as the most suitable and farsighted one. Within our investigation it has been concluded that e-learning is an effective and innovative educational technology that can improve the teaching process in educational institutions. It is been established that implementation of innovative e-learning methods at the foreign language classes have increased foreign language proficiency of students, let us involve all the group into active work, provided the best conditions for gaining listening and reading skills, increased motivation for learning, promoted personal development of students, made the teaching process student-centered.*

Keywords: *e-learning educational process, information technologies, communication technologies forms of e-learning, methods of e-learning, blended e-learning.*

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Introduction

Nowadays, the Internet is becoming one of the most important ways of obtaining and distributing information for both students and teachers. Advanced online technologies enable people to share ideas, provide the environment for creative collaboration and develop a collective intelligence. Implementation of up-to-date educational digital techniques and the use of electronic didactic tools make the teaching practice much more effective.

Availability of the Internet let the Universities deliver educational courses and resources making traditional teaching methods less popular with the students. Conventional educational technologies do not always meet modern requirements, since some traditional elements are already outdated, e.g. higher education as a form of lifelong learning, a teacher-centered approach, structure of the academic courses, some forms of the educational process organization, books as the main tool of obtaining information.

Electronic pedagogy as a field of general pedagogical science that studies teaching organized through the Internet or online instruction is being developed in response to the needs of the modern digital generation. E-learning has originated as a name for the advanced developments provided in education through the application of Information and Communication Technologies (ICT) and the Internet (Tibaná-Herrera et al., 2018). However, the concept of e-pedagogy has no single definition. In our opinion, the most general is the one that defines pedagogy as the scientific study, description and prediction of processes in any electronic educational environment (Kostikova, 2015, p. 9).

Basic principles of e-pedagogy have been outlined by the researchers. According to them, e-learning is aimed to ensure frequent and regular contact between the teacher and students as well as among students, develop reciprocity and cooperation among students, provide students more with feedback than evaluation, create positive and supportive learning environment, respect the talents and learning styles in creating learning activities and materials, provide students with clear expectations from the beginning of the course, provide teachers with proper training for e-learning (Simuth & Sarmany-Schuller, 2012).

Nowadays, the terms “e-textbook”, “e-education”, “e-learning” are being widely used. Electronic didactics in the electronic educational environment is evolving fast enough due availability of the digital teaching techniques. Therefore, e-learning is becoming an advanced and effective technology of intensification and digitalization of teaching.

The paper aims to specify the term “e-learning” as an integral part of the process of teaching foreign languages, outline and classify basic methods of e-learning and provide effective practical techniques for implementing e-learning in the process of teaching “Business Foreign Language” .

Research methods

Theoretical research methods are used to analyze scientific, pedagogical and psychological researches on the issues of using e-learning while teaching "Business Foreign Language" to students. Synthesis and analysis refine the conceptual apparatus of the study. Methods of induction and deduction have been used to establish links between basic concepts and their peculiarities, the research method has been applied to formulate conclusions of the study, the prognostic method has helped to substantiate innovations in the educational process with the use of e-learning.

Results and discussion

There are many definitions of e-learning, but it is controversial to find a common one. Some scholars describe e-learning as online learning for students who learn the material at a distance, while others view e-learning as a specially created learning environment that functions to spread and enhance collaboration. Is e-learning the online learning or the blended learning version or the distance learning? Some researchers consider e-learning more than online training courses. For example, Oblinger & Hawkins (2005) state that e-learning originates from online technology courses and becomes an independent course that is provided with continuous access at any time from anywhere.

E-learning is also related to learning using information and communication technologies that provide access to e-learning. Abbad, Morris, & Nahlik (2009) interpret e-learning more widely, that is, the process of learning online. Most researchers use the term "e-learning" speaking about distance and blended learning (Dewey & DeBlois, 2006).

However, in our opinion, distance and blended learning are two different and independent teaching techniques, although they have similar features.

Reviewing the literature, Liu and Wang (2009) have found that the Internet is the basis for e-learning and is a resource for the exchange and distribution of information, providing flexibility for learning and helping to overcome problems connected with distance and time. Scientists have the opinion that the development of the Internet has turned distance learning into e-learning (Liu & Wang, 2009).

Modern scholars identify e-learning as a revolutionary approach to learning (Jennex, 2005; Tao, Yeh, & Sun, 2006). This is an innovative environment that enables students at universities to receive individualized training. This fact promotes effective interaction and collaboration among students and in the teacher-student mode. Liaw & Huang (2007) focus on the maintenance, low cost, quality and rapidity of e-learning. It is clear that e-learning enables students of

higher education to receive education, achieve their goals, and make their own careers without necessarily attending the university. Thus, there is no commonly accepted definition.

Somayeh et al. (2016) believe that e-learning belongs to a system of work when the teacher and the student are physically separated from one another, but are connected through the methods of advanced information technologies. Scientists suggest to promote these methods as they develop students' critical and creative thinking and are more motivated to study. The prevailing opinion is that when a student decides to study online, he takes maximum responsibility for the skills and abilities he needs. Thus, students learn how to learn. In addition, according to Monderna & Voinarovska (2019), it is essential to comply the following conditions in order to enhance the efficiency and productivity of a person's activity: multiplicity of motives within a definite field of activity, level of their advancement, positive attitude towards the process, stability and power of the motives, and hierarchy structure of the motivation.

Scientists have demonstrated the dominance of autonomy and, as a consequence, independence of students in e-learning (Mehrdad et al., 2011). Criteria such as self-determination and independence lead to a process of learning enjoyment while increasing the effectiveness in achieving goals.

Today forms of e-learning are diverse. Innovations in the sphere of technological progress gradually improve and renew the existing e-learning forms. The process of digitalization is constantly adding new forms and, as a result, methods to electronic teaching. These forms include web-based learning, webinars or virtual classrooms, video-based, collaborative, custom and mobile-learning. We consider all the existing e-learning forms could be classified as person-oriented and group-oriented ones. Web-based form, video-based learning and mobile e-learning belong to the person-oriented group according to our classification, while virtual classrooms, collaborative learning and custom e-learning belong to the group-oriented one. Person-oriented group of e-learning forms does not include on-line interactivity but group-oriented forms are closely connected with the interactive component within the process of e-learning.

Web-based form of learning can be accessed via web browsers. Its main advantage is the possibility for learners to organize the process at their own pace. Personal tempo and mode are formed within the set time. Moreover, the educational process can take place almost everywhere, including home place and there is no necessity to be present at the training centre. Today the web-based form of learning is popular enough and considered to be a user-friendly medium. At the same time it's necessary to note it may need special bandwidth and software and systematic self-organization as well. In fact, some people prefer to learn "alive" among students and having a teacher in front of them.

This fact has led to the creation of virtual classrooms as another form of e-learning. A virtual classroom is similar to a traditional classroom, except that the teacher and students login virtually from different places. One of the forms of such an actual learning is webinars. It's delivered through video conferencing software and can be a training session or workshop.

Another form of modern e-learning is video-based learning. No doubt videos are useful in learning as they are bright, rich in graphics and very informative. As well they can keep human attention for a long period of time. Psychological analyses prove videos can be processed by human brains many times quicker than text as they don't demand as much imagination as simple texts (Margalit, 2017). Bright scenes and pictures are already present in videos so learners just have to accept them in the ready-made state. Videos can include animations, documented case-studies, interviews and testimonials of experts, or screencast recording. Like web-based learning videos can be watched from anywhere and rewatched as many times as learners need.

In the everyday life more and more people prefer to get information from video sources. Therefore video-based learning must become an integral part of education today. Video is the best way to make people share and interact with content since they get involved quickly. So, to our mind, videos are always good to begin with. For instance, every new unit in e-learning process could be started with watching a video containing new topical material.

Being one of the most impactful ways to speak to the audience printed information can't get substituted fully by video e-learning. According to psychologists, while reading an article people don't just look at the words in front of them but create thoughts about that content, activating their mental structures (Margalit, 2017).

Thus, watching and reading are two contrary psychological processes, i.e. passive and active. This fact makes us come to the conclusion that videos can't be the only form of e-learning as this way learners do not get activated which is actually of paramount importance by any type of learning.

Another well-known form of e-learning is collaborative learning based on the interaction. Students interact with each other, their teacher or other experts who can help in special fields of science. Discussions, brain-storming, disputes like "pros and cons" can be organized due to the possibilities of chats, messengers, etc. Collaborative form of learning is the best way to share fresh ideas, to find new perspectives, to start innovations, to find out advantages and disadvantages. Collaborative learning makes learners think and be active. To our mind, such form of learning is the easiest and powerful way to improve knowledge and make it perfect. Today social media platforms like Facebook, Twitter, Instagram, etc. can help to organize collaborative e-learning.

Time changes the demands to e-learning content and knowledge of e-learners. In addition, different companies have different demands for future employees. Yet as well training should be aligned with learners' specific needs. These facts have originated custom e-learning in the way of special training courses for the target audience. Michael Allen, a well-known author, argues that custom e-learning courses have content that is carefully curated to address learning objectives, which fill the performance gaps of learners. The process of custom e-learning development includes the collaboration and combined efforts of different experts such as instructional designers, authoring tool experts, subject matter experts, and a lot of careful planning and project management to facilitate the development of learner-centric courses (Omer, 2019). Many organizations create in-house teams for developing such courses. *As for the above mentioned we conclude this form is closely interrelated with micro e-learning allowing learners to focus on specific information.*

Smartphones and other mobile devices have changed our life and brought to life mobile e-learning as a part of the educational process. Accessibility of any information due to mobile devices makes life mobile and flexible. For many learners who are constantly on the run it becomes the best and often the only way to learn. For the young generation mobile devices are an essential and integral part of their lives. This fact has made mobile learning an independent online learning format.

Taking into consideration the information about the existing forms of e-learning we come to the conclusion that every form has its advantages and disadvantages. Nevertheless each form can be a good addition to other forms. Therefore to make e-learning process integral and diverse teachers have to combine different e-learning forms: person-oriented forms have to be closely connected with group-oriented ones.

Classification of e-learning tools according to the main activities can be the basis for identifying the most impacted Quality Score Groups for the formation of certain types of educational competences. This is a must for determining whether said software contributes to the formation required types of student learning competencies. In turn, it could be an important step towards identifying adequate quality metrics the use of these tools, which will allow the development of more efficient quality assessment techniques, providing guidance on more appropriate paths in selection and use of e-learning tools and methods (Evans et al., 2019).

Depending on the specific objectives of the e-learning in general and aims of its separate units one or several e-learning forms can be leading and dominant. This mix is known as blended learning. To our mind blended e-learning is the best way to introduce education distantly with the help of electronic devices as it makes the process of learning diverse, polyhedral and thus not monotonous and boring.

The e-learning methods are predetermined by its forms. The most general of them include synchronous and asynchronous e-learning methods.

According to Soni (2015), synchronous events are those that happen in real time. To provide synchronous communication between two people, both of them must be present at a given time. Widely used examples of synchronous e-learning are chats, video and audio conferences, live webcasting, application sharing, whiteboard, polling, and virtual classrooms. Asynchronous e-learning is not time-dependent since it can be performed at any time. Popular examples of asynchronous e-communication are the discussion forums and e-mail. Asynchronous e-learning let the students master the course at their own pace coming back to the previous studied information any time thy need and revising the material as many times as a person requires. Examples of practical implementation of asynchronous e-learning are audio/video, E-mail, discussion forum, Wiki/Blog, Webcasting/Conferencing, CBT and WBT, Simulations, Game-based learning, etc. (Soni, 2015).

We consider blended e-learning to be the best techniques both in terms of its forms and methods. Proper combination of synchronous and asynchronous e-learning methods depends on the target audience. Thus, children audience needs mostly synchronous learning while adult audience goes on well enough with asynchronous methods. Four basic methods in e-learning which are simple enough and can suit any audience have been distinguished (Hyla, 2015). They are “workbook method”, “the method of tours”, “repetition” and “note-taking”.

Workbook structure and function remains the same: to practice fresh knowledge through exercises but it can become improved due to possibilities of electronic devices today. Hyla (2015) suggests there should be built an easy-to-difficult practicing path based on consequent steps with highly interactive (yet easy to use and well explained) exercises. The exercises can be made visually appealing and fun and astonish trainees with every single screen. It is considered a good idea to create an e-learning course mostly based on exercises.

Another method is to organize virtual tours to historical sites (castles, battlegrounds), biosphere sites (botanical gardens, forests, mountains), various museums, etc. These tours can be a great experience when combined with storytelling (by a guide or a teacher).

Repetition is one of the most important methods as according to Hermann Ebbinghaus’ Forgetting Curve theory (Pappas, 2014) all people have to repeat in order to remember things and routines. If we do not do this, the vast majority of new information will disappear during the first 24 hours of the learning process. So, every portion of information needs “coming back” and repetition. Students can be suggested to print out cheat-sheets, check-lists, visuals, mind-maps, etc. Every such activity becomes additional stimulus to revise material.

Note-taking is also important as it allows students to put information into their personal context by paraphrasing it, arranging it in individual structures, or connecting it with individual experiences. In e-learning students can use special options for taking notes or marking informative fragments. In our opinion, mind maps can help the best way in summarizing every module of e-learning course.

Distance learning course "Business Foreign Language" was developed on the basis of the Internet platform Moodle for carrying out individual work by future interpreters. This course enables the students to look through all the materials that the teacher provides during the classes throughout the study; print it, if necessary; do homework and work independently, etc.

The distance learning course "Business Foreign Language" aims to form foreign language communicative, informational, professional and cognitive competence of students and the ability to use business terminology for academic and professional needs, to develop skills of oral (dialogical and monologic) speech, writing, functional reading, skills of writing abstracts, etc. The distance course is divided into separate sections, which contain the following components: methodical guidelines for the course; video and audio materials; curriculum of the course "Business Foreign Language"; thematic plans and grading criteria; list of recommended literature, glossary; plans and tasks for practical classes; tests; methodical guidelines and individual assignments; tests for self-control; program questions for the exam; grammar tasks; multimedia course materials, etc.

Web-quest technology has been used an effective methods of forming foreign-language communicative competence necessary for further professional activities of future specialists. Web-quests have enables the students to develop such competences as making social role choices, skills of teamwork, ability to think creatively, etc. The main purpose of the web-quest is to provide students with practical skills and knowledge that they need in real life conditions as well as to form such indicators of competence as the internal motivation to creative self-realization; knowledge in the field of translation studies, economics, tourism, management, business, knowledge of management technology; speed, flexibility, originality, associativity of thinking; possession of techniques for generating and analyzing ideas, initiative in activities; the ability to influence subordinates, contact; basic managerial skills, experience of creative activity.

In the course of teaching "Business English" to students, we have widely used the most common interactive methods in professional education, e.g. brainstorming, the method of prediction or forecasting, PRES-method, etc.

Another important aspect in the formation of foreign language competence is the use of information and communication technologies, the work with computer and multimedia educational programs, the distance learning technologies in foreign languages, the creation of presentations in the Microsoft Power Point, the usage of World Wide Web resources.

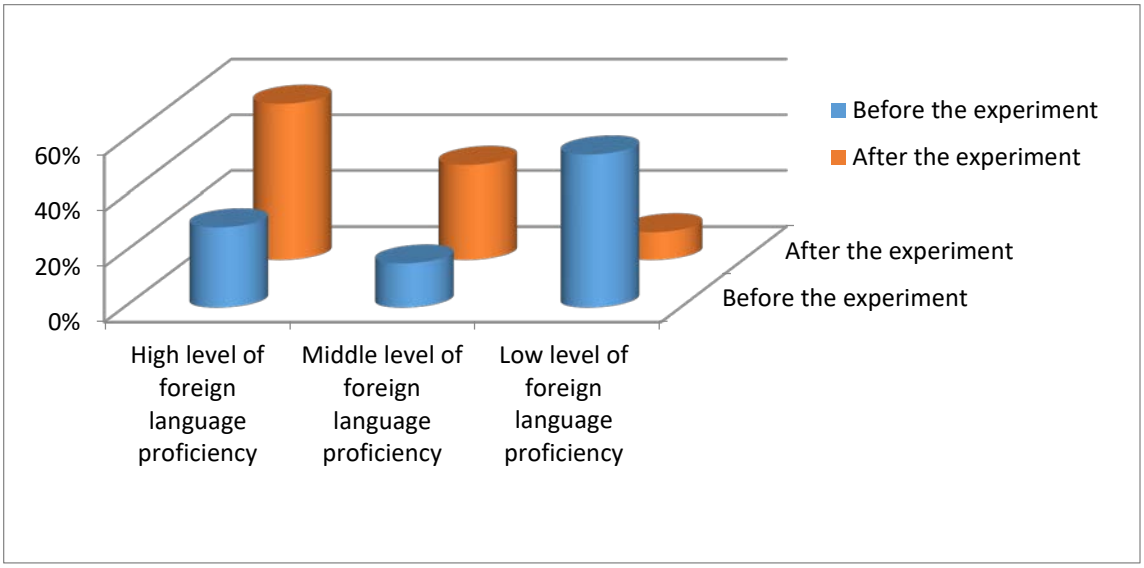

Figure 1 ***Comparative analysis of foreign language proficiency of students***

The diagram (Fig. 1) shows academic performance of students before and after implementation of e-learning approach for the development of foreign language proficiency achieved when learning "Business Foreign Language". According to the results of control assignments, e-learning practices have improved foreign language competence of students, especially lexical competence, when doing the tasks, watching video, listening to the audio, etc. suggested by the lecturer through their access to the lecturer's e-course presented in the electronic system of the University.

In addition, our survey has revealed much higher interest of students in learning. Availability of on-line tests on the topics studied let the students conduct self-control and evaluate their progress. Free access to different types of assignments ensured implementation of the individualized approach as well as extra-curricular activities of students since every e-course offers the tasks for both additional and individual wok of students. This motivates the students to make their own choices and get extra grades for some additional activities.

Conclusions

Within our investigation it has been concluded that e-learning is an effective and innovative educational technology that can improve the process of teaching "Business Foreign Language" to University students. Distributing e-learning via a computer network provides access to the information necessary for students to acquire professional skills, increase their interest in learning English and improves foreign language proficiency, realize cognitive and creative potential of students.

Implementation of innovative pedagogical technologies and methods at the foreign language classes have increased foreign language proficiency of students, let us involve all the group into active work, provided the best conditions for gaining listening and reading skills, increased motivation for learning, promoted personal development of students, made the teaching process student-centered.

E-learning forms can be classified into person-oriented and group-oriented ones and used depending on the target audience and particular objectives of the class. Blended e-learning is treated as the most effective and farsighted method among e-learning practices.

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ФОРМИРОВАНИЕ ПРОФЕССИОНАЛЬНО-ТВОРЧЕСКОЙ КОМПЕТЕНТНОСТИ БУДУЩИХ АГРАРНЫХ МЕНЕДЖЕРОВ СРЕДСТВАМИ ЦИФРОВЫХ ТЕХНОЛОГИЙ

Forming of Professionally Creative Competence of Prospective Agrarian Managers by Facilities of Digital Technologies

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Abstract. *The component structure of professionally creative competence is analyzed in the system of professional preparation of the future agrarian managers. Didactics facilities of digital technologies are grounded in the context of forming of professionally-creative competence of the future agrarian managers. A pedagogical model of management of future agrarian managers' educational-creative activity by facilities of the digital technologies is worked out. In the proposed pedagogical model, the object of management is the educational and creative activity of students in the conditions of SMART technologies, which turns the existing potential of a future specialist into a qualitative result - the formation of the experience of creative activity of the agricultural manager in the system of his professional competence. The technological stages of management of the future agrarian managers' educational-creative activity by facilities of digital technologies are justified. Efficiency of the agrarian managers' professional preparation with the use of pedagogical model of management of future agrarian managers' educational-creative activity by facilities of the digital technologies as compared with the traditional system of teaching is defined.*

The results of the study determined the directions of further scientific and pedagogical research: the development of computer-oriented methodological systems of STEM-education and SMART-complexes of educational disciplines in digital pedagogy.

Keywords: *professional competence; professionally creative competence; educational-creative activity; management educational-creative activity; digital technologies; facilities of digital technologies.*

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Введение
Introduction

Одним из наиболее значимых факторов современного развития агропромышленного комплекса на этапе формирования общества знаний является цифровая экономика. Поэтому профессиональная подготовка будущих аграрных менеджеров, способных творчески решать сложные производственные задачи, рассматривается как один из решающих факторов инновационного преобразования сельского хозяйства. Аграрные менеджеры представлены очень широкой сферой профессиональных групп (инженеры, агрономы, зоотехники, экономисты), которые должны эффективно управлять трудовыми коллективами, а также техническими, технологическими, экономическими и другими процессами в условиях организации сельскохозяйственного производства (Nagayev, 2006).

Современные требования рынка труда к профессиональной подготовке аграрных менеджеров повышаются в зависимости от темпов обновления видов продукции, оборудования и технологических процессов. В связи с этим, а также учитывая динамические интеграционные процессы Украины к европейскому и мировому содружеству, существенно возрастают требования к творческой одаренности и гибкости таких специалистов, их многогранности и способности к динамической трансформации. Будущие аграрные менеджеры должны владеть комплексом профессиональных знаний, умений и навыков, что отвечают интенсификации производства, передовым достижениям науки и техники. Они должны быть способными творчески решать производственные проблемы и эффективно управлять разнообразными процессами в отрасли сельского хозяйства, что обеспечивается высоким уровнем профессионально-творческой компетентности.

Учёные и исследователи во всем мире рассматривают проблему формирования цифровой компетентности как одну из наиболее актуальных в современных условиях постоянно меняющейся цифровой среды. Для поддержки экономики 4.0, в частности, аграрного сектора экономики 4.0, на сегодняшний день необходимы ключевые навыки, такие как принятие решений, лидерство, командное мышление, креативность, умение использовать цифровые технологии (Kaur, Awasthi, & Grzybowska, 2019). V. Trukhachev, A. Bobrishev, E. Khokhlova, V. Ivashova, O. Fedisko изучили тенденции, перспективы и ограничения, которые существуют при подготовке управленческих кадров для сельского хозяйства в условиях цифровой трансформации экономики (Trukhachev, Bobrishev, Khokhlova, Ivashova, & Fedisko, 2019). Они обращают внимание стейкхолдеров сферы образования на то, что переход к целевым настройкам нового

технологического уклада, который связан с широким внедрением цифровых технологий требует решения целого ряда проблем в области обучения, и ставит перед университетами задачу подготовки кадров с компетенциями, которые в настоящее время не отражены в полной мере в действующих стандартах подготовки кадров сельського хозяйства (Trukhachev et al., 2019). В исследовании китайских ученых Y. Zhao, A. Llorente, M. Gómez рассматривался вопрос фактического статуса цифровой компетентности студентов и преподавателей университетов в Китае, создание собственного профиля цифровой компетентности, изучались трудности в использовании технологического инструмента в образовательном контексте, определения новых стратегий обучения и рекомендации по улучшению цифровой компетентности (Zhao, Llorente, & Gómez, 2019).

В этих условиях вектор развития системы высшего образования должен быть направлен на подготовку творчески одаренных управленческих кадров, способных в условиях реализации искусственного интеллекта адаптироваться к новым преобразованиям, быть конкурентоспособными на рынке труда. Существенным аспектом этой проблемы является внедрение в образовательную среду управленческих концепций и цифровых технологий - как объективной предпосылки формирования профессионально-творческой компетентности будущего специалиста аграрной сферы, гармонично развитой личности менеджера, способного к инновационному поиску и творческому саморазвитию (Nagayev, 2006; Nagayev, 2012; Svystun, 2005).

Приведенные выше требования обусловливают необходимость формирования у будущих аграрных менеджеров опыта творческой деятельности как образовательного результата. Однако, существующий процесс подготовки управленческих кадров аграрной сферы пока не обеспечивает высокого уровня сформированности их профессионально-творческой компетентности и, как следствие, адекватного уровня готовности к профессиональной деятельности. В этих условиях система высшего образования должна адекватно реагировать на социальный заказ, способствовать внедрению цифровых технологий (ЦТ) в учебный процесс и формированию на этой основе профессионально-творческой компетентности будущих специалистов.

Теоретические основы исследования
Theoretical substantiation of the problem

Система подготовки будущего аграрного менеджера должна основываться на реализации цифровых технологий развития его творческих способностей, ведь постоянное усложнение профессиональной деятельности

требует творческого мировоззрения, инновационного подхода и системного мышления такого специалиста. Внедрение цифровых технологий дает возможность значительно интенсифицировать учебный процесс, создает педагогические условия формирования инновационных профессиональных компетентностей.

Формирование профессионально-творческой компетентности будущих аграрных менеджеров невозможно без совершенствования дидактических моделей управления учебно-творческой деятельностью (УТД) соискателей. Учебно-творческая деятельность, как компонент учебной деятельности, является целенаправленной, высоко мотивированной комбинаторной деятельностью человека в условиях управления, соуправления и самоуправления в педагогической системе, направленной на решение учебно-творческих задач с элементами новизны, что приводит к формированию профессионально-творческой компетентности будущих специалистов (Nagayev, 2018, с. 55). Современный процесс управления УТД студентов находится в двух взаимодействующих отраслях знаний: педагогике и менеджменте и требует качественного обновления педагогических моделей профессиональной подготовки специалистов. P.H. Luzan, доказал, что творческая учебно-познавательная активность как интегрированное свойство и мера развития личности, должна формироваться поэтапно, от репродуктивных, исполнительных уровней к продуктивным и творческим (Luzan, 2004, с. 76, с. 82).

Одной из самых сложных задач профессиональной подготовки специалистов является разработка соответствующих дидактических моделей управления УТД с использованием средств ЦТ, позволяющих значительно активизировать познавательную деятельность соискателей на уровне самоменеджмента. Прежде всего, заслуживает внимания разработка модели функционирования электронных образовательных ресурсов метадисциплины в условиях «информационного взрыва» с учетом теории моделирования, кибернетического и SMART-подхода, обеспечивающего реализацию дидактических принципов в условиях информационно-коммуникационной учебной среды (Klochko, 2018, с. 28).

Целью статьи является теоретическое обоснование и экспериментальная проверка инновационной педагогической модели управления учебно-творческой деятельностью студентов в процессе формирования профессионально-творческой компетентности будущих аграрных менеджеров средствами цифровых технологий.

Методы исследования
Methods of the research

Методология научных исследований данной проблемы рассматривается совокупностью подходов к анализу исследуемого объекта, факторами взаимосвязи между формированием профессионально-творческой компетентности и активностью учебно-творческой деятельности студентов, концептуальными положениями историко-гносеологического, структурно-функционального, ситуационного, деятельностного, компетентносного, личностно-развивающего, психолого-педагогического, системного, синергического, кибернетического, эмпауэртментного и других подходов.

Для достижения цели в статье использованы следующие методы исследования: монографический, моделирования, статичстико-математический, тестирования, опроса и анкетирования, наблюдения и эталонного сравнения, группировки аналитических данных, графический, экспертного анализа и др.

Результаты исследования
Research results

Современные тенденции формирования профессионально-творческой компетентности будущего менеджера нуждаются в совершенствовании методологических и дидактических основ процесса управления УТД студентов. Считаем, что основным концептуальным направлением методологии этой проблемы является разработка механизмов технологизации процесса управления УТД средствами ЦТ. Педагогическая система образовательной среды должна технологически реализовывать функции управления (самоуправления) - планирования, организации, мотивации, обратной связи, корректировки, а методы, формы и средства УТД обеспечивать высокий уровень самостоятельности и индивидуализации деятельности. Этот технологический процесс должен органично совместить дидактическую систему с современными элементами цифровой педагогики (SMART-образовательными комплексами, цифровыми технологиями, электронными средствами активизации познавательной деятельности студентов и т.д.). Авторами обосновываются предложения по совершенствованию профессиональной подготовки будущих аграрных менеджеров с использованием педагогической модели управления УТД студентов с применением средств ИЦТ. Данная модель базируется на внедрении управленческих функций в образовательную SMART-среду в условиях высокого уровня технологизации учебного процесса (Nagayev,

2018, с. 28; Klochko, 2018).

Проведенный теоретический анализ научных источников позволил определить терминологическое поле исследования, а именно, ввести понятие *профессионально-творческой компетентности* будущих аграрных менеджеров, как интегрированной способности личности, динамической комбинации знаний, умений и практических навыков, способов мышления, автодидактических способностей, эмоционально-ценностного и социального опыта, характеризующихся высоким уровнем саморазвивающих, коммуникативных и инновационных качеств, которые целостно и эффективно реализуются в профессиональной деятельности на основе творческого опыта.

Педагогическая модель управления УТД спроектирована на системном подходе, где субъектами управления являются педагоги и соискатели. Они совместно определяют целевую функцию, методы и формы управления УТД. Объект управленческого процесса – учебно-творческая деятельность, которая превращает имеющийся качественный потенциал соискателя в образовательный результат – сформированность профессионально-творческой компетентности. Корректировка управленческого воздействия осуществляется как преподавателем, так и дидактическими средствами активизации УТД, что находит свое отражение в конкретных формах организации обучения и контроля (Meteshkyn, 2004, с. 149).

Предлагаемая педагогическая модель управления УТД является динамичной структурой, в качестве объекта управления которой выступает учебно-творческая деятельность. Именно УТД объединяет усилия преподавателей и студентов по решению задач профессиональной подготовки кадров. УТД является управляемым объектом со стороны преподавателей и студентов, а также технических средств обучения, опосредствующих управленческие функции (рис. 1).

Подсистема планирования определяется целями УТД, содержанием образования в соответствии с профессионально-творческой компетентностью специалиста-агрария. Учитывая результаты предыдущих исследований (Nagayev, 2006), критериями профессионально-творческой компетентности аграрных менеджеров нами определены: эмоционально-ценностный, когнитивный, деятельностный и личностно-развивающий. Обоснование этих критериев определяется содержанием образования с учетом производственного запроса на подготовку кадров аграрного профиля с уже сформированным опытом творческой деятельности. При этом цели формируются в виде программы действий субъектов педагогической системы в условиях планирования соискателями индивидуальной стратегии самоуправления УТД.

Рисунок 1. ***Педагогическая модель управления УТД студентов средствами ЦТ***
Figure 1 ***The pedagogical model of management of future agrarian managers' educational-creative activity by facilities of the digital technologies***

Подсистема организации формирует педагогические условия реализации УТД студентов в системе соуправления и самоуправления. Основные функции данной подсистемы: организация различных видов и форм УТД средствами ИЦТ, обеспечение учебно-исследовательской, самостоятельной и индивидуальной работы студентов методической и информационной базой. Основная задача данной подсистемы - создание

творческой образовательной среды, что в дальнейшем будет способствовать активизации творческой активности студентов.

Подсистема координации обеспечивается элементами оперативного управления (самоуправления) УТД, которые включают корректировки воздействия в соответствии достижением частных образовательных целей. При этом коррекция УТД со стороны преподавателей и студентов представляет собой процессы микроуправления на уровне ориентировочной основы действий. Такое скорректированнное микровоздействие определяется достигнутыми промежуточными образовательными результатами, которые отражают развитие педагогической системы на основе процессов микрорефлексии с последующим анализом полученных алгоритмов а процессе УТД.

Подсистема контроля и анализа УТД обеспечивает мониторинг достижения профессионально-творческой компетентности будущими специалистами. Данная подсистема обеспечивается различными видами контроля и средствами комплексной диагностики (практическими задачами, имитационными играми, ситуационными упражнениями и др.). Важным педагогическим условием является организация самоконтроля УТД студентов средствами ЦТ.

Аналитическая составляющая данной подсистемы соотносится с функцией рефлексии:

1) связанной с содержанием предметных знаний;
2) обращенной к самому субъекту деятельности. То есть, субъект управления УТД акцентирует свое внимание как на образовательном результате, так и на структуре самой УТД, которая привела его к получению этого творческого продукта.

Подсистема регулирования обеспечивает корректирующее воздействие субъектов педагогической системы на УТД в зависимости от анализа полученных образовательных результатов. Формы регулирования могут быть представлены организационными, педагогическими, психологическими и другими видами деятельности (совершенствованием организации самостоятельной работы, оптимизацией параметров педагогической системы, формированием новых информационных каналов и др.). При этом студенты осуществляют регулирование УТД не только на основе педагогического воздействия, но и на основе индивидуальных результатов формирования навыков самоуправления деятельностью.

В условиях управления УТД важную роль в достижении целей обучения играет *информационно-цифровая подсистема*, которая объединяет все приведенные выше компоненты педагогической системы соответствующими средствами ИЦТ, которые создают логическую и целостную систему дидактических связей, обеспечивая поступление

необходимой информации. При этом информационно-цифровая подсистема создает соответствующую SMART-среду, где активизируются дидактические процессы, которые в итоге эффективно влияют на производительность и качество профессиональной подготовки будущих специалистов (Klochko, 2018; Meteshkyn, 2004).

SMART-среда управления УТД содержит блок электронного учебно-методического комплекса (Klochko, 2018). Преподавателю предоставляется возможность с помощью данного блока осуществлять формирование и развитие контента учебной дисциплины на основе интеллектуальных алгоритмов Data Mining, моделирование процесса обучения, использование электронных ресурсов дисциплины, модулей поиска и онлайн-консультирования. Реализация метадисциплинарного подхода позволит применять механизмы интеграции (сочетание, взаимопроникновение, взаимосближение, образование взаимосвязей) и систематизации данных различных учебных дисциплин, что, в свою очередь, обеспечит формирование среды интегральной системы управления учебно-творческой деятельностью студентов. Составляющими информационно-цифровой подсистемы SMART-среды профессиональной подготовки будущих аграрных менеджеров также являются компьютерно- ориентированные информационные системы управления, обеспечивающие автоматизацию многих управленческих функций, их составляющих и технологий управления (Kysh, Klochko, & Potapova, 2015).

Организация педагогического эксперимента основывалась на аналитико-констатирующем, поисковом, формирующем и контрольном этапах исследования. На первых двух этапах было обоснована необходимость разработки инновационной педагогической модели управления учебно-творческой деятельностью студентов при подготовке будущих аграрных менеджеров на основе цифровых технологий в контексте формирования их профессионально-творческой компетентности. На этапе формирующего эксперимента была осуществлена опытно-экспериментальная проверка концептуальных положений реализации модели управления учебно-творческой деятельностью студентов средствами ЦТ. На контрольном этапе проводилась интегративная обработка и систематизація данных экспериментов, их обобщение и сопоставления с целью исследования.

В начале исследования мы пытались выяснить мотивационные аспекты и уровень значимости для преподавателей применение цифровых технологий в профессиональной подготовке будущих аграрных менеджеров. Анализ опроса и анкетирования преподавателей показал, что подавляющее большинство научно-педагогических работников (92,3%) считает, что реализация ЦТ в управлении учебно-творческой деятельностью

студентов и уровень сформированности профессионально-творческой компетентности будущих специалистов тесно взаимосвязаны между собой (рис. 2). При этом 88,5% преподавателей считают, что использование ЦТ существенно способствует развитию творческой активности студентов и, как следствие, сформированности опыта их творческой деятельности (рис. 3).

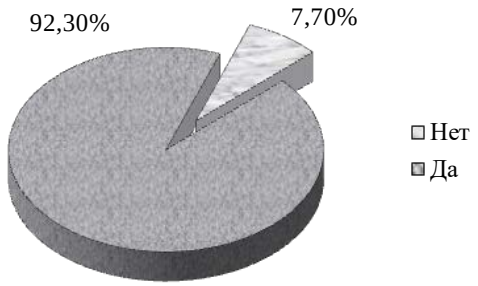

Рисунок 2. ***Значимость ЦТ в управлении УТД будущих аграрных менеджеров***
Figure 2 ***Importance of digital technologies in managing future agrarian managers' educational–creative activity***

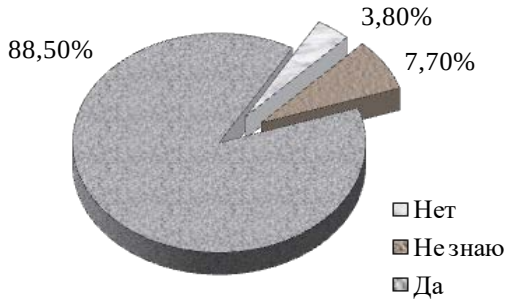

Рисунок 3. ***Значимость ЦТ в развитии творческой активности будущих аграрных менеджеров***
Figure 3 ***Importance of digital technologies in development of the future agrarian managers' creative activity***

Учитывая изложенное выше, делаем вывод о том, что разработка педагогической модели управления УТД студентов средствами ЦТ предусматривает педагогическое проектирование соответствующих структурно-функциональных подсистем и содержательное насыщение их информационно-цифровым контентом. Предлагаемая педагогическая модель управления УТД является образованием творческого уровня с динамической структурой, в качестве объекта управления которой выступает УТД студентов, а предметная область определяется средствами ЦТ. На этой основе определяем предлагаемую педагогическую модель управления УТД как интегральную систему управления УТД студентов с реализацией функций управления (соуправления, самоуправления) в сочетании с высоким уровнем информатизации и автоматизации учебного процесса средствами ЦТ. Учитывая концепцию исследования, информационные каналы должны быть широко представлены как на макро-, так и на микроуровне. Необходимо соотносить информационные пакеты с дидактическими и технологическими модулями на каждом этапе процесса формирования опыта творческой деятельности будущих аграрных менеджеров. Представленные функциональные составляющие педагогической системы в совокупности определяют комплексное воздействие на

УТД студентов, которое определяется совокупностью действий и операций психологического, дидактического и организа-ционного характера.

Рассмотрим анализ организации УТД студентов аграрных заведений высшего образования на примере профессионально-ориентированных дисциплин, формирующих профессиональную компетентность будущих аграрных менеджеров. Экспериментальные исследования проводилось в Харьковском национальном аграрном университете им. В.В. Докучаева и Винницком национальном аграрномй университете в 2016-2019 гг. В педагогическом эксперименте принимали участие 168 будущих аграрных менеджеров на бакалаврском и магистерском образовательных уровнях. По его итогам эффективность предложенной модели была значительно выше, чем традиционной системы обучения. При этом отмечено повышение: учебно-творческой активности студентов - на 25%; уровня сформированности творческого опыта - на 20%; успеваемости - на 9,2%; прочности знаний - на 15,5%; продуктивности обучения - на 29%.

Экспериментальная группа работала в условиях педагогической модели управления УТД с использованием средств ЦТ, а контрольная училась по традиционной модели. Всем студентам были созданы качественные условия образовательной среды, в которой они имели возможность индивидуализировать темп усвоения учебного материала, выбирать организационные формы обучения, дидактические средства, а также реализовывать собственные творческие образовательные идеи. При этом студенты принимали активное участие в проведении нетрадиционных игровых форм активизации учебного процесса – дидактических играх, тематических кроссвордах, дебатах, образовательных студиях и др.

С целью определения динамических различий в формировании опыта творческой деятельности студентов экспериментальных и контрольных групп была проведена группировка по компонентам профессионально-творческой компетентности на примере профессионально-ориентированных учебных дисциплин. Данные экспериментов подтверждают научную гипотезу авторов о том, что организация учебного процесса с использованием педагогической модели управления УТД средствами ЦТ приводит к эффективному формированию профессионально-творческой компетентности будущих аграрных менеджеров, которое происходит значительно интенсивнее, чем при традиционной системе обучения. В основу группировки была положена методика распределения студентов по уровню их творческой активности и сформированности творческого опыта (начальный, средний, достаточный, высокий), что соответствует эмоционально-ценностному, когнитивному, деятельностному и личностно-развивающему компонентам профессионально-творческой компетентности будущих аграрных менеджеров (рис. 4).

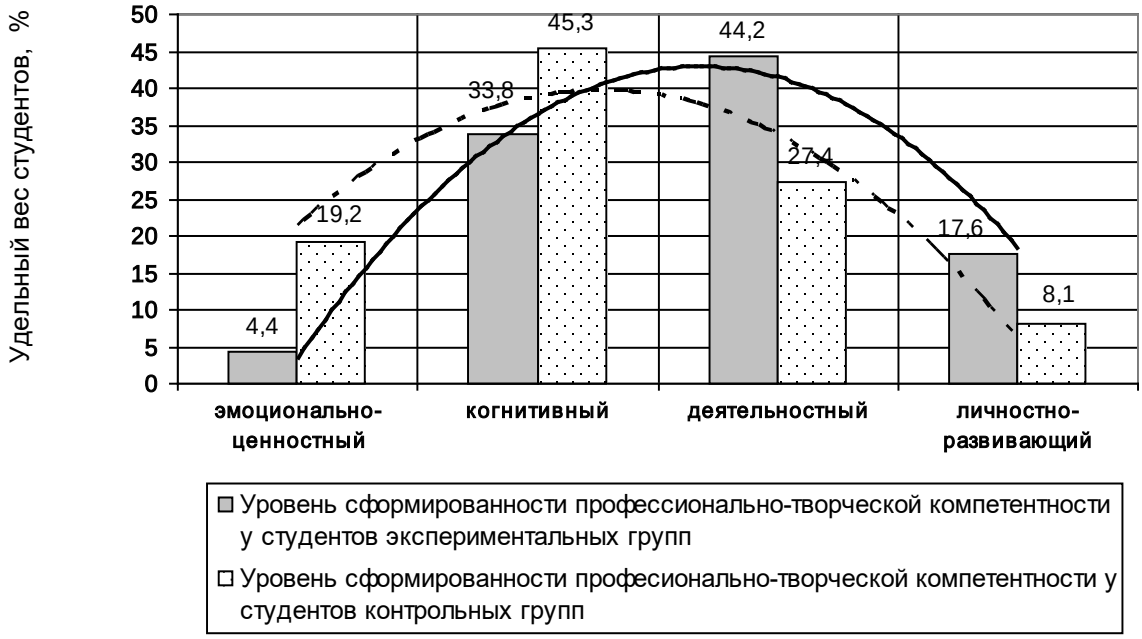

Рисунок 4. ***Диаграмма распределения студентов по компонентам профессионально-творческой компетентности***
Figure 4 ***Diagram of distribution of students in accordance with the components of professionally-creative competence***

Анализ диаграммы свидетельствует о существенном увеличении доли студентов экспериментальных групп, которые находятся на уровне личностно-развивающего компонента в структуре профессионально-творческой компетентности (17,6% против 8,1%). Доля студентов экспериментальных групп в совокупности по личностно-развивающему и деятельностному компонентам составляет 61,8%, против 35,5% у студентов контрольных групп. Качественный анализ полученных результатов показал, что у студентов экспериментальных групп на уровне сформированности личностно-развивающего компонента профессионально-творческой компетентности превалируют навыки саморазвития.

Из приведенных данных можно сделать вывод: предложенная педагогическая модель управления УТД с использованием средств ЦТ позволяет студентам более активно и самостоятельно овладевать знаниями, умениями и навыками, стимулирует познавательную деятельность, создает объективные условия для раскрытия творческих компонентов их будущей профессиональной деятельности.

Выводы
Conclusions

Формирование высокой профессионально-творческой компетентности будущих аграрных менеджеров невозможно без совершенствования дидактических подходов к управлени учебно-творческой деятельностью студентов. Одним из таких подходов является проектирование педагогической модели управления УТД студентов средствами цифоровых технологий, которая представляет интегральную систему управления с реализацией функций соуправления и самоуправления в сочетании с высоким уровнем информатизации и автоматизации учебного процесса на основе цифрового контента.

Представленные в педагогической модели информационно-дидактические и технологические модули в совокупности определяют комплексное воздействие психологического, дидактического и организационного характера, что создает объективные условия для формирования высокого уровня профессионально-творческой компетентности будущих аграрных менеджеров. Анализ экспериментальных исследований, проведенных авторами статьи, показал эффективность предложенной модели по сравнению с традиционной системой обучения. При этом отмечено повышение уровня сформированности творческого опыта будущих аграрных менеджеров на 20%.

Обобщая опыт профессиональной подготовки управленческих кадров, следует отметить эффективность интеграции средств ЦТ в педагогическую модель управления УТД студентов, что положительно сказывается на формировании профессионально-творческой компетентности будущих аграрных менеджеров. Ожидаемыми дидактическими результатами внедрения данной педагогической модели могут быть: оптимизация образовательных услуг на основе высокого уровня самоуправления УТД студентов и информатизации образовательной среды средствами ЦТ; повышение продуктивности учебного процесса на основе его технологизации, информатизации, автоматизации, внедрения управленческих концепций образования; повышение качества подготовки специалистов на основе высокой мотивации студентов и эффективности обратной связи на всех этапах учебно-творческой деятельности; уменьшение срока профессиональной адаптации будущих аграрных менеджеров на производстве за счет высокой профессиональной подготовленности и накопленного опыта творческой деятельности.

Полученные результаты позволили определить направления дальнейших научно-педагогических исследований: разработка компьютерно-ориентированных методических систем образования на основе SMART-

комплексов учебных дисциплин в условиях цифровой педагогики; внедрение опыта использования компьютерно-ориентированных методических систем в контексте международных интеграционных процессов в профессиональном образовании.

Summary

The component structure of professionally-creative competence is analyzed in the system of professional preparation of the future agrarian managers. Didactics facilities of digital technologies are grounded in the context of forming of professionally-creative competence of the future agrarian managers. A pedagogical model of management of future agrarian managers' educational-creative activity by facilities of the digital technologies is worked out. In the proposed pedagogical model, the object of management is the educational and creative activity of students in the conditions of SMART technologies, which turns the existing potential of a future specialist into a qualitative result - the formation of the experience of creative activity of the agricultural manager in the system of his professional competence. The technological stages of management of the future agrarian managers' educational-creative activity by facilities of digital technologies are justified. Efficiency of the agrarian managers' professional preparation with the use of pedagogical model of management of the future agrarian managers' educational-creative activity by facilities of the digital technologies as compared with the traditional system of teaching is defined. Summarizing the experience of development of managerial skills, the efficiency of integration of digital technologies in a pedagogical model of management of students' educational-creative activity should be noticed. This positively influences the forming of professionally-creative competence of the future agrarian managers. The expected didactic results of introducing of this pedagogical model can be: optimization of educational services on the basis of high level of self-government of students' educational-creative activity as well as informatization of educational environment by facilities of digital technologies; increase of educational process productivity on the basis of its technologization, informatization, automation, introduction of administrative educational conceptions; upgrading of specialists' training quality on the basis of students' high motivation and efficiency of feedback at all the stages of educational-creative activity; shortening of the professional adaptation term of specialists at work due to high professional skills training and gained creative activity experience.

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ЭЛЕКТРОННОЕ ПОРТФОЛИО КАК СРЕДСТВО ПОДГОТОВКИ БУДУЩИХ УЧИТЕЛЕЙ К ПРОФОРИЕНТАЦИОННОЙ ДЕЯТЕЛЬНОСТИ

Electronic Portfolio as a Means of Future Teachers Training to Professional Oriented Work

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Abstract. *The purpose of the publication is to substantiate the pedagogical impact of future teachers electronic portfolio on the quality of vocational guidance in general secondary education.*
The tasks of the research are solved by the use of methods of analysis of scientific literature, questioning of the educational recipients and scientific and pedagogical workers, testing.
The study was conducted at Olexander Dovzhenko Hlukhiv National Pedagogical University, where 194 undergraduate students of 3-4 courses from pedagogical specialties and 27 scientific and pedagogical staff participated. Students, who studied the disciplines such as "Fundamentals of Scientific Research" and "Fundamentals of Career Orientation" were combined into two groups: experimental and control one. The experimental group consisted of 98 students and the control group consisted of 96 students. The first group created an electronic portfolio while studying those disciplines. The second group has mastered those courses traditionally: lectures and seminars. The test was designed to check students' level of academic knowledge in career guidance, which consisted of questions that had basic aspects of program material.
The results of the study show that the use of electronic portfolio helps to ensure the full assimilation of educational material by students and increase the amount of knowledge and practical skills in the implementation of the tasks of vocational guidance in future professional activity.
Keywords: *career guidance, digital technologies, electronic portfolio, future teachers, professional training.*

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Введение
Introduction

Процесс становления информационного общества и модернизация высшего образования Украины, в частности, вхождение в Болонский процесс, переход на двухступенчатую систему обучения и ориентация на новые образовательные стандарты выдвигают сегодняшние требования к подготовке будущих учителей.

В нынешних условиях особое значение в подготовке будущих педагогов приобретает формирование и развитие ключевых и профессиональных компетенций, среди которых в частности важное место занимает цифровая компетентность. Стратегия формирования цифровой компетентности будущих учителей может быть, на наш взгляд, реализована через создание студентами собственных цифровых продуктов. Одним из таких продуктов является электронное портфолио.

Важность использования электронного портфолио в подготовке будущих учителей определяется тем, что это способствует развитию творчества студента, рефлексивных умений, навыков самооценки собственных достижений, творческого подхода к моделированию будущей педагогической деятельности, формированию коммуникативных и цифровых умений, интегрирует и систематизирует знания и умения, полученные при изучении различных предметов, направляет на практическое их применение, формирует профессиональную компетентность.

Для подготовки будущего педагога к профориентационной работе необходимо построение системы обучения, ориентированной на становление готовности к использованию цифровых технологий.

Целью публикации является обоснование педагогического воздействия электронного портфолио на качество подготовки будущих учителей к осуществлению профориентационной работы в учреждениях общего среднего образования.

Решение задач исследования осуществлено с использованием методов анализа научной литературы, опроса соискателей образования и научно-педагогических работников, тестирования.

Обзор литературы
Literature review

Анализ ряда научных работ показал, что вопросы подготовки педагогов к использованию цифровых технологий в образовательном процессе является предметом рассмотрения многих отечественных и зарубежных ученых. Их исследования показывают, что применение цифровых

технологий в подготовке будущих учителей, оказывает положительное влияние на формирование их профессиональной компетентности, обеспечивает повышение уровня учебно-познавательной активности (Aulia, Yulastri, & Handayani, 2016; Bhattarcharya & Hartnett, 2007; Novikova, Pynskaya, & Prutchenkov, 2005).

Однако, проблема использования электронного портфолио как средства подготовки будущих педагогов к профориентационной работе не была предметом отдельного исследования.

В последние годы портфолио рассматривается как современная инновационная образовательная технология, в основе которой используется метод аутентичного оценивания результатов образовательной, научной и профессиональной деятельности (Morze & Varchenko-Trotsenko, 2016). Под электронным портфолио (э-портфолио) исследователи (Panyukova & Esenina, 2007), понимают организованную студентами с помощью цифровых технологий совокупность документов, включая результаты квалификационных работ и их примеры, подтверждение сертификатов и дипломов в системе академического образования.

В условиях компетентностного подхода портфолио выступает как способ демонстрации, развития и оценки компетенций студента, механизм мониторинга его прогресса. Это своеобразный отчет из разных видов деятельности студента: учебной, научно-исследовательской, творческой, практической и т. д. Использование портфолио позволяет отслеживать индивидуальную траекторию развития студента, продемонстрировать его способности практически применять приобретенные компетентности.

В то же время, портфолио является одним из условий повышения мотивации студента к активной познавательной деятельности, формирования навыков рефлексии (Polat, Bukharkina, Moiseeva, & Petrov, 2009).

Функции портфолио очень широки. Это и диагностика изменения за определенный промежуток времени; и фиксация содержания, что раскрывает спектр выполняемых работ; и развивающая, что обеспечивает непрерывный процесс образования и самообразования; и мотивационная – поощряет результаты деятельности; и рейтинговая – позволяет выявить количественные и качественные индивидуальные достижения (Kademiya, 2010; Kocharyan, 2014).

Результаты исследования
Research results

Для разработки электронного портфолио мы используем инструменты преимущественно Microsoft Office, Power Point, Publisher, что позволяет в дальнейшем общаться с потенциальными работодателями посредствам

онлайн ресурсов Интернет, но идея размещения онлайн-портфолио на сайте университета или профессионального сообщества (в том числе молодежных карьерных форумах, ярмарках вакансий в социальных сетях) выглядит перспективнее. Кроме того, студенты могут реализовывать портфолио, используя следующие инструменты: Prezi, Picasa, Xmind, SlideShow, собственную страницу в Facebook, GoogleBloger, Linkedln и др.

Учитывая, что мы рассматриваем э-портфолио как образовательную технологию, то процесс его создания предполагает определенную организацию деятельности, которая включает следующие основные фазы:

(I) мотивация и целеполагание по созданию портфолио;
(II) разработка структуры материалов;
(III) планирование деятельности по сбору, оформлению и составлению материалов к презентации;
(IV) выработка критериев оценки;
(V) сбор и оформление;
(VI) консультации и корректировка плана;
(VII) оценивание результатов деятельности;
(VIII) рефлексия.

На основе анализа литературы и собственного педагогического опыта нами были обоснованы условия, обеспечивающие успешное использование цифровых технологий в организации работы над электронным портфолио: знание преподавателями особенностей методики создания портфолио и умение пользоваться цифровыми технологиями, осознание широких возможностей развития студентов в процессе работы над портфолио; мотивация деятельности студентов в работе над портфолио и использования цифровых технологий; включение в портфолио научно-исследовательских заданий; систематичность взаимодействия преподавателя со студентами во время работы над портфолио.

Проверка эффективности применения современных цифровых технологий при выполнении э-портфолио проведена нами на базе Глуховского национального педагогического университета имени Александра Довженко.

С целью определения уровня мотивации к созданию собственного э-портфолио и состояния использования цифровых технологий в педагогической деятельности нами был проведен опрос студентов и научно-педагогических работников. Опросник (авторская разработка) состоял из 15-ти вопросов закрытого типа, которые касались частоты использования цифровых технологий в образовательной деятельности, отношения к технологии электронного портфолио и отношения к технологиям дистанционного обучения. Например: «Как часто Вы привлекались к

выполнению учебного портфолио? (1 – никогда; 2 – изредка; 3 – достаточно часто; 4 – часто).

В опросе приняли участие 98 студентов бакалавраата 3 и 4 курсов педагогических специальностей. В результате исследования установлено, что 63 студента (64%) привлекались к выполнению э-портфолио. Большинство студентов (81%) считают, что метод э-портфолио также является эффективным и в образовательном процессе. На вопрос «Как часто Вы пользуетесь цифровыми технологиями и ресурсами Интернет для выполнения учебных задач?» ответы распределились следующим образом: постоянно – 29%, часто – 35%, иногда – 29%, никогда – 8%. На вопрос «Считаете ли вы наличие собственного э-портфолио одним из условий вашей конкурентоспособности на рынке труда» 98,9% ответили «Да».

В опросе также приняли участие 29 научно-педагогических работников университета. На вопрос «Используете ли Вы технологию э-портфолио в собственной профессиональной деятельности?», 35% указали, что используют часто (несколько раз в месяц), 31% – иногда (один раз в месяц), 24% – редко (несколько раз в учебный год) и 10% – не используют вообще.

На вопрос «Пользуетесь ли Вы Интернетом для учебных целей?», 40% ответили, что не пользуются, 17% – редко (один раз в месяц), 23% – часто (несколько раз в месяц), 20% – постоянно (несколько раз в неделю).

На вопрос «Считаете ли вы наличие созданного э-портфолио в ваших студентов одним из показателей качества вашей профессиональной деятельности?» 85,2% ответили «да», 15% ответили «возможно, да».

Следует заметить, что на основании результатов опроса студентов и научно-педагогических работников нами выявлено, что большинство преподавателей (86%) считает целесообразным использование э-портфолио в образовательном процессе, но при этом треть из них не применяет его в процессе преподавания своей дисциплины.

Именно поэтому и возникла необходимость разработки и проверки эффективности применения цифровых технологий для создания э-портфолио с целью подготовки будущих учителей к профориентационной деятельности.

Для проведения экспериментальной работы были выбраны дисциплины «Основы профориентационной работы» (ОПР) и «Основы научных исследований» (ОНИ). Выбор этих дисциплин не случаен. С целью проверки эффективности нашего исследования нами были выбраны дисциплины намеренно не информационно-технического, а психолого-педагогического и методического циклов.

Курс «Основы профориентационной работы» является важным звеном в подготовке студентов к педагогической деятельности. Он интегрирует в себе сведения по психологии, педагогике, социологии и связан с

последующим прохождением педагогической практики. Его целью является формирование профориентационной компетентности педагога, под которой мы понимаем комплекс личностных возможностей педагога, которые позволяют ему эффективно и целесообразно реализовывать цели и задачи профориентационной работы.

Во время изучения курса «Основы научных исследований» формируется готовность студентов к проведению научных исследований, в частности профориентационных, внедрению их результатов в практику педагогической работы.

Для того, чтобы применять цифровые технологии для создания э-портфолио студенты должны владеть базовым уровнем цифровой компетентности. Учеными уже доказано, что от уровня сформированности цифровой компетентности научно-педагогического работника зависит и качество создания и постоянное наполнение смысловым компонентом электронной образовательной среды современного университета (Kademiya, 2010).

Для оценки уровня готовности студентов к использованию цифровых технологий в учебном процессе использовался комплекс диагностических методов. На формирующем этапе нашего экспериментального исследования использовалась методика применения цифровых технологий для создания э-портфолио при преподавании курсов «Основы профориентационной работы» и «Основы научных исследований».

При изучении курса «ОПР» для улучшения освоения учебного материала, студентам предлагалось выбрать четыре вида индивидуальных заданий (из предложенных семи), результатом которых является создание собственного э-портфолио, например: «Технология деятельности педагога по профориентационному сопровождению школьников».

Виды индивидуальных заданий: составление профориентационного кроссворда (4 ч.); разработка плана-конспекта профориентационного мероприятия с использованием цифровых технологий (6 ч.); создание презентации к профориентационному мероприятию (4 ч.); разработка теста для компьютерной проверки знаний студентов по отдельной теме курса (4 ч.); написание доклада по курсу и подготовка презентации к нему (6 ч.); поиск материала к индивидуальной теме с использованием электронных ресурсов (6 ч.); создание интернет-страницы профориентационного содержания (4 ч.).

Каждому студенту на первом занятии определяется тема, по которой он должен создать э-портфолио.

На предпоследнем занятии студенты размещают созданные собственные э-портфолио в облачных хранилищах (Office 365, GoogleDisk, OneBox и др.).

Программа курса «ОНИ» предусматривает овладение студентами основами исследовательской деятельности, поскольку понимание сути педагогического процесса, творческое решение нестандартных педагогических задач невозможны без овладения методикой научных изысканий, ознакомление с логикой исследовательского процесса и умение анализировать и предвидеть развитие педагогических явлений и для этого использовать цифровые технологии. Завершается курс защитой э-портфолио.

Студентам предлагаются темы исследований, содержание которых связано с профориентационной работой. Например, исследования инновационных форм профориентационной работы среди учащихся сельских школ. Каждый студент также по собственному желанию выбирал четыре вида индивидуальных учебно-исследовательских заданий из предложенных восьми: написание реферата по предмету с использованием гиперссылок на сайты; составление программы педагогического эксперимента; анализ интернет-ресурсов по индивидуальной теме исследования; разработка опросника по теме исследования с использованием гугл-формы; разработка Интернет страницы по результатам проведенного исследования; статистическая обработка результатов исследования с использованием электронных таблиц; подготовка доклада на научно-практическую конференцию по результатам исследования; разработка презентации к докладу.

Во время выполнения заданий преподаватель выступает в роли консультанта.

Все подготовленные продукты (презентации, текстовый материал, опросники и др.) индивидуальных исследовательских заданий размещались в студенческих э-портфолио.

Общая структура э-портфолио состояла из следующих блоков:

- персональные данные: фамилия, имя, возраст студента, фотография;
- профессиональные знания и умения. В данном блоке размещались данные результатов образовательной деятельности студента;
- профессиональная мобильность. Размещение сертификатов участия в конференциях и других профессиональных мероприятиях за пределами учебного заведения;
- профессиональное творчество. Размещение наград за участие в студенческих конкурсах и олимпиадах;
- социальная активность. Участие во внеучебной деятельности: кружки, секции, волонтерские программы и проекты;
- выполненные задания по курсам «ОПР» и «ОНИ».

Таким образом, мы объединили студентов, изучавших дисциплины «Основы научных исследований» и «Основы профориентационной работы», в две группы: экспериментальную и контрольную. Экспериментальная группа состояла из 98 студентов 3-4 курсов. Контрольная – из 96 студентов 3-4 курсов. Экспериментальная группа при изучении указанных дисциплин создавали э-портфолио. Контрольная группа изучала данные курсы традиционно: лекционные и семинарские занятия.

Для проверки уровня усвоения академических знаний по профориентационной работе и основам научных исследований был разработан тест (авторская разработка), состоящий из 25 вопросов, которые охватывали основные аспекты программного материала. Тесты были созданы на платформе Moodle и состояли из тестовых вопросов следующих типов: выбор одного правильного ответа из нескольких, выбор несколько правильных ответов из нескольких вариантов, на правильную последовательность, короткий ответ.

Тестирование проводилось после изучения курса в контрольной и экспериментальной группах. В контрольной группе среднее арифметическое выполненных заданий 15,4; в экспериментальной группе – 21,3. Максимальное возможное значение выполненного теста – 25 баллов.

На рис.1 приведены обобщенные результаты опроса участников экспериментальной группы (ЭГ) до начала и после эксперимента. Результаты первого и второго срезов показывают, что были зафиксированы существенные отличия: уровень показателя «Использование цифровых технологий в учебной деятельности» увеличился на 68%, уровень показателя «Удовлетворенность образовательным процессом» увеличился на 25%, уровень показателя «Академическая успеваемость» увеличился на 25%.

Кроме лучшего усвоения программного материала по основам профессиональной ориентации оценивался уровень использования студентами цифровых технологий при выполнении индивидуальных задач. После эксперимента углубленный уровень был зафиксирован в 41% студентов контрольной группы и 71% в экспериментальной.

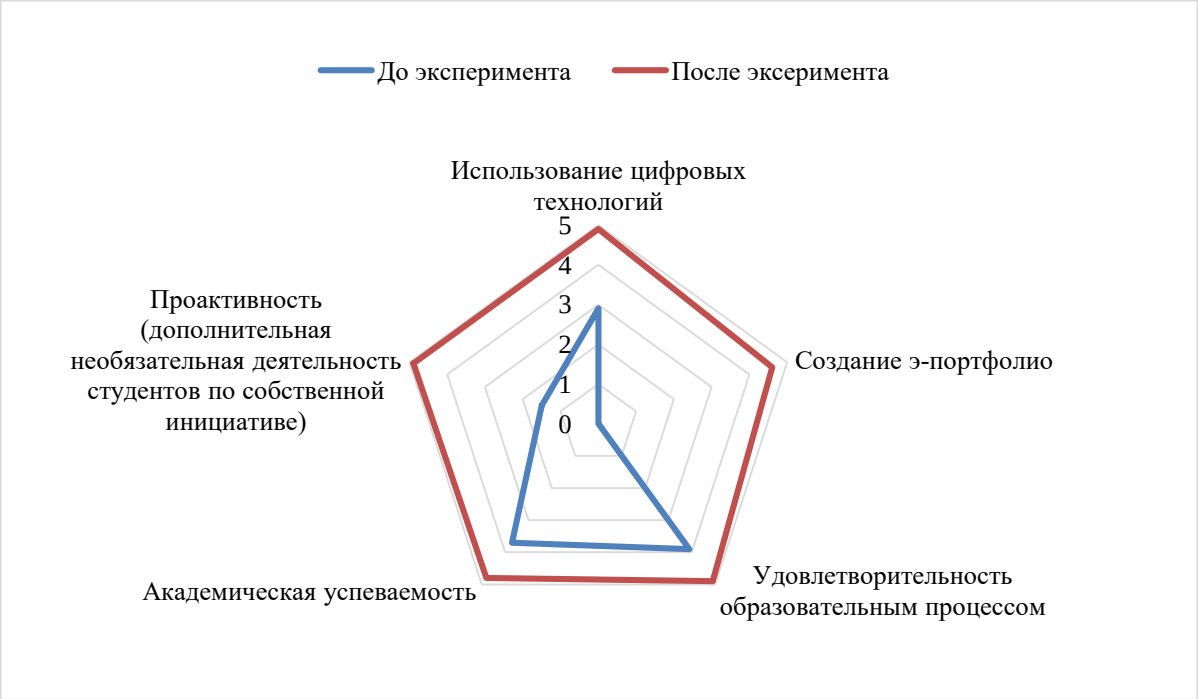

Рисунок 1. ***Обобщенные результаты опроса ЭГ до начала и после эксперимента (по 5-балльной шкале)***
Figure 2 ***Generalized experimental group survey results before and after the experiment (on a 5-point rating scale)***

Выводы
Conclusion

Итак, во время нашего исследования мы выяснили и подтвердили возможность успешного использования э-портфолио в образовательном процессе, а именно в профессиональной подготовке будущих педагогов (на примере подготовки к проведению профориентационной работе).

Результаты проведенного нами исследования позволяют утверждать, что использование цифровых технологий для создания э-портфолио способствует: обеспечению полноценного усвоения студентами учебного материала; увеличению объема знаний и практических умений студентов по использованию цифровых технологий; совершенствованию умений пользования сетью Интернет для учебных целей; формированию готовности к использованию цифровых технологий в дальнейшей педагогической деятельности.

Материал, приведенный в статье, не исчерпывает проблемы исследования. Он может быть полезным ученым, которые изучают вопросы использования е-портфолио в образовательном процессе современного университета и научно-педагогическим работникам.

В дальнейшем считаем весьма перспективными следующие направления продолжения данного исследования: сценарии использования э-портфолио в образовательном процессе; структура и инструменты создания э-портфолио в условиях конкурентного рынка труда; особенности структуры и инструментов электронной портфолио студентов гуманитарных и технических специальностей университетов и др.

Summary

In the article the pedagogical possibilities of the use of electronic portfolio and the experience of its implementing in the educational activity of degree-seeking students are discussed. Theoretical foundations of research are given briefly: the definition of the conceptual construct of research and functions of electronic portfolio. Essential characteristics and significance of informative and communicative technologies in the creation of electronic portfolio in the professional training of future teachers as exemplified in preparation for occupational guidance for prospective students are defined. Pedagogical conditions and methodological recommendations which provide successful use of present-day informative and communicative technologies in the organizing creation and content of electronic portfolio are substantiated. Efficiency checking of the scenario of the use of informative and communicative technologies in creating the electronic portfolio by degree-seeking students is done. Checking out the efficiency of the use of present-day informative and communicative technologies during the creation of electronic portfolio on the basis of Oleksandr Dovzhenko Hlukhiv national pedagogical university is done. The results of interviewing students and faculty done with the aim to study the efficiency of the portfolio use are presented. The methodology and scenarios of the use of informative and communicative technologies for creating the electronic portfolio with the aim to prepare future teachers for occupational guidance for prospective students through the courses “Foundations of occupational guidance” and “Foundations of scientific research” are described. The results of research show that the use of informative and communicative technologies for creating the electronic portfolio provide students with full acquisition of educational material, content knowledge and practical skills growth, improvement of skills necessary for using present-day informative and communicative technologies in future professional activity.

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THE MULTIFACTOR MATHEMATICAL MODEL FOR CONSTRUCTING A MULTITUDE OF CONSISTENT EDUCATIONAL PATHS FOR TRAINING FULL STACK SPECIALISTS

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Abstract. *The modern labor market, especially in the field of information technology startups, requires the training of a sufficiently large number of specialists with competencies in creating the minimum viable product (MVP). The educational organization should be able to quickly form the trajectory of specialist training based on the challenges of the labor market, taking into account the dynamics of its change, while maintaining the integrity and consistency of the educational program. The mathematical model of the formation of an educational program is proposed taking into account a large number of variable parameters, which allows one to construct many possible training paths for specialists and select the optimal ones according to the criteria of cost, efficiency or laboriousness.*
Keywords: *educational program, full stack specialist, information technology, minimum viable product, multifactor mathematical model, startup.*

Introduction

In the present work, the term “full-stack” of a specialist will mean a person who is able, alone, without involving other specialists, to solve the problem of a complex production task. For example, in the context of web development (hereinafter, examples of specific competencies will be given from the field of web development), this is a person who is able to develop a small website application completely on his own - from a technical task to a result worthy of an act of work (Gurcan & Köse, 2017).

The modern labor market, especially in the field of information technology startups, requires the training of a sufficiently large number of specialists with competencies in creating the minimum viable product (MVP) (Münch et al., 2013; Bosch, Olsson, Björk, & Ljungblad, 2013). The demand for such specialists has

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been continuously growing since 2013, as evidenced by the growth of search queries (https://trends.google.com, 100 points - maximum popularity) in Fig. 1, while the need for highly specialized specialists is not only not growing, and has a downtrend.

This is due to the fact that full development is rapidly gaining momentum, and full-stack developers are becoming very popular in some companies (Guryanov, Kozlov, & Zhuravliova, 2019; Savoskina, Domnina, & Kozlov, 2017). A study by Stack Overflow 2017 showed that this type of developer is not only the most popular, but also the most popular. The demand, especially in small companies, for full-stack developers is related to the specifics of these companies, for example, the “start-up” movement (Dennehy et al., 2019), and the fact that having one person with several skills rather than several people with specific skills is of real value to many organizations. In addition, there is a big time savings, as a developer who can switch between levels and understand the whole process.

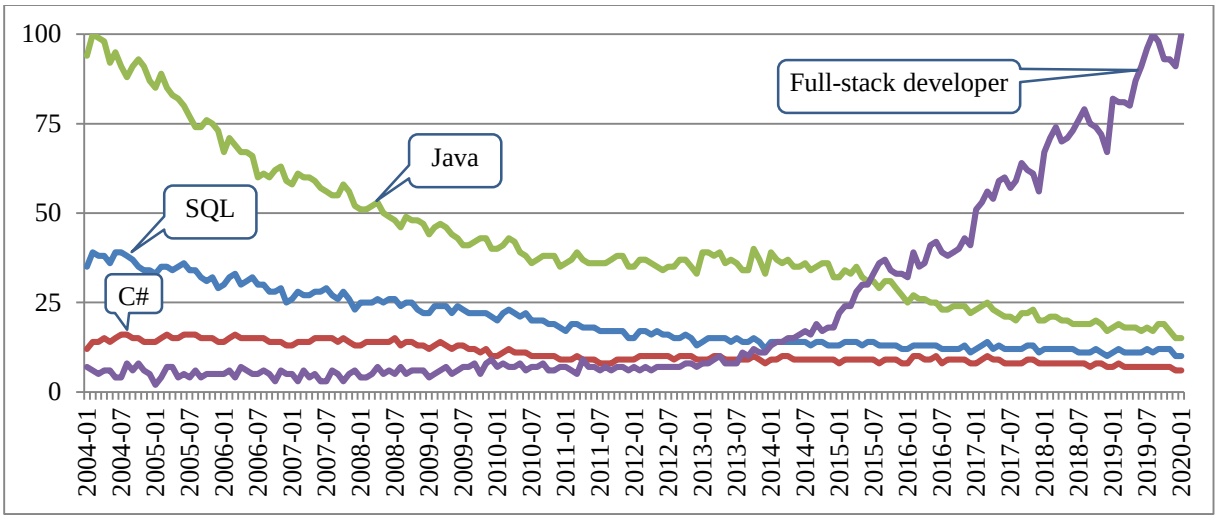

Figure 1 ***Search query dynamics***

General developers work in all layers of software. They understand the principles and can work on both sides, although they do not always master all the subtleties as their highly specialized colleagues (Kozlov & Nasyrov, 2014).

Model

The development of a full-stack specialist training plan requires the creation of a specialized mathematical model that should take into account a lot of factors and form a coordinated stack of the technologies studied, covering all the necessary competencies for the chosen training area and should have developed

monitoring of the quality of training (Kozlov, Alontseva, & Guryanov, 2019; Yusupova, Alontseva, Kozlov, & Kulakova, 2017).

Let a set of knowledge, skills and competencies related to the direction of training. Obviously, some competencies require preparatory steps in mastering the previous competencies, for example, it is obvious that the "access to databases" competency requires a preliminary study of the SQL data access language and some programming language for which the database is bound. So for a professional in the field of web development, the set will be as follows ("System Administrator" Magazine, 2016 / Issue No. 01-02 (p. 158-159), "Vacancy: Full Stack-Web Developer"), for understanding, the full minimum list of competencies of the developer of WEB applications (Park & Wiedenbeck, 2011; Northwood, 2018):

- Understanding the principles of networks and cloud technologies;
- Ability to design and develop APIs and integrate;
- Basic experience in administering operating systems;
- Knowledge and ability to work with relational DBMS;
- Knowledge of the working principles of the HTTP protocol and the network stack as a whole;
- Ability to work with WEB servers (understanding of their differences, advantages, features, etc.);
- Knowledge of server programming language (one or more);
- Knowledge of server frameworks (one or more);
- Experience working with modern IDEs;
- Knowledge of the client layer at an average level;
- Ability to work with version control system;
- Ability to work with caching systems;
- Ability to work with NoSQL database;
- Skills of development of highly loaded services. Understanding scalability;
- Experience in writing Unit tests.
- Knowledge of algorithms;
- Understanding User Experience;
- Knowledge of flexible development methods and ability to work in a team;
- Ability to work with customers and to formulate technical requirements from business requirements;
- The ability to design and develop data layers and business logic, arguing for architectural decisions.

Let B_j - a set of technologies, and the value C_{ij} determines the relationship *i-th* of that competency from the set A_i and *j-th* of that technology from the set.

$$C_{ij} = \begin{cases} 1, & if\ technology\ j\ provides\ competency\ i \\ 0, & if\ technology\ j\ is\ not\ related\ to\ competency\ i \end{cases} \quad (1)$$

Due to the large size of the matrix C_{ij}, we present in table (Table 1) only a fragment of it (for clarity, zero elements are not indicated).

The components of the vector B_j are binary variables, defined as:

$$B_j = \begin{cases} 1, & if\ technology\ j\ is\ being\ studied \\ 0, & if\ technology\ j\ is\ not\ studied \end{cases} \quad (2)$$

Obviously, each competency must be supported by at least one technology, therefore, the inequality that determines the formation of all competencies will be of the form:

$$\sum_j C_{ij} B_j \geq P_i\ for\ \forall\ i \quad (3)$$

Table 1 ***Technology and competency interconnection*** C_{ij}

Competencies A_i	Technologies B_j																
	Visual Studio	Zend Studio	Net Beans	Eclipse	ODBC	Linq	Hibernate	HTML	CSS	JavaScript	PHP	C#	Java	DOT NET	Spring	YII	Laravel
Knowledge of server frameworks														1	1	1	1
Knowledge of server programming language											1	1	1				
Mid-level knowledge of the client layer								1	1	1							
Knowledge and ability to work with relational DBMS					1	1	1										
Experience with modern IDE	1	1	1	1													

where P_i sets the minimum number of technologies that ensure the formation of the *i-th* competency. Note that an additional matrix V_{ij} can be introduced whose elements will determine the value (weight) of the technology for competency *i*. Then the inequality that determines the formation of all competencies can be written as:

$$\sum_j V_{ij} B_j \geq P_i \; for \; \forall \; i \tag{4}$$

In this case P_i sets the minimum level of formation of the *i-th* competence.

Obviously, the technologies are interdependent, that is, individual technologies cannot be studied without a preliminary study of the supporting technologies. For example, learning the YII or Laravel framework involves learning the PHP language, but the reverse is not true. Thus, the interconnection of technologies can be represented as a directed graph or as a square asymmetric adjacency matrix. Let D_{jk} (the index *k* varies within the same limits as the index *j*) characterizes the dependence of *j* that technology on *k* and is given by the rule:

$$D_{jk} = \begin{cases} 1, & if \; technology \; j \; requires \; knowledge \; of \; technology \; k \\ 0, & if \; technology \; j \; is \; independent \; of \; technology \; k \end{cases} \tag{5}$$

Table 2 shows an example of a matrix D_{jk} as applied to the technologies described in table 1.

Table 2 ***Technology adjacency Matrix*** $\boldsymbol{D_{jk}}$

Competencies A_i	Technology B_j																
	Visual Studio	Zend Studio	Net	Eclipse	ODBC	Linq	Hibernat	HTML	CSS	JavaScri	PHP	C#	Java	DOT NET	Spring	YII	Laravel
Visual Studio																	
Zend Studio																	
Net Beans																	
Eclipse																	
ODBC																	
Linq														1			
Hibernate													1				
HTML																	
CSS								1									
JavaScript								1	1								
PHP																	
C#	1																
Java																	
DOT NET												1					
Spring										1			1				
YII											1						
Laravel											1						

The compatibility condition of the studied technologies can be written as a system of inequalities:

$$D_{jk}B_j \geq B_j \; for \; \forall j,k \tag{6}$$

However, not so unambiguous connections of technologies are possible, but the requirements of studying one or more technologies from a certain family, for example, Java technology requires knowledge of one of the modern IDEs - Net Beans or Eclipse. We introduce the concept of a family of technologies and number them. Each technology can be assigned to one or more families, through matrix M_{nj} (Table 3).

$$M_{nj} = \begin{cases} 1, & if \; technology \; j \; belongs \; to \; the \; family \; n \\ 0, & if \; technology \; j \; is \; not \; part \; of \; the \; family \; n \end{cases} \tag{7}$$

Table 3 ***Technology joining families M_{nj}***

Technology family number	Technology B_j																
	Visual Studio	Zend Studio	Net Beans	Eclipse	ODBC	Linq	Hibernate	HTML	CSS	JavaScript	PHP	C#	Java	DOT NET	Spring	YII	Laravel
1 (IDE for Java)			1	1													
2 (IDE for PHP)		1		1													
3 (Programming languages)											1	1	1				

Then we introduce R_{jn} as a matrix whose elements determine the dependence of the *j-th* technology on the *n-th* family of technologies (Table 4).

$$R_{nj} = \begin{cases} 1, if \; technology \; j \; requires \; at \; least \; one \; technology \; of \; the \; family \; n \\ 0, \quad if \; technology \; j \; does \; not \; depend \; on \; technology \; n \end{cases} \tag{8}$$

Table 4 ***Technology dependence on technology families R_{nj}***

Technology family number	Technology B_j																
	Visual Studio	Zend Studio	Net Beans	Eclipse	ODBC	Linq	Hibernate	HTML	CSS	JavaScript	PHP	C#	Java	DOT NET	Spring	YII	Laravel
1 (IDE for Java)													1				
2 (IDE for PHP)											1						
3 (Programming languages)					1												

Then the value $\max_j(M_{nj}B_j)$ will be equal to 1 if at least one of the technologies of the family n and 0 is studied otherwise. To ensure resolution of the dependence of the technologies under study on technology families, the following system of inequalities must be implemented:

$$B_j \max_j(M_{nj}B_j) \geq B_j \; for \; \forall j,n \;\; or \;\; B_j R_{nj} \sum_j M_{nj} B_j \geq B_j \; for \; \forall j,n \qquad (9)$$

For clarity, you can display information on technology relationships from tables 2-4 in graphical form Fig. 2.

The solid lines in the Fig. 2 show the relationships from table 2 (unambiguous dependence), and the dashed lines show the data from tables 3 and 4 (requirements of at least one technology from the family). The arrows indicate the dependent technology to the supporting one. You may notice that in Fig. 2 some technologies or technology blocks are not connected to each other, which corresponds to independent technologies or technology blocks.

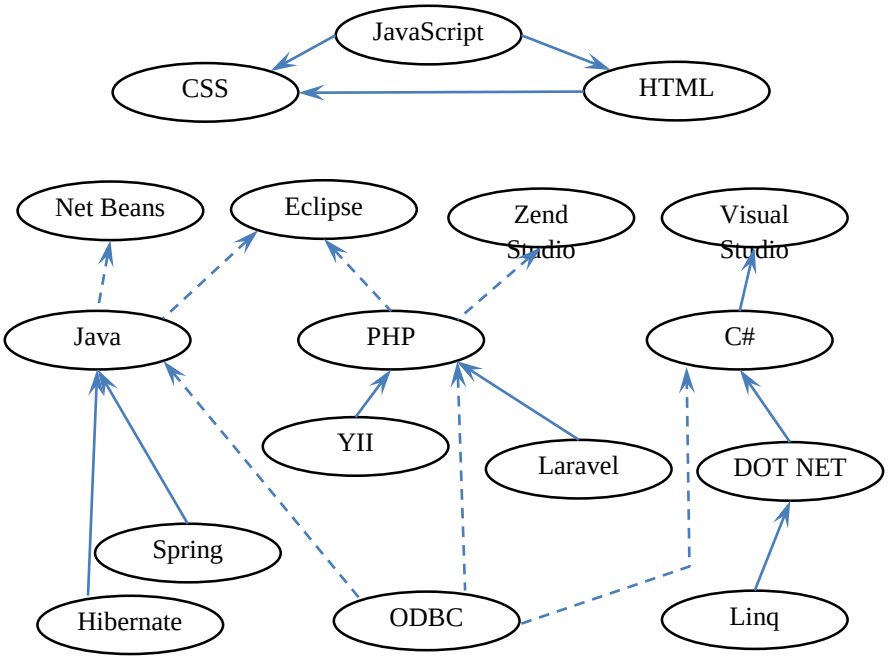

Figure 2 ***Technology interconnection graph***

So, it can be argued that any set of technologies studied, defined by a vector B_j and satisfying conditions (6 and 9), is joint, and if conditions (3) are satisfied, it is complete, that is, it provides the formation of all the required competencies for a given training profile and represents the set of possible training paths for specialists.

We turn to the problem of choosing the optimal training path. To do this, we introduce a restriction on the maximum complexity of the preparation. Let the vector H_j determine the complexity in hours of studying j of that technology. When the task of choosing the optimal trajectory from the position of minimizing training costs is to solve the optimization problem (10) subject to conditions (3, 6 and 9):

$$\sum_j H_j B_j \rightarrow min \tag{10}$$

If it is necessary to choose the most useful trajectory for training specialists, equation 10 takes the form of a restriction (where H^{max} is the maximum available training time):

$$\sum_j H_j B_j \leq H^{max} \tag{11}$$

By the criterion of the usefulness of the educational trajectory, we understand the degree of demand for specialists trained on this trajectory by the labor market. To do this, using recruiting data (job site in the field of information systems and technologies https://www.dice.com, January 7, 2020), we will build table 5, taking into account the data from table 1. Table 5 in the last column gives the normalized frequency of references. Rationing of the frequency of technology references was carried out within the framework of competencies to which these technologies relate. This method allowed us to come to comparable values and get rid of the economies of scale of the demand for competencies, which is absolutely justified, since condition (3) guarantees training in all competencies of the specialty. Thus, the last column of table 5 is a vector of technology E_j demand.

*Table 5 T**he usefulness of technology in the labor market***

Technology	Number mention	Competence	Number of mention technologies within the competence	Normalized frequency of references,% (The vector of the utility of technology in the labor market E_j)
Visual Studio	269	experience with modern IDEs	404	67
Zend Studio	20			5
Net Beans	4			1
Eclipse	111			27
ODBC	37	knowledge and ability to work with relational DBMS	685	5
Linq	71			10
Hibernate	577			84

HTML	2972	knowledge of the client layer on average level	12394	24
CSS	1513			12
JavaScript	7909			64
PHP	832	knowledge of server programming language	14389	6
C#	3017			21
Java	10540			73
DOT NET	2288	knowledge of server frameworks	4494	51
Spring	2112			47
YII	25			1
Laravel	69			2

Then the choice of the most useful training path is reduced to the search for maxim (12), subject to conditions (3, 6, 9 and 12):

$$\sum_j E_j B_j \rightarrow max \tag{12}$$

To set necessarily studied technologies, for example, for a specific employer, condition (13) can be introduced.

$$B_j \geq B_j' \; for \; \forall j \tag{13}$$

B_j' sets the required technologies to be studied by unit values.

Results and Conclusions

A multifactor mathematical model is developed for constructing a multitude of consistent educational paths for training full stack specialists, the formal formulation of which is presented below

Initial Data

A_i – a set of required competencies,
B_j – a set of available technologies,
C_{ij} – connection *i* of that competence and *j* of that technology,
V_{ij} – the significance (weight) of technology *j* for competence *i*,
D_{jk} – the dependence of technology *j* from *k*,
M_{nj} – the relationship of technology *j* and technology family *n*,
R_{jn} – he dependence of *j* hat technology on the nth family of technologies,
E_j – vector demand for technology by the labor market.

Optimization Parametrs

P_i – minimum level of formation of *i-th* competency,

H_j – the complexity of j technology,
$\mathrm{H}^{\max}$ – the most labor intensive educational trajectory,
B_j' – compulsory technology.

Limitations
$\sum_j V_{ij} B_j \geq P_i \; for \; \forall \; i$ – competency formation,
$D_{jk} B_j \geq B_j \; for \; \forall j,k$ – compatibility (consistency) of technologies,
$B_j R_{nj} \sum_j M_{nj} B_j \geq B_j \; for \; \forall j,n$ – compatibility (consistency) of technologies and technology families,
$\sum_j H_j B_j \leq H^{max}$ – restriction on the complexity of training,
$B_j \geq B_j' \; for \; \forall j$ – guaranteed study of required technologies.

Optimization Variables
B_j – binary vector trajectory preparation.

Objective Function
$\sum_\mathrm{j} \mathrm{E_j B_j} \rightarrow \max$ – efficiency from the standpoint of demand.
$\sum_j H_j B_j \rightarrow min$ – minimization the complexity of training.
Solved tasks:

- The construction of many joint and complete trajectories of specialist training;
- Search for the optimal trajectory of the training of specialists;
- Searching for the most useful trajectory of specialist training with a limited labor intensity.

A mathematically sound technology has been obtained that allows us to develop training plans for specialists that cover all the necessary competencies for the chosen field of training on the basis of a specialized multifactor mathematical model for constructing a multitude of consistent educational ones. This allows us to satisfy the need for such specialists, which has been continuously growing since 2013, especially in small high-tech companies and startup projects.

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APPLICATION OF IMAGE PROCESSING TO EDUCATIONAL PHYSICS EXPERIMENTS AND INTERDISCIPLINARY STUDENT MOTIVATION

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Abstract. *The paper presents an automated educational system for fast physics experiments using image processing technologies. The article shows how image processing techniques help students perform better in physical physics experiments and obtain more accurate results compared to traditional methods. The experimental system used image processing technologies, programming in LabVIEW View, automated data recording, and image processing of experimental results using MATLAB. The experimental system demonstrates students' professional specializations such as mechatronics, mathematics, and programming. The developed system allowed to improve the precision of mechanics experiments reduced the time needed to experiment and allowed automatic processing of the data accounting. The experimental physics laboratory system has already attracted specific student interest and, according to the author practice, has increased student motivation as students see realistic prospects for their future abilities. The system was created by higher education students, and includes physics, image processing technologies, not only the knowledge of electronic engineering specialization but also programming knowledge. Students of the final courses designed the experimental system, and the physics course experiments are carried out in the first course, showing collaboration between different professions and different course students, knowledge adaptability, and interdisciplinary ties.*
Keywords: *Image processing, Interspecialty relationship, LabVIEW-MATLAB programming.*

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Introduction

Image processing applications become increasingly influential in physics education because the visual display can make traditional lessons more intriguing and accessible for students. Physics learning by Image processing applications has, therefore, been continuously improved in terms of hardware, software as well as contents and suggested that high precision measurements can be achieved by the video analysis when possible sources of errors from projections, lens distortion and marker positions were controlled.

These technologies are also relevant in the learning process, combining basic and specialty subjects (Debnath & Sukumar, 2005). The image processing technique applied by the practice in applied physics subjects in the first years of learning. Interdisciplinary relationships are realized by combining the first-year core subjects (mathematics, physics) with the subjects taught in the later courses. The motivation for interdisciplinary subjects realized through integrated lectures and practical experiments.

The article presents a system of laboratory experiments in physics implementing five different subjects of specialty, as shown in Figure 1.

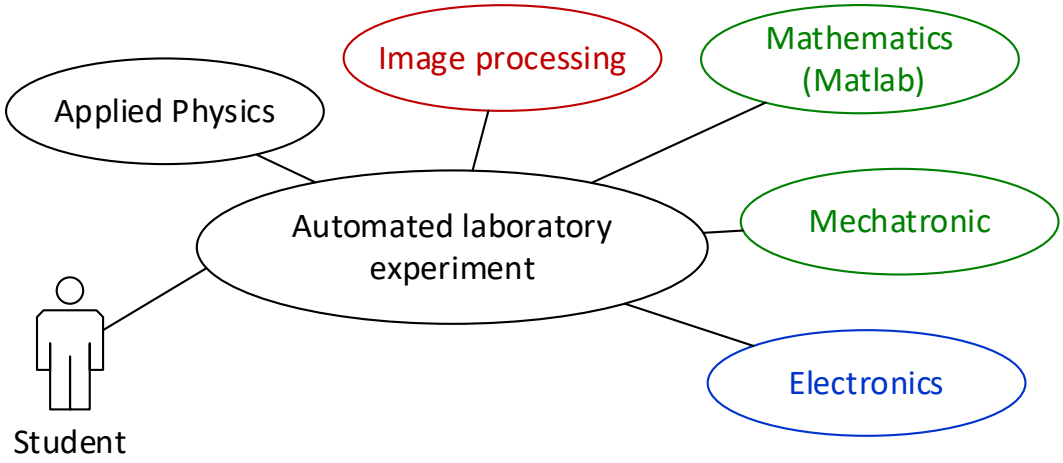

Figure 1 ***Interdisciplinary relationships are demonstrated through an automated experiment***

In this way, during physics experiments, the student gets acquainted with the subjects of electronics, mechatronics, and informatics, which are to be thought in the following courses.

Methodology

To illustrate the modern image processing technology in the learning process, the experiment of an applied physics subject - "Determination of the fluid Viscosity" is taken as an example.

Many methods were used to measure the viscosity of fluids. These typically based on an object moving through a fluid, in the industry, using a falling-ball viscometer. The falling ball viscometer usually measures the viscosity of Newtonian liquids and gases. The method applies Newton's law of motion under force balance on a falling ball when it reaches a terminal velocity. In Newton's law of motion for a falling ball, there exist buoyancy force, weight force, and drag force, and these three forces reach a net force of zero. The falling ball viscometer is well-suited for measuring the viscosity of a fluid, and the method has stated in international standards. The standards describe an inclined-tube method in which the tube for the falling ball inclined at 10 degrees to the vertical. Moreover, several balls used with different diameters for various dynamic viscosity measurement ranges, and a suitable ball can be selected when the fall times of the ball are not lower than the minimum fall times recorded during a testing procedure. The sample viscosity correlates with the time required by the ball to drop a specific distance, and the test results given as dynamic viscosity. The dynamic viscosity η of a liquid is defined by the force F which is required to move two parallel layers of liquid both having area A and separated by dx with the velocity dv with respect to each other (3). A spherical particle with a radius r moves in a liquid under the influence of a force F and the viscosity η with a constant velocity v (Stokes Law).

$$v = \frac{F}{6\pi\eta r} \tag{1}$$

The motive force F of the ball is equal to the product of the acceleration of gravity g and the effective mass m, which can be expressed as the density difference between the ball ρ_1 and the liquid ρ_2 (Figure 2).

$$F = mg = \frac{4}{3}\pi r^3 g(\rho_1 - \rho_2) \tag{2}$$

The resistance force depends not only on the radius r of the ball but also on the dimensions of the tube in which it must move. In a narrower tube, the liquid is more difficult to pass through the bead. Experimentally, it will found that the viscosity force of the ball passing through a tube of radius R is greater than that of the ball passing through the tube in an unrestricted fluid, then velocity:

$$\eta = \frac{F}{A\frac{dv}{dx}} = \frac{2gr^2(\rho_1 - \rho_2)}{9v}\frac{1}{1 + 2{,}4\frac{r}{R}} \quad (3)$$

The falling ball method has been well developed to operate this type of viscometer. The operation principle and structure of the viscometer is presented in Figure. 1.

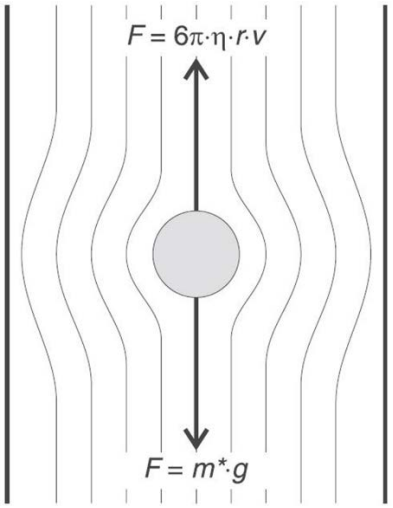

Figure 2 ***The forces on the falling ball in liquid***

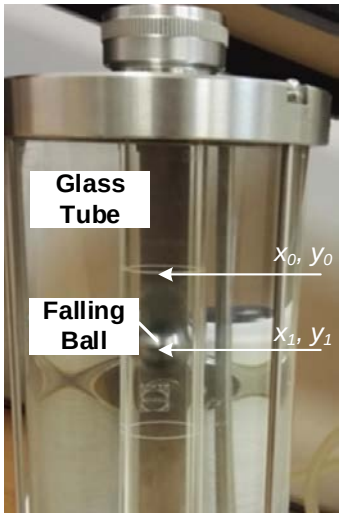

Figure 3 ***The structure of the viscometer with liquid***
Where x_0, y_0 - coordinates of the starting point, x_1, y_1 - coordinates of the current point

The measuring ball moves in the glass tube, the speed of the ball depends on the viscosity of the liquid in the tube. Moreover, it is difficult to determine where the falling ball arrives at the terminal velocity, and whether the distance between the beginning record line and the starting fall position sufficient. Therefore, the purpose of this study was to develop a new method based on the traditional falling ball method, using image processing applications for describing falling ball behavior in a vertical tube.

Today's new methods of image processing in real-time systems are increasingly used in mechanical measurements. The image recognition and object tracking process are implemented using LabVIEW methods that are included in the NI Vision software. The newly created part in the software is the mean shift algorithm, which captures the change coordinates of the center of the object in the experiment process view called mean-shift algorithm (Devipriya et al., 2017).

The mean shift algorithm for moving object tracking was initially proposed to estimate the probability density function based on the distribution of points. Then according to the mean shift algorithm modes or peaks, the density function

is determined. It is a non-parametric method, and it tracks the object for a long time, more robust compared to other tracking algorithms. To find the new location of the object that we are going to track, we need to find a vector that can suggest the direction of the moving object. This vector is called the mean shift-vector. First, we need to draw the region of interest around the object, and get the data points, approximate location of the mean of this data. Then estimate the exact location of the mean of the data by determining the mean shift vector from the initial mean - the video stream in real-time consisting of discrete frames.

In the first frame, the tracking object is selected. If y_0 is the center of an object, then the position of pixels is $\{x_i\}$ i=l,2,..N, where N is the number of pixels in the image. The statistical histogram distribution model of the target area is given by (Devipriya M. et al., 2017):

At the current frame, the statistical histogram distribution is given by

$$p_h(y_0) = C_h \sum_{i=1}^{N_h} k\left(\left\|\frac{y_{0-x_i}}{w}\right\| 2\right) \delta[b(x_i) - h] \quad (4)$$

At the current frame, the statistical histogram distribution is given by

$$P(p_h(y_0), q_h) = \sum_{h=0}^{H-1} \sqrt{p_h(y_0) q_h} \quad (5)$$

Then computing the Bhattacharya coefficient given by

$$P(p_h(y_1), q_h) = \sum_{h=0}^{H-1} \sqrt{p_h(y_1) q_h} \quad (6)$$

Compare the coefficients and update the candidate window.

If $\|y_1 - y_0\| < \varepsilon$, iteration stops, and goes equation (5).

For experimental validation, a laboratory experiment image processing system with a video camera was used. A LabVIEW application is accomplished for optical tracking of the video motion and for acquiring the trajectory coordinates for statistics. Experimental data are analyzed, and parameters are calculated using MATLAB software (Wuni et al., 2010).

Object tracking methods obtain moving objects data, which used to calculate liquid's viscosity in a physics experiment.

Realization of educational experimental system

The modern information technology application to computer-based experiments is conducted on similar methods. It has a similar architecture that can be considered typical for microprocessor control tools with National Instruments LabVIEW software (National Instruments Corporation, 2009). The experimental system for automated physics laboratory experiments was created.

The block diagram of the experimental system is presented in Figure 3. The system consists of image processing and data accounting module implemented in LabVIEW software, mathematical calculation module realized in MATLAB mechatronic part consisting of the trigger switch, measuring ball applications, and video camera (Giannone et al., 2011; Klinger, 2008). The mechatronics part consists of an experimental mechanical start switch, which transfers the logic signal to PC by the Arduino controller (Durfee, 2011; Organtini, 2018).

The structure of the experimental system presented in Figure 4.

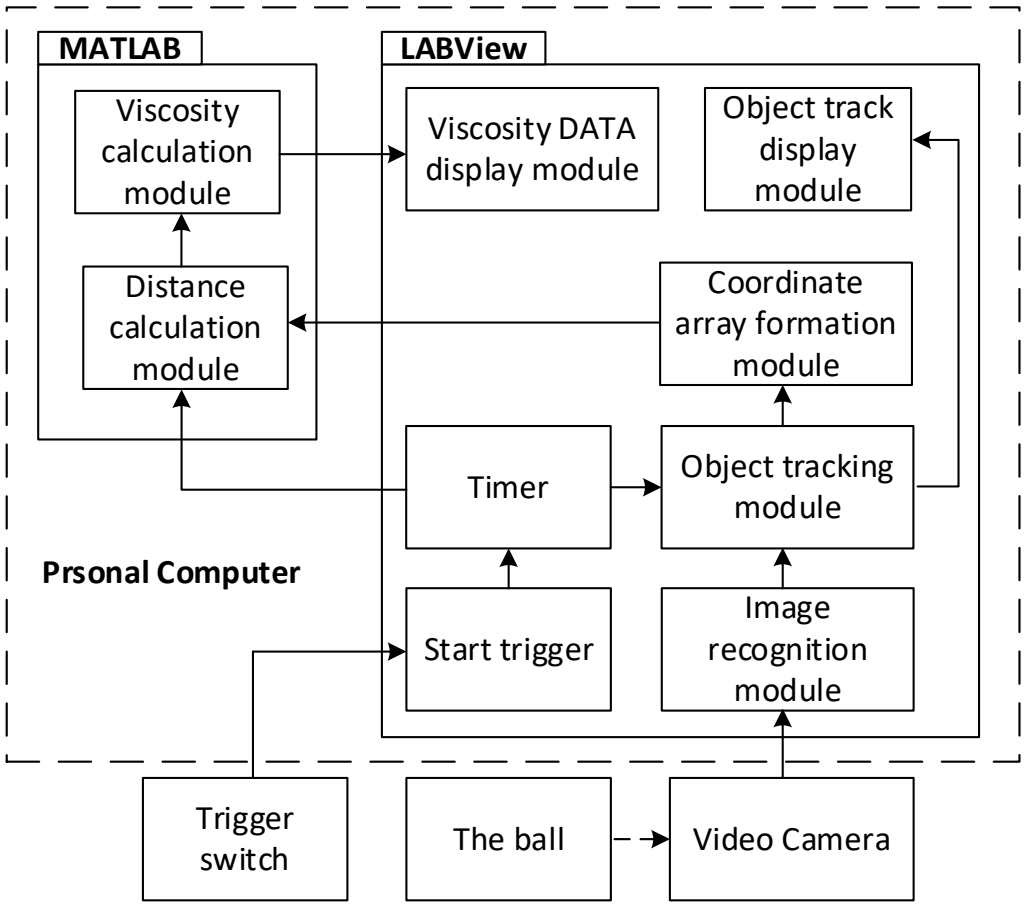

Figure 4 ***Block diagram for the system***

The operation of the system is illustrated in Figure 5.

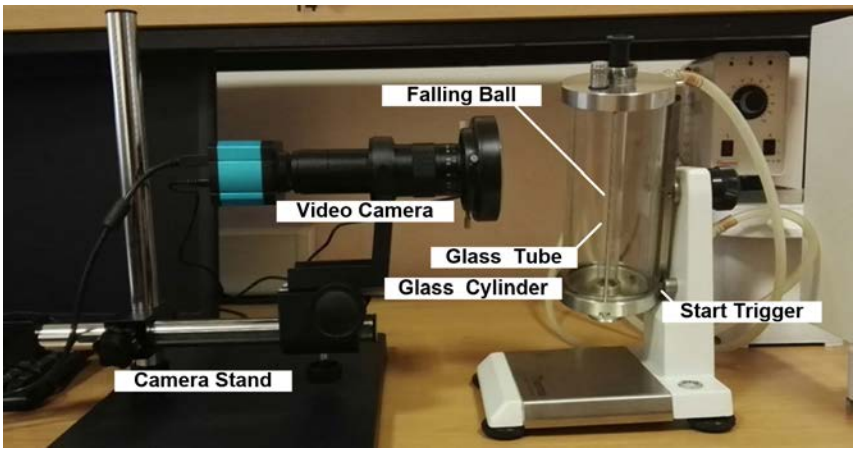

Figure 5 ***The system of the experiment***

The main part of the system consists of a glass cylinder viscosimeter with a warm measuring ball inside (Figure 3). The video camera is mounted on the camera stand and used to record the movement of the measuring ball. From the camera, the video stream is transmitted to a personal computer, where the video stream is processed and the data applied to the mathematical calculations of the physical experiment.

Image processing is executed through the Vision Assistant module in LABView. Module configuration and processed image results are visible at each step in Figure 6.

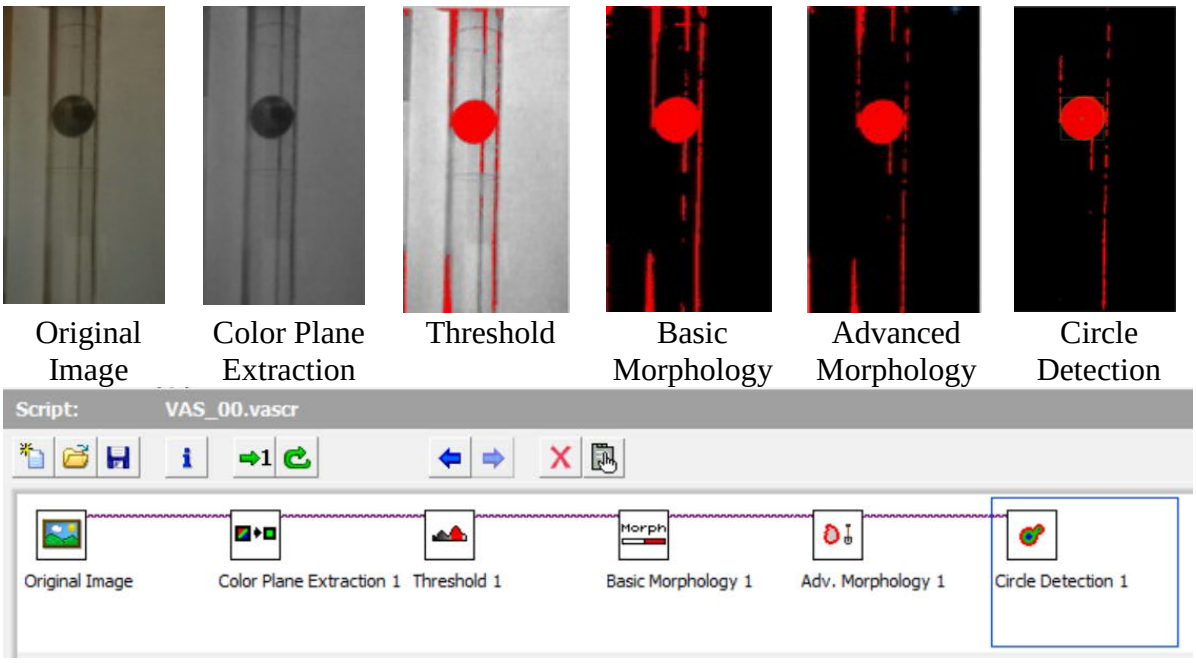

Figure 6 ***Configuration of Vision Assistant.vi and results in image processing steps***

The activity diagram of the measuring system presented in Figure 7.

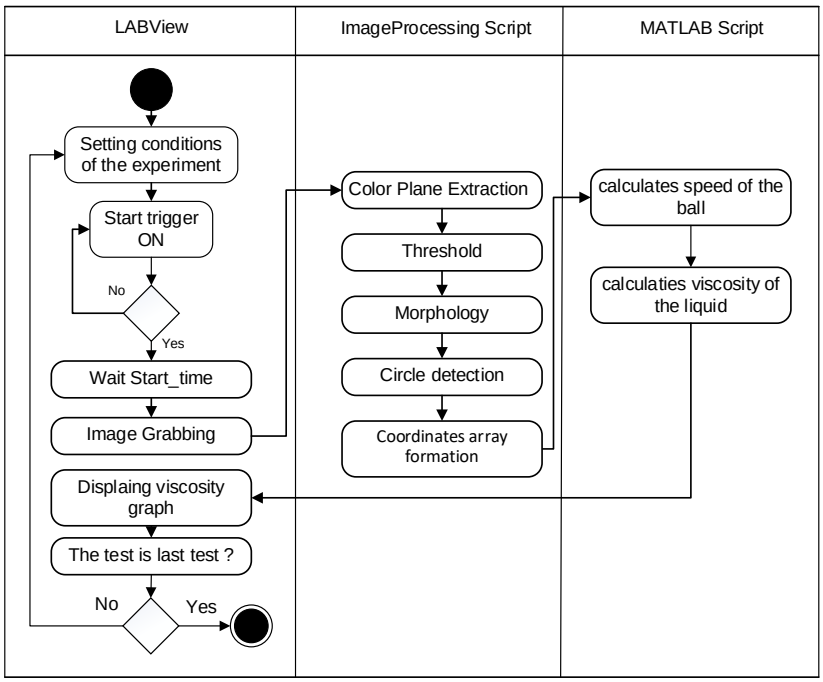

Figure 7 ***The activity diagram of the laboratory experiment***

The experiment begins with setting the conditions for the experiment when triggered by Start Trigger pause, (Start_time) to stabilize physical processes. When the measurements start, the image is captured using the Image Grabbing function in LABView. Image processing is executed by the image processing script and consists of Colour plane extraction, Threshold, Morphology, Circle detection functions. The result of these functions is an array of coordinate data that is transfer to the MATLAB module. The MATLAB script calculates the speed of the ball, and viscosity of the liquid, as a result of the experiment if the current test is the last in the experiment LabVIEW displaying the viscosity graph of each test and of the whole experiment.

The Equipment of the Laboratory Experiments is a complex mechatronic system that contains hardware and software. Figure 6 shows the scheme of the system structure.

Experimental software developed by LabVIEW. Software running on a personal computer (National Instruments Corporation, 2009; Mandelis A., 2018).

As an illustration, in Figure 8, the measurement systems LabVIEW diagram was presented

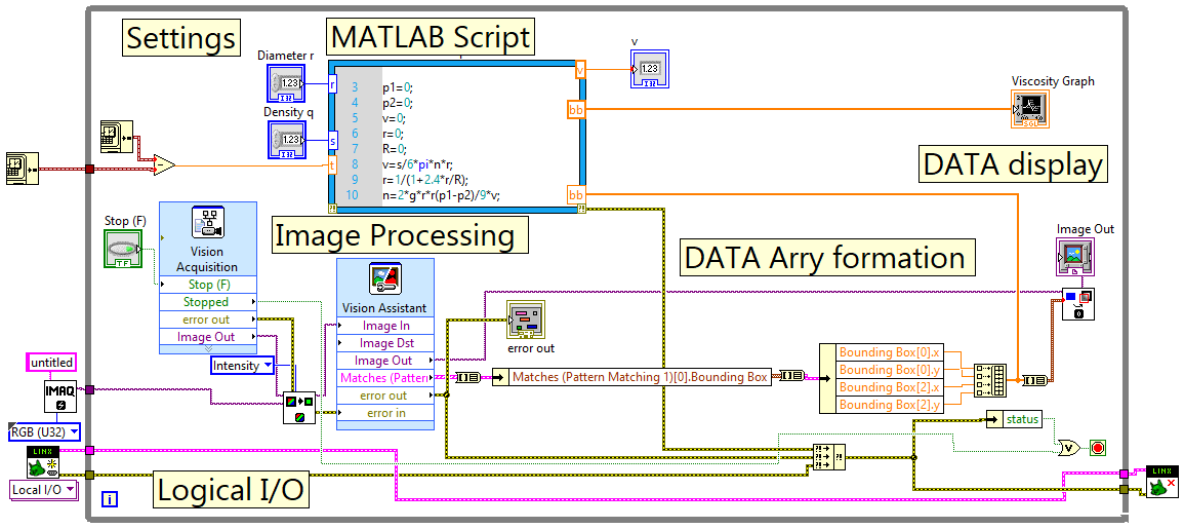

Figure 8 ***The LabVIEW diagram of the measurement system***

The image processing part is for image capture and processing (see Figure 7). DATA array formation part designed to from a dynamic coordinate array from the image data. Logical I/O port used to receive a signal from the Start switch. MATLAB Script performs calculations based on set data by Settings part and data received from DATA array. The output of the results is executed in the data display part.

Example of Physics Laboratory Experiment

The experiment was performed with a viscometer and six balls of different diameters and density. The set of testing balls diameters – d, material densities - q, speeds - v, and viscosity - η. The viscosity of the liquid is calculated by the formula (5).

The viscosity of distilled water at 22°C was measured. The data for each test were calculated automatically and displayed separately in the user interface. All data set are presented in Table 1.

Table 1 ***The data of the testing balls and measured parameters***

Test N$_o$	d, *mm*	q, *kg/m^3*	v, *mm/s*	η, *mPa/s*
1	15,25	2340	3,69	1,12
2	14,23	2340	5,33	1,11
3	12,75	2340	6,42	0,89
4	15,12	7800	1,35	0,95
5	14,80	7800	2,18	0,99
6	13,05	7800	3,62	1,12

A comparison was made with the same fluid viscosity experiment without a computer-based system with image processing. Measurement accuracy data was studied, as well as the average time over which the experiment was performed. Average time spent on one test, as well as time spent on the whole experiment, and the viscosity measurement error presented in Table 2.

Table 2 ***Comparison of functionality data of the standard experiment system and computer-based system with image processing***

test t		*exp t*		*m-error*	
CB S	*Classic S*	*CB S*	*Classic S*	*CB S*	*Classic S*
30s	2min.	6min	26min	12%	23%

Where: – *exp, t* – time wasted for the whole experiment, *test t*, – time spent on one test with one ball, *m-error* - error in viscosity measurements. For: *CB_S* – experiment with the computer-based system with image processing, *Classic_S* – classic viscosity measurement system.

The results show that a computer-based measuring system with image processing reduces the time spent per test from 2min to 30s. The time spent on the whole experiment, from 26min to 6 is measured by taking into account the additional time that students log data manually. The most important value obtained is the measurement error, which is reduced more than twice.

It should be noted that the close viscosity values obtained when measuring with different balls could not be obtained by the classical method due to visual observation errors.

Interdisciplinary relations and student motivation

In the first year of studies students of many specialties have a practical exercise in physics. Therefore from the beginning, it is worth to cause students' motivation and interest for the sake of further studies. The author of the laboratory mentioned above experiment system is a third-year student. The Laboratory test experiment system designed by the student and implemented in the learning process demonstrates not only the interdisciplinary links between mechatronics, electronics, and programming but also encourages students to rely on their abilities. The subsequent course student develops the experimental system implemented in the physics laboratory; it motivates the students for further studies and builds their self-confidence. Experience from practical experiments with the first-year students shows that more than five interested students of Information Systems, Computer Engineering, and Electronics Engineering specialties not only

continue to study but also show excellent results in individual subjects. Therefore, it means that the practically illustrated method of student's motivation is effective.

Conclusions

The following conclusions can be made from the analysis of the application of the automated physics laboratory experiment developed by the students:

- Image processing applications for physics laboratory experiments facilitate the experimentation process and reduces the time spent on the analysis.
- Computer vision techniques allow making a record of the fast processes in physics experiments, that are difficult to see for the human and also reduce the error of measurement
- During the first year, the student understands the practical benefits of the individual studies, and this option increases student motivation.

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E-LEARNING: APPROPRIATE E-MATERIALS FORMATTING FOR USERS HEALTH

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Abstract. *E-learning has a direct relationship with public health as e-materials are making a huge amount of near workload for e-learners' eyes. As it is known, the huge near workload is one of the main reasons for the myopia development of nowadays population. The visual system can quickly become overloaded, especially by inappropriate e-material formatting. Based on theoretical research, incorrect formatting is used in most e-materials based on wrong recommendations. Recommendations and methodologies are not up-to-date for screen use. According to publications in the period of more than 20 years, near work and accommodation are the key factors for myopia development and progression. Appropriate formatting parameters of e-materials play an important role in reducing possible risk factors for myopia development. It could be achieved by using appropriate formatting parameters for e-learners. E-material font type must be perceptible and comprehensible from the screen, font size and line spacing must be appropriate for the reader based at least on its age and intellectual level, colour of background and text must help perception and reading process and could be different for each individual. All variables are important for individual and public health goals. New recommendations and automatization of the formatting process are developed to reach improvement.*
Keywords: *e-learning, e-materials, e-study, formatting app, myopia, public health.*

Introduction

In the nowadays digital age, mostly everything is connected through digital devices, the Internet, social media, and apps. One smaller or bigger part of an everyday routine or its change same as parameter change of digital devices, programs, and apps, can make an impact on ours or others' life and wellbeing. Especially in the time of fast development and innovation of all life edges.

Public health involves different disciplines as engineering, education, computer science, medicine, sociology, and others (Detels et al., 2009). It is the base of the relationship between them and insight into different factors that affect societies' health, research, develop, and provides innovative solutions.

E-learning as a part of self-development and the modern public educational system has a direct relationship with public health as e-materials that in a different

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form are in use of knowledge providing, are making a huge amount of near workload for e-learners' eyes. As it is known, the huge near workload is one of the main reasons for the myopia development of nowadays population. Various types of near work have been suggested to promote the incidence and progression of myopia (Guan et al., 2019). The visual system can quickly become overloaded, especially by inappropriate e-material formatting. Based on theoretical research incorrect formatting is used in most e-materials based on wrong recommendations. Recommendations and methodologies are not up to date for screen use.

According to publications in the period of more than 20 years, near work and accommodation are the key factors for myopia development and progression (Muhamedagic et al., 2014).

Literature review

Despite all the advantages the mobile devices can also create problems such related to losing concentration during classes and diminishing classroom discussion (Maxwell, 2007; Murray, 2011).

Lots of digital device users have a sense of discomfort and vision problems after near work at screens (Kokab & Khan, 2012). It is related to human visual perception (Ramamurthy & Lakshminarayanan, 2015) and how people get and analyzed information. There are differences in perception from printed materials and digital displays (Seok & DaCosta, 2016).

The prevalence of myopia was 18.1% (3607 of 19,934 students). Greater computer use ($P < .001$), smartphone use, television viewing, and after-school study, as well as less midday outdoor time, were also associated with greater myopia prevalence ($P < .001$). Myopia VA $\leq$6/12 and SE $\leq$-0.5D in at least one eye (Dirani, Crowston, & Wong, 2018; Guan, et al. 2019).

To successfully participate in e-learning and e-studies, users need both excellent e-skills and well-designed e-learning materials: high-quality content, comfortable, easy-to-understand, and comprehensible text, suitable formatting parameters of e-materials (Mackare, Jansone, & Zigunovs, 2018).

Current research represents a focus on content visualization, such as typographic aspects like font, font size, spacing, and colours. Formatting parameters regulate them. See figure 1. It creates a more individual learning environment that is more comfortable for educational material perception from the screen (Mackare & Jansone 2019b).

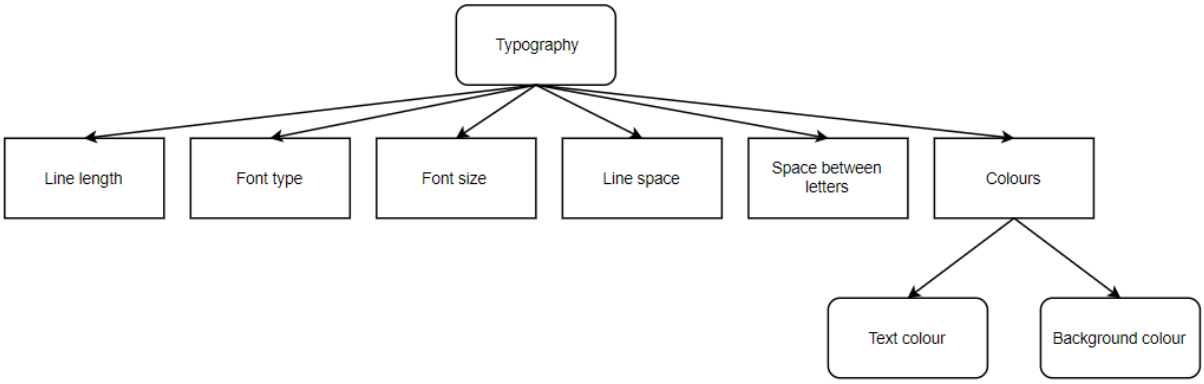

Figure 1 ***Content visualisation typographic aspects***

Recommendations for e-material formatting guidelines (Table 1) of the most important typographic aspects were developed for the target group without reading difficulties and without any significant vision problems. A wider overview has presented at previous publication (Mackare & Jansone, 2017a; Mackare & Jansone, 2017b; Mackare & Jansone, 2018; Mackare, Jansone, & Zigunovs, 2018).

Table 1 ***Recommendations for guidelines***

Target group by age	Formatting parameters				
	Font	Body text size	Headings size	Line spacing	Background and text colour
7-15	Arial	12-18pt	≥14-20pt	1,15	Black on white
	Verdana				Dark grey on white
	TNR				White on black
16 - 39	Arial	≥14pt	≥16pt	1,5	Black on white
	Verdana				Dark grey on white
	Georgia				Dark green on white
40+	Arial	≥14-16pt	≥16-18pt	1,5	Black on white
	Verdana				Dark green on white
	Georgia				Very dark grey on white

Source: Mackare, Jansone, & Zigunovs, 2018

Developed recommendations have been used for automatized e-material formatting app development. The wider overview has presented at previous publications (Mackare, Jansone, & Zigunovs, 2018; Mackare & Jansone, 2019a; Mackare & Jansone, 2019b; Mackare, Jansone, & Konarevs, 2019).

This have been up to date topic for last 20 years but there are not enough research. Is it really formatting change for screen reading to make any improvement in users' comfort or public health?

Methodology

Methodology: Data record examining and short questioner of computer users.

Patient data records

Part 1: Used 879 patient observation record cards of authors-optometrists' patients' data records from 2017 from one of Latvia optic. But there are thoroughly analyzed 867 record cards as 12 were excluded by not full information content. Partly this data has been overviewed in the previous publication (Mackare & Jansone, 2018).

Part 2: Used 1268 patient observation record cards of authors-optometrists' patients' data records from 2018 from one of Norwegian optics.

There are used only on research related data: gender, age, is it first time or repeated check, time between previous and current check, amount of refraction change, is new correction prescribed, is patient computer user, have patient complains about vision and what kind of complains have been found, and objective findings. All data records used according to personal data privacy and security rules.

Questioner contains eight questions – 6 with several answers possibilities as never, sometimes, often or not related, and 2 with yes/no answers. Response collected from 200 respondents-digital device users.

Research results

Patient data analysis:

From 867 record cards of Latvian patients' descriptive statistics shows, 552 patients were women and 315 patients - men, the age group from 12 to 82. Data show, 99,8% of patients use a computer, and 31% of them come for a first vision check.

From 1268 record cards of Norwegian patients' descriptive statistics shows, patients' age group are from 4 to 98. Data show, 100% of patients use a computer and/or other digital devices with screens.

Patient data record analysis:

The most common symptoms and complains of digital device users are combined in Table 2. Data of symptoms and complains mentioned by patients in records represents in percent from Latvia and Norway patients' records.

Almost all patients (99%) mentioned complains about changes in vision (see worse at all distances or only at one), same as 97-98% of patients feel vision clearness change and can't see small letters or numbers at near or long distances. More than half of patients complain about: Problems with changing focus distance, discomfort at near work, reading or computer work, vision becomes

blurry and/or see double and eyes become red. About one half experience symptoms as a feeling of burning, itching, etc. eyes and feeling of dry eyes or feeling of sands in eyes. In most data are no significant differences between Latvian and Norwegian patients except a complaint as the feeling of tiredness in eyes or head.

Table 2 ***Symptoms mentioned in patients' anamneses***

Symptoms/ complains	Symptoms/complains mentioned by patients, %	
	Latvia	Norway
Feeling of dry eyes or feeling of sands in eyes	51	47
Feeling of burning, itching, etc.	52	53
Watery or "running" eyes	21	17
Eyes become red	57	62
pain or pressure-like feeling in eyes	26	23
Headaches (around eyes, in forehead, temples, or back of the head)	31	38
Feeling of tiredness in eyes or head	64	33
Vision become blurry and/or see double	56	59
Feels vision clearness change / can't see small letters or numbers at near or distance	97	98
Problems with changing focus distance	56	68
Changes in vision (see worse at all distances or only at one)	99	99
Discomfort at near work, reading or computer work	59	57
Eyes become sensitive to light	2	3

Patients are not only having complains or symptoms, but there are relevant findings on optometrist vision and eyes examination. The most common optometrist findings of digital device users are combined in Table 3. Data on optometrist findings represent in percent from Latvia and Norway patients' records.

Almost all patients (99%) have changes in visual acuity. Same, about 97-98% of patients, have changes in refraction, and more than half are under myopization process. More than ¾ of patients in Latvia and about 84% of patients in Norway have been diagnosed with a Dry Eye Syndrome by findings of related changes under biomicroscopic observation. Most of this is low or extremely low tear line and conjunctival and/or limbal hyperaemia. In most data is no significant differences between Latvian and Norwegian patients.

Table 3 ***Findings mentioned in patients' anamneses***

Findings	Have changes, %	
	Latvia	Norway
Dry Eye Syndrome related changes by biomicroscopic observation:	75	84
low or extremely low tear line	65	73
foamy tears	9	8
viscous tears	23	21
conjunctival wrinkles	42	37
conjunctival staining	11	9
MGD	25	18
conjunctival and/or limbal hyperaemia	71	69
Conjunctival and limbal hyperaemia without other dry eye syndrome findings	4	6
Accommodation problems	11	13
Changes in visus	99	99
Changes in refraction	98	97
Myopization (Myopia progress, grow)	58	67

Almost all patients (computer users and non-users) had changes in refraction. It varies from ±0,25D to ±2,0D. Internet users till 40 years had average 0,50D (SE=0,013, SD=0,3) change in 6-24 months. Patients over 40 years had bigger change in same period - average 1,0D (SE=0,025, SD=0,47).

Questionnaire data are represented in table 4 and table 5. Data of respondents' answers represents in percent.

Table 4 ***Patient comfort of reading on screens***

Statement	Never	Sometimes	Often	Not related*
Letters and numbers look too small for comfortable reading on computer screen	22%	45%	33%	-
Feel need to adjust reading distance (computer screen)	27%	33%	40%	-
Letters and numbers look too small for comfortable reading on tablet screen	25%	23%	12%	40%
Feel need to adjust reading distance (tablet screen)	23%	11%	26%	40%
Letters and numbers look too small for comfortable reading on smartphone screen	28%	22%	47%	3%
Feel need to adjust reading distance (smartphone screen)	19%	23%	55%	3%

**not related = are not using this kind of device ever or for reading tasks*

Questionnaire data represent in table 4 show what 40% of respondents don't have or are not using tablets for reading tasks, same as 3% of respondents don't have or are not using a smartphone for reading tasks. Almost 80% admit that letters and numbers look too small for comfortable reading on a computer screen, and 73% feel a need to adjust the reading distance of a computer screen. More than half of tablet users admit that letters and numbers look too small for comfortable reading, and 2/3 feel a need to adjust the reading distance of the tablet screen. About 70% of smartphone users admit that letters and numbers look too small for comfortable reading, and almost 80% feel a need to adjust the reading distance between eyes and smartphone screens.

Table 5 ***Need of text increase***

Statement	Yes	No
Have you tried to increase a size of letters and numbers you need to read?	49%	51%
Did it help?	80%	20%

Almost half of respondents have tried to increase a size of reading material letters and numbers, and 80% of them experience increase of readability comfort.

Conclusions

Current research and patient data record analysis from Latvia and Norway show screen reading effect on readers vision.

Most digital devices users are experiencing different symptoms and having complains during and after near work, especially related to screen use. A significant part of them are not only having complains, but there have been relevant findings on optometrist vision and eyes examination. A significant part of digital device users has myopization signs based on refraction changes.

Most of the computers, tablets, and smartphone users have experienced what letters and numbers that must be read seems too small and unreadable on screen as well as experienced a need to adjust the reading distance. Almost part has tried to increase a size reading material, and 80% of them experience an increase of readability comfort.

E-material font type must be perceptible and comprehensible from the screen, font size and line spacing must be appropriate for the reader based at least on its age and intellectual level, colour of background and text must help perception and reading process and could be different for each individual.

All variables are important for individual and public health goals. Appropriate formatting parameters of e-materials play an important role in reducing possible risk factors for myopia development.

New recommendations and automatization of the formatting process are in development to reach improvement.

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APPLICATION OF ARTIFICIAL INTELLIGENCE IN DISTRIBUTION OF UNIVERSITY SYSTEM MODEL

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Abstract. *Higher education and improving the quality indicators of higher education is always a hot problem for all time. Education is the core of the country's society. Over hundreds of years, higher education systems have changed to match the level of civilization, the amount of human knowledge, the new pace of life and the development of information technology. Many higher education methods in developed countries have applied very effectively and met many high educational standards such as ABET, QS - Quacquarelli Symonds, Times Higher Education, SARWU - Shanghai Academic Ranking of World Universities ... Using AI, Big Data has also been applied to minimize time dependence and increase human understanding. From the traditional education model, the world has come to teach online with the application of IoT. In this article, we introduce a new model of higher education that can be applied in the near future to higher-end IoT applications than online, distributed education. We call this the Distributed Higher Education System Model – DUSM. With application of artificial intelligence to make virtual environment in education, we hope have a big change in education to advance quality of education. The analysis of the method will be presented in detail and hopefully it will be quickly applied to suit the capacity of social information technology.*
Keywords: *education system, distribution of university, virtual classroom, IoT, online learning, AI application, remote education.*

Introduction

To talk about DUSM, we first derive from the hilarious traditional higher education (TLM) model shown in Figure 1.

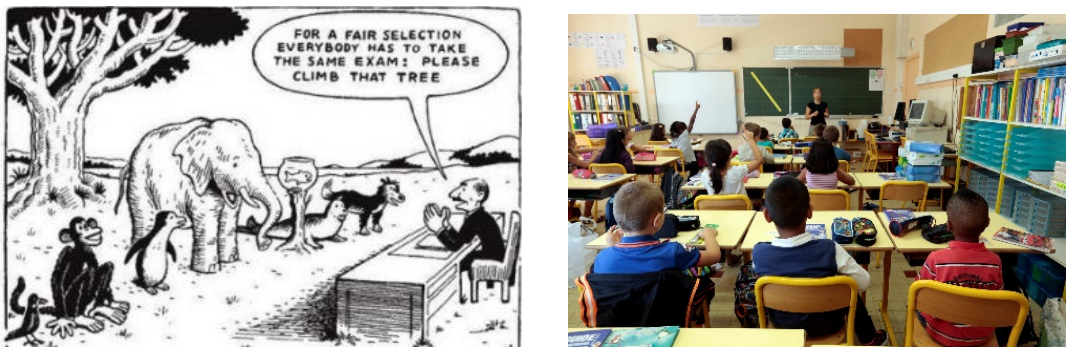

Figure 1 ***A traditional education model***

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We can see that with the traditional model, the knowledge that the teacher imparts directly to all students and everyone perceives the same requirements. Therefore the maxim: Everyone is equally smart, only different in time. And we have also seen many limitations of this traditional model, because the knowledge students get will be limited in terms of volume, quality, and opinion and position. Since then, traditional models have been improved and added many features to be able to adapt to new teaching conditions such as using a variety of materials, projectors, dynamic teaching software and tissue, interview, active learning, interactive learning ... But in general, the nature of education does not change, so for a group of students with different personal capacities, it is impossible to make everyone promote. Each person's own creativity to the maximum. It is possible to summarize a university course as shown in Figure 2.

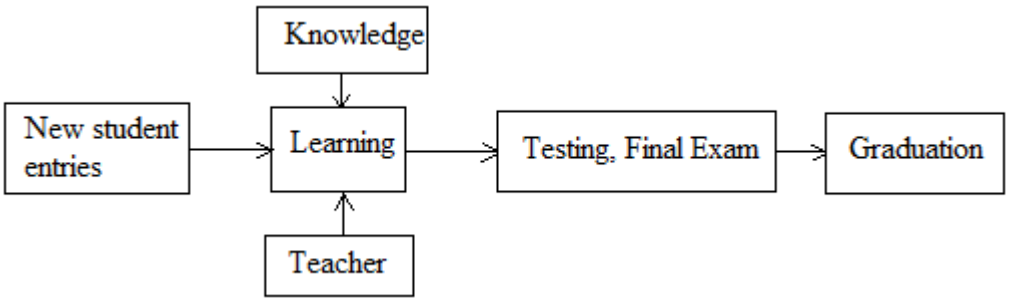

Figure 2 ***Schedule of TSM***

TLM model, many people know its limitations. The most important ones are the following limitations:

- Students do not promote self-discipline at work
- Students do not promote creativity at work and special abilities of each person.
- Do not evaluate the performance of students after graduation. Therefore, the success of a graduate student depends more on luck than inheriting the results of university study.

Entering the era of the internet, many new models have been applied, including online education or online learning (OLM), which has been paid attention and applied by universities, such as Figure 2. In the OLM model, the content of knowledge, teachers, and students are ranked in three independent sources. Therefore the interaction between teachers, students and knowledge is very important. Students need to be proactive in seeking knowledge to turn it into their own, but desperately need support from teachers, “self-interested and have the ability to take hidden actions, there exist complex interactions in the trade-offs among these instruments. We show, however, that such complex interactions produce rather simple and stark implications” (Liang, 2008, p. 809). Online

learning has greatly reduced the burden of tuition, living expenses, travel and other social security. The process of switching back and forth between the two models is called mixing as in Figure 3.

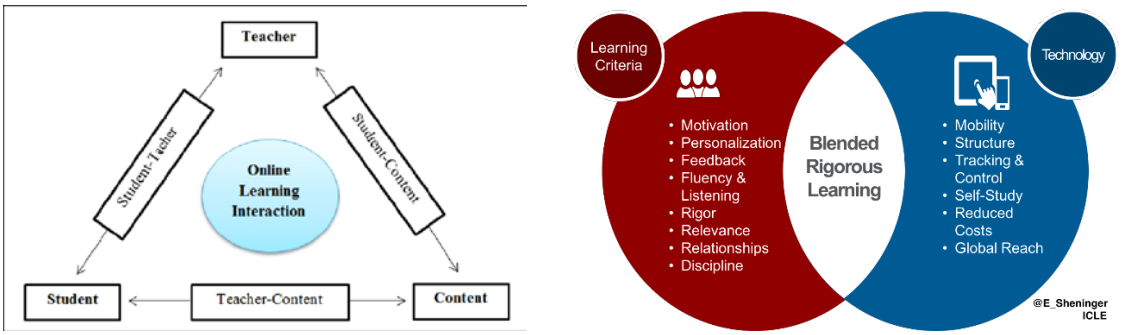

Figure 3 ***The online learning method***

OLM has brought many expected results beyond the TLM and now it is a model applied by universities.

The school's teachers are made up of a team of professors and experts who work for the school or collaborate and are paid on a yearly, monthly or weekly basis or specific topics. In this source, there can be professors from many neighboring universities with the same qualifications who can teach and research together. The basic feature of this workforce is the dependence on a key university and then on the spread. Therefore, the university must have a specific address and a large training service team to take care of all the tasks from admission to admission, curriculum development, program operation, class organization and periodic evaluation, output evaluation.

Students are recruited every year according to the school's registration criteria, based on the school's ability of facilities, professors and the balance of human resources for the labor market, “But surprisingly, a change in affects the optimal quality of the workers and the manager in opposite directions: the firm will hire lower quality workers but better quality managers” (Liang, 2008, p. 808). With OLM, students have the freedom to study but mandate certain deadlines and have assessments to ensure output through a diploma, “The finding is that the contribution from full-time is so big because the famous schools have more attraction and more ability to apply the position to teachers. Besides, the number of full-time teachers is more than part-time teachers” (Liu, 2017, p. 189).

Source of learning content, is knowledge, built from large libraries, cloud data, links between universities, research institutes ... Thereby, teachers and students all have access by individual rights and actively discuss with each other about the limit of learning content as well as content of course and course assessments.

Access to each other's resources will have an impact on time, “Although no one can expect that educational networks will totally replace the traditional lecture” (Ghosh, 2012, p. 56), personal and social economy, as well as personal rights determined by human rights law. Therefore, there should be many sanctions for this access to ensure fairness but not lose the autonomy and right to perform duties of each source.

The OLM model also has some limitations, as follows:

- Interoperability is limited by the internet, both speed and bandwidth
- Access to data sources is limited due to teacher-student interaction, so it is not flexible.
- The creativity of students is in the control of teachers and social opinion.
- The scope of education is restricted from the initiative initially
- Student learning time is limited by the training time
- The effectiveness of student activities on society in the field of education is not high
- The legal binding between students and the educational environment is too great, resulting in many unnecessary prejudices such as retesting, re-examination and community activities.
- Many students of different ages are not equally educated.
- Self-awareness of students is not high because of the strong ties.
- Do not assess the level of morality and happiness of students.
- Do not evaluate the performance of students after graduation. In other words is like a system without feedback.

Structure of DUSM

DUSM system as virtual environment of digital education, “There are three primary components in the model: technology, experience, and people”, (Stephen, 2016, p. 1503). It is a combination of environment between real university and cloud environment on the base is high speed internet, it consists the following main components:

- University organizational structure
- Teaching human resource system
- Student resource system
- Document source system
- System of facilities and laboratories
- Health assurance system
- System of support and consulting staff

- Office staff system
- Financial management system
- Business relationship system
- Legal assurance system
- Education quality assurance system
- Job feedback system after graduation.

This university model guarantees the criteria as a traditional university, but also opens many other criteria as follows:

- Students can study anywhere, as long as there is an internet connection
- Students can study at any time, regardless of whether or not the professor taught at that time
- Students can study at any age to need a major or a certificate of practice
- Students can attend many universities at the same time without having to run to them.
- Save maximum learning costs. Therefore, with a limited amount of money, students can learn as many courses as they need without having to be as expensive as they are today.
- Students can learn for a lifetime when they want.
- Evaluate student performance after learning very accurately. Ensure the reputation of the school.

The basic feature of this system is the strong and deep application of IoT and intelligent management software system. Consider an illustration model as shown in Figure 4.

The university's main campus is an online monitoring server that operates 24 hours a day, ensuring real-time interaction, “Learning must be fully learner-centered, supporting the learner not only in periods of formal training but also in times of need in the workplace”, (Stephen, 2016, p. 1505). That means the connection between the school leadership team and all the members is always online. However, in order to reduce the load of the main member, the cloud is divided into smaller clouds for peer-to-peer management, ensuring there is no information bias for any unit. And to be so, obviously the media must be strong. Assuming the school center is located in a server in Riga, but the location of the server does not need to be fixed, a Vietnam student wants to register for a course from March to May. The account to confirm the registration is honest. Thus, the relationship between students and universities will be done through the following steps:

- Students send notice to server.
- Server confirms the account to confirm whether the learning conditions are satisfactory:

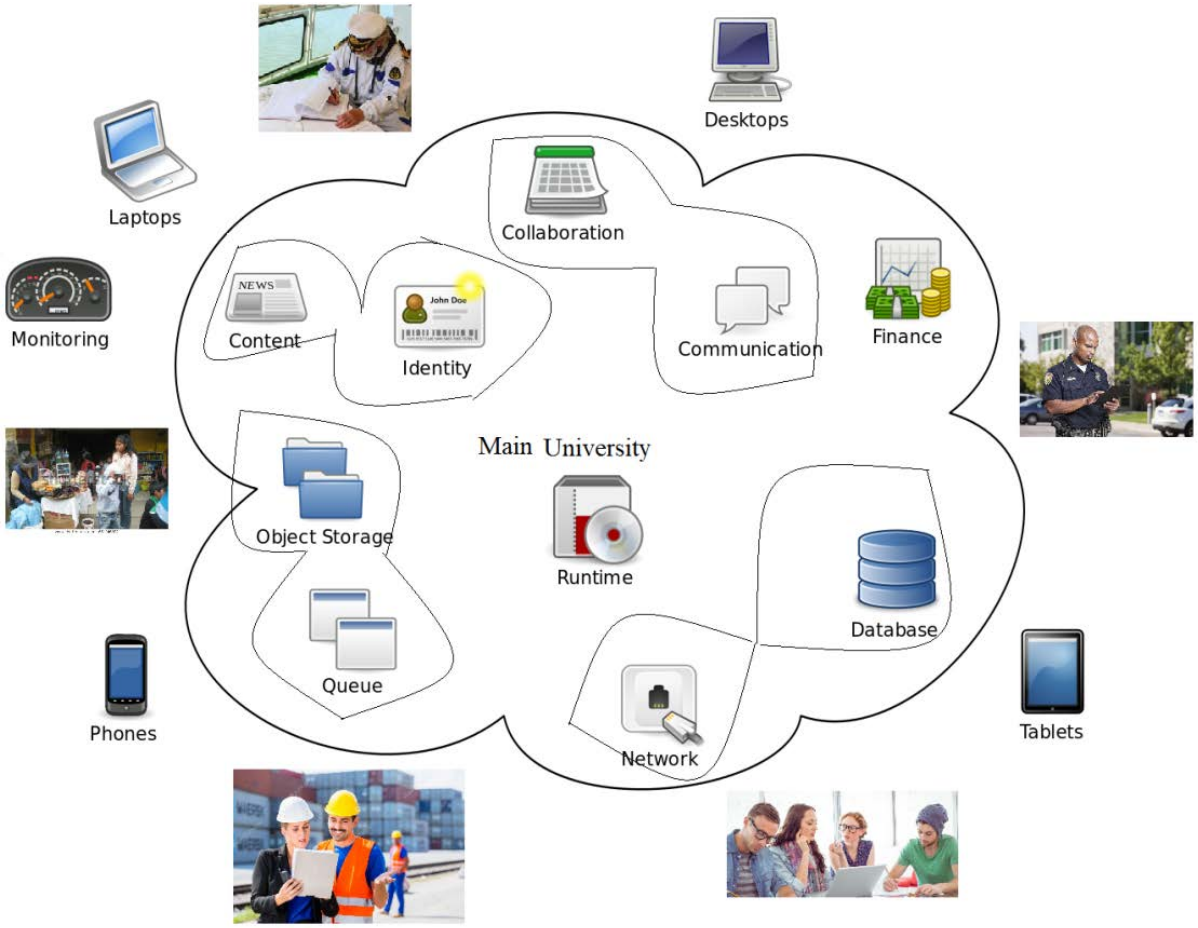

Figure 4 ***The main environment of DUSM***

- If successful, notice of payment, if not successful, consult another subject or notice of refusal.
- Server sends the curriculum content, outline, documents, and online teaching professors for students to choose.
- The student and server agree that the registration of the study has been agreed.
- Server and students agree on the learning interaction between professors and lectures, questions for students to organize their own learning.
- Tuition fee will be deducted directly from your account after confirmation. However, students can also withdraw this tuition if they cancel the course at that time. All information will be collected and so will the learning materials.

All the above activities are done automatically between students and the server. During the learning process, students' questions are classified by AI and given to students answers as same artificial intuitive, “like Simon’s experts, have

a rich body of experience that guides them in scanning their immediate circumstances for opportunities and then rapidly and flexibly responding without the explicit mediation of consciousness to generate educational value", (Waks, 2006, p. 385). Some questions are beyond the capabilities of AI, the software will pass to the professor and he will answer this question into the database. It should be noted that there is no set standard of questions and answers. The AI only analyzes in the heart the question and answers according to the focus, not completely the professor's answer. In general, the AI "buys" the professor's answer and "resells" it to the student. Such a professor's answer can provide thousands of students at different times. That is a big difference compared to OLM or TLM.

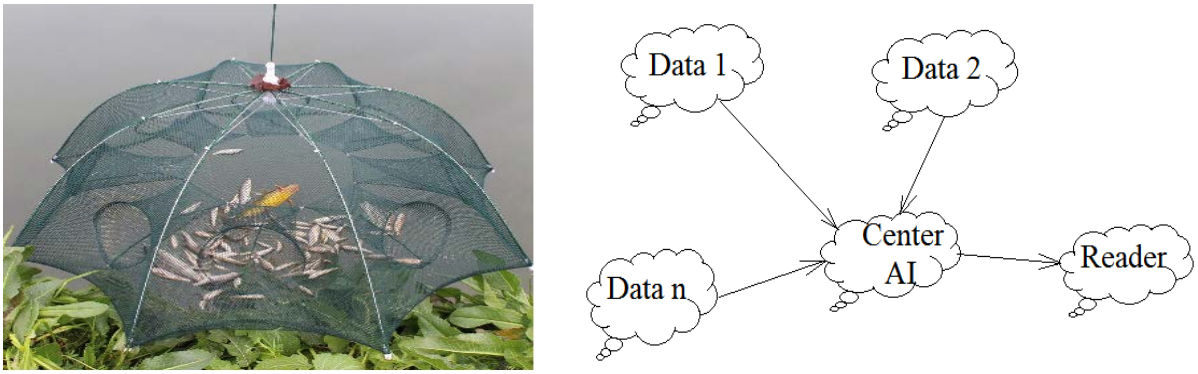

Figure 5 ***The collection data for human in DUSM***

- DUSM libraries are located in many different servers in the world, but they are linked together like a net and the bottom of the net is the central library of the school. We can imagine as shown in Figure 5. Not all the nets have fish, but when we shake the bottom of the net, the fish will fall to the bottom one by one. The same goes for a DUSM library, whichever information is needed, the server will notify and the libraries will send information back, and the reader will choose to get the most logical information like catching the biggest fish under the classification whose. That way of avoiding students will spend too much time without finding the most useful information.
- For experiments, the experiment room is organized 24 hours a day. When a student needs an experiment, they send a message to the server and ask for confirmation. The server will search for appropriate laboratory equipment in a "shared resource" structure, meaning that there will be many testing centers capable of providing equipment and tests that are not part of a university. These are IoT test devices, meaning students will compute algorithms with data, send to devices,

devices will receive and perform experiments, then take the data and send it back to students for analysis. The student does not need to know where the laboratory is located, but he can watch the experiment process online on the LAB video online at the time. In general, the LAB system as network with links to connect LAB rooms. If you want to do experiment anything, the network nodes will contact as same collaboration and find a best LAB to you. Your job is preparing experiment lecture and time to participate into LAB, payment learning fee and do it. After finish experiment, you will receive data and apply into your project. A good system of Danang University (DUT) is a LMS (Learning Management System) used to manage lectures and provide online learning for students has been in operation for 5 years at DUT (2015-2019). Many students and faculty use and have initially brought good results. Another application is remote protection of the thesis, used when students practice in businesses and not about protection at the school, then the protection is done online synchronously between the school, business and Students who have been using DUT since 2018 also have very good results. We continue improve many applications to develop system to DUSM in near future.

- For theoretical learning, virtual professors will teach students on smartphones or laptops, or other audio-visual devices such as televisions. The interaction between professor and student through AI is mediated as analyzed above. Students can ask questions directly to receive answers without wasting time on lectures. This allows the professor to still lecture but the student will still hear the professor's answer even if the professor did not respond at that time. All shown as Figure 6.
- Evaluation activities are conducted between server and students. Students self-schedule the exam for the server and after agreeing on the schedule, the server ask questions and monitor the student's exam process through the webcam and image processing software. Questions are arranged automatically and students will answer in either multiple choice or essay, or oral format. The AI software will evaluate the speed of answers and ask additional questions for students to see if students do it themselves or have many supporters around. This is an AI trick and is not informed in advance. Students take the exam but do not need to go to class but can be anywhere and take the exam whenever students can arrange it.
- The business system is linked to the database of the school server and constantly updates information from the business through other

agencies such as tax and auditing. Students who want to do internships with businesses are also through university recommendations but are also under the control of the school server. Students can register for an internship with the business according to the plan set out by the business or student's request. The server of the university only monitors the internship time through questions about internship content, internship time and practice demonstration, students' answers are specific answers for internships and accuracy. Receipt of the business is the final result.

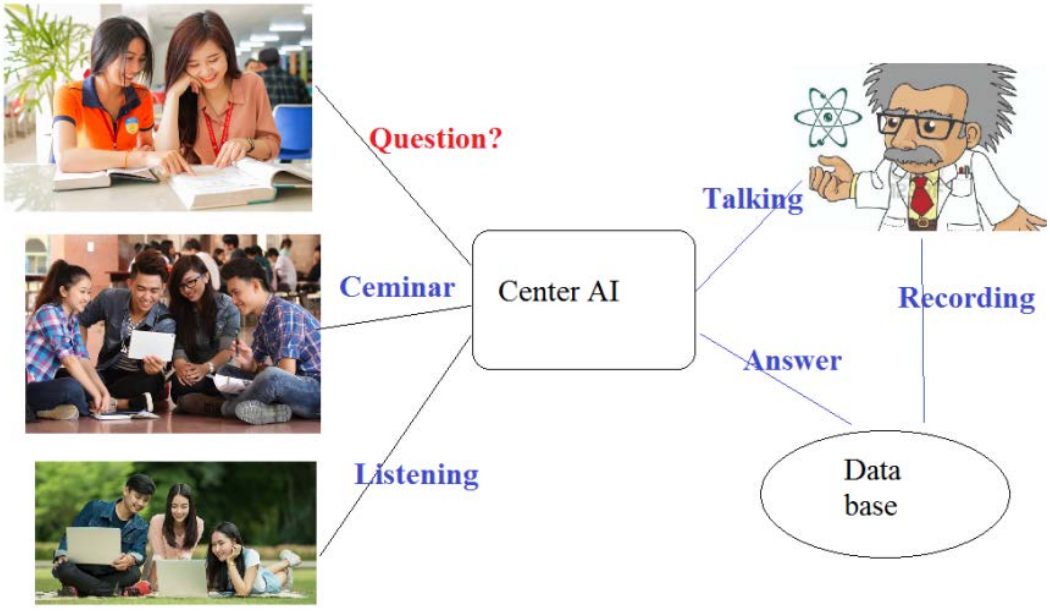

Figure 6 ***Relation environment of education***

Algorithm of AI in Education

There are many algorithms of AI to apply in DUSM. We start with AI in education in some question and answer as inference.

Word1 – word2 - word3 = x(n)-y(n)-z(n)
x(n) = {x(k)} = [x(1); x(2); …; x(p)]
y(n) = {y(k)} = [y(1); y(2); …; y(q)]
z(n) = {z(k)} = [z(1); z(2); …;z(m)]

So, we have a maximum number of ability combination is N = p.q.m, but only some ability is able to use true state. From that, we can illustrate model as figure 7.

We can see all state as ANN, but is not same, in final result, only some event is true and AI will choose best answer. There is not feedback in this case but there a direction pass any word. The choice of AI evaluated by MIN-MAX inference of

experiment AI has learned after finished growth. The adaptation of question to content of lecture of program is maximum weight function or target function. With function as follows:

$$f = MAX\{MAX\{group[x(\ldots k).\ y(\ldots m).\ z(\ldots l)]\};\ MAX\{group[x(k+1\ldots).\ y(m+1\ldots).\ z(l+1\ldots)]\};\ldots\ MAX\{group[\ldots]\}\ldots\}$$

In that, we calculate group of elements and gradient of them in condition together. The final result is choice a best element to solve process.

To solve this difficult, we take out team group optimal method. In that, the equivalent elements will arrange in a team, by gradient criterion described in high order derivative equations. The selection of the main element to go to target is a weight function.

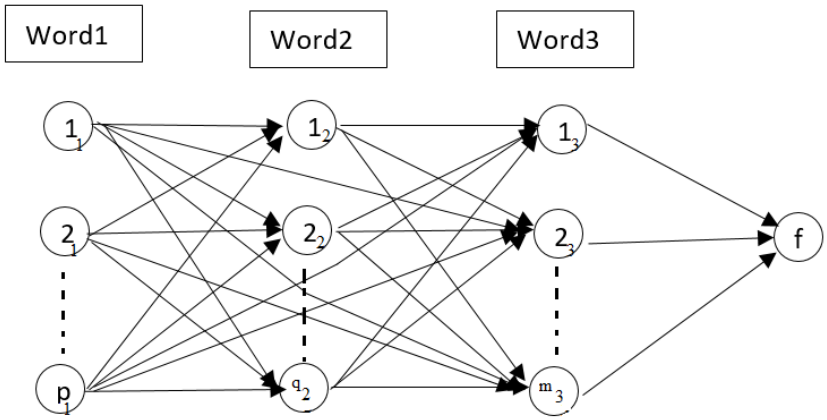

Figure 7 ***Analyze information in DUSM***

The connection of DUSM has filtering property to find good way and guard final result. If student has a long question, AI will analyse as same process and insurance balance property for every one and every time.

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THE DICHOTOMY OF INFORMATION TECHNOLOGIES IN PROFESSIONAL TRAINING OF FUTURE IT SPECIALISTS: THE SUBJECT AND THE MEANS OF INSTRUCTION

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Abstract. *The study shows some preferences in the choice of training and learning strategies in university educational process aimed at forming future IT-specialists' digital competence as the main indicator of their professionalism in IT-sphere considering information technologies as being the subject and the means of instruction. The use of information technologies results in rethinking of existing approaches to organizing the educational process of higher school especially when it comes to training future IT-specialists. Information technologies integrated into all spheres of human activities and widely applied to support different industries in commercial, private and public sectors cause ever-growing demand for highly-qualified IT-specialists. In the study the authors consider the range of learning strategies used in the educational process for boosting effectiveness of IT-specialists' digital competence formation as the main indicator of their professionalism in IT-sphere. The study was carried out among 164 future IT-specialists at three higher education institutions in Ukraine from February to May 2019. The researchers found out that all the respondents used contemporary information technologies for learning IT-disciplines, namely, all the students (100.00%) use contemporary information technologies in their formal learning, 68.80% − in their non-formal learning, 18.30% − in a wide range of educational activities that could be regarded as informal learning and only 13.20% − combining informal and non-formal learning. The obtained data were analyzed qualitatively and quantitatively. As the core result of conducted research the*

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component matrix of learning strategies was developed showing their hierarchy depending on three factors chosen i.e. traditional, self-directed and collaborative learning.
Keywords: *component matrix, digital competence, higher education institutions, information technologies, IT-specialists, learning strategies.*

Introduction

The fast progress of the process of digitization of different fields of human society has radically changed our way of life, the way we work and interact, communicate and collaborate, learn and generate new knowledge. Nowadays, the organization of any activity depends on the use of information technologies, since they are being actively integrated into society and business (Malykhin, 2010; Malykhin, 2016; Vuorikari, Punie, Carretero Gomez, & Van den Brande, 2016). Information systems are to function properly, to be absolutely safe, to be updated and changed according to some certain professional spheres. IT-specialists have to be highly qualified in order to be able to assist any other specialists in finding the right solutions of the problems connected with the use of information technologies.

The necessity to deepen the contents of professionally-oriented disciplines in the educational process of higher education institutions can be explained by ever-rising needs for improving the quality of future IT-specialists training. The development of students' knowledge, skills and aptitudes requires the corresponding improvement of digital competence of university academic staff and their abilities to use innovative teaching methods (Carretero, Vuorikari, & Punie, 2017). On the one hand, university teachers who are digitally competent have all the knowledge, skills and aptitudes "to understand how digital technologies can support communication, creativity and innovation, and be aware of their opportunities, limitations, effects and risks" (European Commission, 2018, p. 4). On the other hand, they are ready and able to teach future IT-specialists "to use digital technologies to support their active citizenship and social inclusion, collaboration with others, and creativity towards personal, social or commercial goals" (European Commission, 2018, p. 4). Thus, the new visions of application of information technologies in the educational process with the further perspectives of their use in professional activity and personal life by future IT-specialists prove the topicality and relevance of the study under investigation. The core theoretical underpinnings for conducting the research could be the idea expressed by the team of researchers to consider information technologies in professional training of future IT-specialists as the subject and the means of instruction or, in other words, dichotomically.

Purpose and Tasks of Research

The main aim of the paper is to define core preferences in the choice of training and learning strategies in university educational process aimed at forming future IT-specialists' digital competence as the main indicator of their professionalism in IT-sphere considering information technologies as being the subject and the means of instruction.

The achievement of the principle aim implies completing of the following tasks:

1) to select the proper diagnostic methodology and instruments for conducting research;
2) to define core preferences in the choice of training and learning strategies aimed at creating their component matrix considering information technologies dichotomically as being the subject and the means of instruction;
3) to measure future IT specialists' digital competence as the main indicator of their professionalism in IT-sphere.

Research Methodology

General Characteristics of Research

The research was conducted for one semester (from February to May, academic year 2018/2019. The research took place at Classical Private University (Zaporizhia, Ukraine), National University of Life and Environmental Sciences of Ukraine (Kyiv, Ukraine) and Interregional Academy of Personnel Management (Kyiv, Ukraine).

Research Sample

The research sample consisted of 164 students earning BA in Computer Engineering and Information Technologies at three higher education institutions. The second, third and fourth year students were randomly selected as the research sample. The distribution of respondents is given in Table 1.

Table 1 ***Distribution of respondents (N)***

Higher Education Institution	Number (N)	Percentage (%)
Classical Private University	47	28.66
National University of Life and Environmental Sciences of Ukraine	63	38.41
Interregional Academy of Personnel Management	54	32.93

Source: own study
N=164

The distribution of respondents is illustrated in Figure 1.

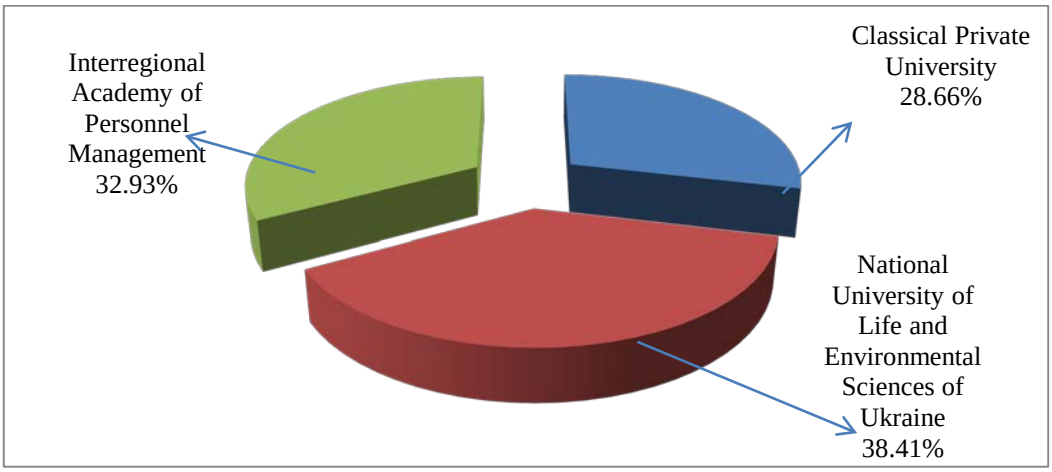

Figure 1 ***Distribution of respondents***

Research instrument

For collecting information the team of researchers created an online questionnaire using Google Forms. The online questionnaire included 30 questions concerning the experience and frequency of information technologies usage in the educational process, types of instruction, forms of organizing instruction, preferences in the choice of teaching and learning strategies etc.

Prior to conducting the online questionnaire, the consent from all respondents was obtained. After conducting the online questionnaire all the obtained findings were evaluated and analyzed using Microsoft Office 2016.

Results and Discussion

It is found out that all the respondents use contemporary information technologies for learning IT-disciplines (and it is an absolutely obvious result). What is more interesting is the fact that although all the students use contemporary information technologies in their formal learning, 68.80% − in their non-formal learning, 18.30% − in a wide range of educational activities that could be regarded as informal learning and only 13.20% − combining informal and non-formal learning (Fig. 2).

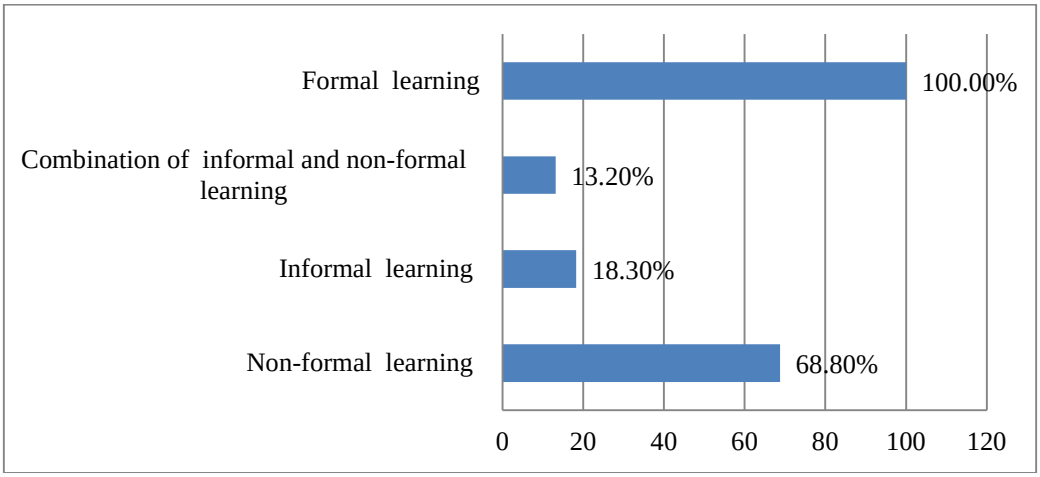

Figure 2 ***Participation of future IT-specialists in formal, non-formal and informal learning using information technologies***

It is axiomatically known that in any higher educational establishment there are different levels at which self-efficacy operates as an important contributor to academic development of both students and teachers. As we mention in one of our previous works (Malykhin & Aristova, 2018) and sharing the idea by Cherry (Cherry, 2019), teachers (accordingly, teaching staff at university) whose efficacy level is very high are able to motivate and inspire their students, they are also ready to reach the highest level of fulfillment in their workplace aimed at the improvement of future specialists' professionalism in general and future IT-specialists' professionalism from the point of view of the research conducted. So, we may come to a conclusion that one of the actual tasks for teaching staff involved in professional training of future IT-specialists is to continue constantly their non-formal and informal learning as the means of their professional development and to emphasize the importance of their students' being actively engaged in non-formal and informal learning which could be successfully realized under conditions of intensive use of contemporary information technologies (Malykhin, Kovalchuk, Aristova, Popov, & Hrytsenko, 2017). Such a combination i.e. the combination of formal, non-formal and informal learning based on the use of innovative information technologies is one of the most perspective ways of improving future IT-specialists' professionalism whose core indicator is their digital competence (Malykhin & Aristova, 2019).

In order to find out the types of learning strategies used by future IT-specialists the factor analysis has been conducted identifying three factors that explain the overall variance (factor 1 – 61.10%; factor 2 – 22.58%; factor 3 – 16.32%. The reliability of the obtained results has been verified by Chronbach' Alfa (An Index of Reliability) that is 0.908 for factor 1 (Traditional learning), 0.754 for factor 2 (Self-directed learning) and 0.672 for factor 3 (Collaborative learning). Table 2 and Table 3 demonstrate that factor values of all components

of the research are higher than 0.5. The component matrix of learning strategies is given in Table 2.

Table 2 ***Component Matrix of Learning Strategies***

Components	Factor 1	Factor 2	Factor 3
Doing definite courses on information technologies	0.903	0.079	0.170
Doing virtual courses that make it possible to apply knowledge obtained during classes	0.853	0.189	0.176
Doing special courses aimed at getting basic knowledge and then continuing getting knowledge independently	0.812	0.030	0.361
Participation in educational events organized by various IT-associations and specialized groups	0.766	0.088	0.399
Participation in discussion forums and online social networking	0.173	0.154	0.779
Participation in joint projects	0.254	0.135	0.689
Creation of online groups or network communities that support and motivate to learn IT-disciplines and to use information technologies	0.576	0.079	0.654
Consulting an expert on information technologies being studied	0.460	0.271	0.513
Using information technologies intuitively and experimentally	0.149	0.902	0.043
Preferences of using definite information technologies	0.053	0.799	0.302

Source: own study
N=164

Table 3 demonstrates the results of the cluster analysis.

Table 3 ***Cluster Analysis Results***

Learning Strategies Factors	Cluster Groups				Variance Analysis (ANOVA)					
	1	2	3	4	Cluster		Error		F	\Sig.
					Quadratic mean	Gl	Quadratic mean	Gl		
Traditional Learning	9	3	8	3	876.659	3	2.335	209	353.678	0.000
Self-directed Learning	6	3	3	3	19.301	3	1.888	209	9.166	0.000
Collaborative Learning	8	3	5	5	475.243	3	2.541	209	189.644	0.000

Source: own study
N=164

Next step of our research was to find out respondents' level of digital competence in the process of studying professionally-oriented IT-disciplines through using information technologies. The level of future IT-specialists' digital competence was measured by means of 3-point scale (basic level, average level and high level). For showing future IT-specialists' learning strategies as the function of factors depicted on the scale of learning strategies in the process of doing professionally-oriented IT-disciplines, the cluster analysis was carried out and Kolmogorov-Smirnov test was used. The variance analysis (ANOVA) was also used to find out if there were considerable differences in the levels of future IT-specialists' digital competence. Cross-comparison tables to forms of learning in IT-sphere and the level of future IT-specialists' digital competence were applied.

The majority of future IT-specialists preferred self-directed learning and intuitive and experimental learning. It means that they liked to experiment with different information technologies. The learning strategy that future IT-specialists liked the most was to use only those tasks that were of particular interest to them (M=3.31; SD=0.873). Group-work was the least popular learning strategy used by future IT-specialists (M=1.53; SD=1.114). And that is an obvious fact as group-work is not typical for IT-specialists at their workplace. The performance of their professional activity does not usually include everyday face-to-face interaction with colleagues and clients. In most cases they work alone with a computer and even if they need anyone's help they get it using a computer and the Internet.

The analysis of obtained results concerning self-directed learning showed that 78.30% of future IT-specialists used the strategy of using only those information technologies they liked rather than those that were offered by university teachers. It should be noted that 69.70% of future IT-specialists used the learning strategy of intuitive and experimental learning (Fig. 3).

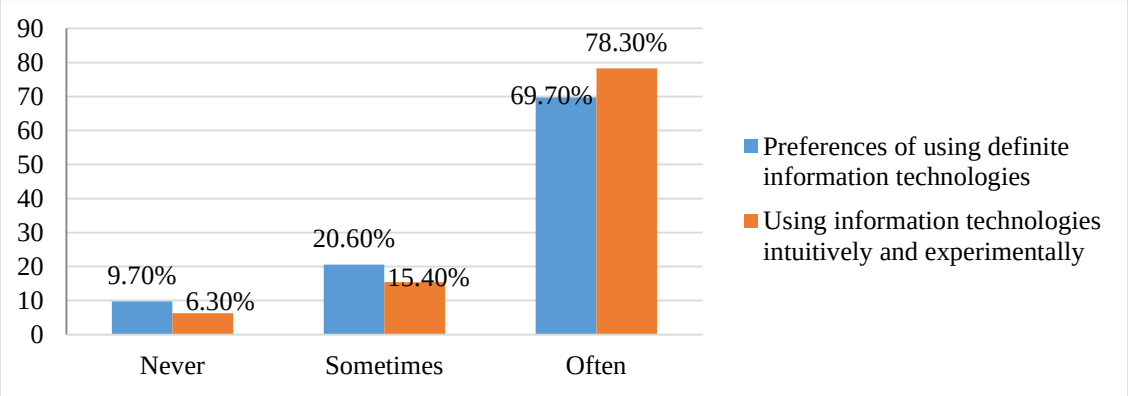

Figure 3 ***Frequency of using strategies of self-directed learning by future IT-specialists***

With regard to strategies of collaborative learning, 67.30% of future IT-specialists thought it would be better to consult an expert and they often used this strategy. 35.30% of future IT-specialists did not display a desire to become a part of a group or a network for exploring information technologies, while 46.40% of future IT-specialists used the learning strategy of participating in joint projects (Fig. 4).

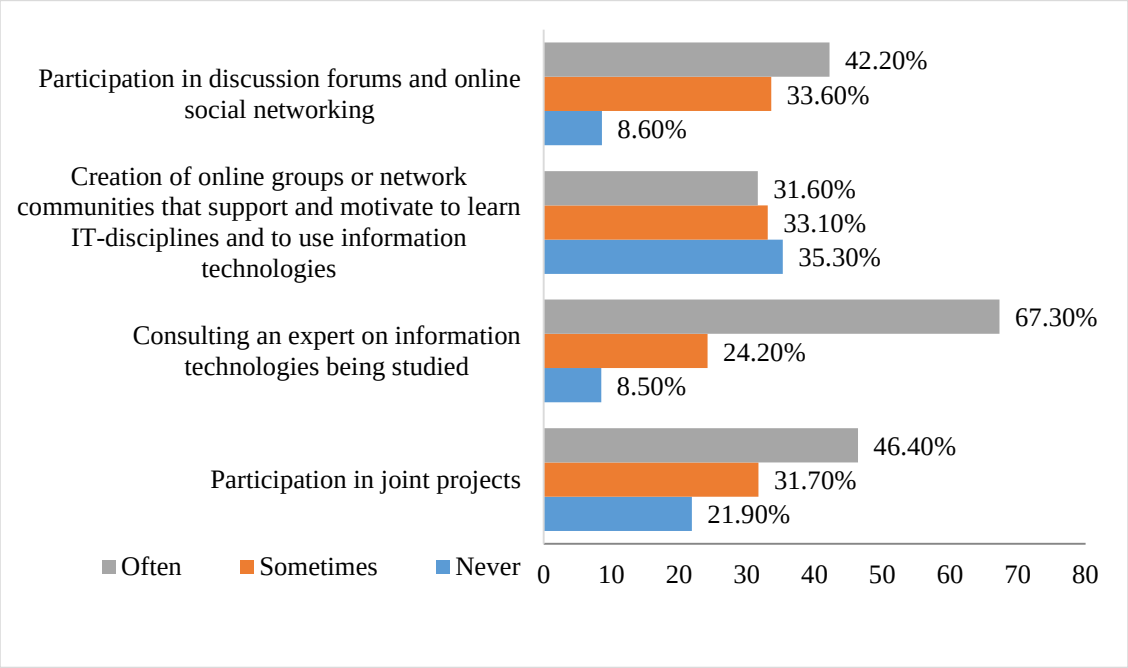

Figure 4 ***Frequency of using strategies of collaborative learning by future IT-specialists***

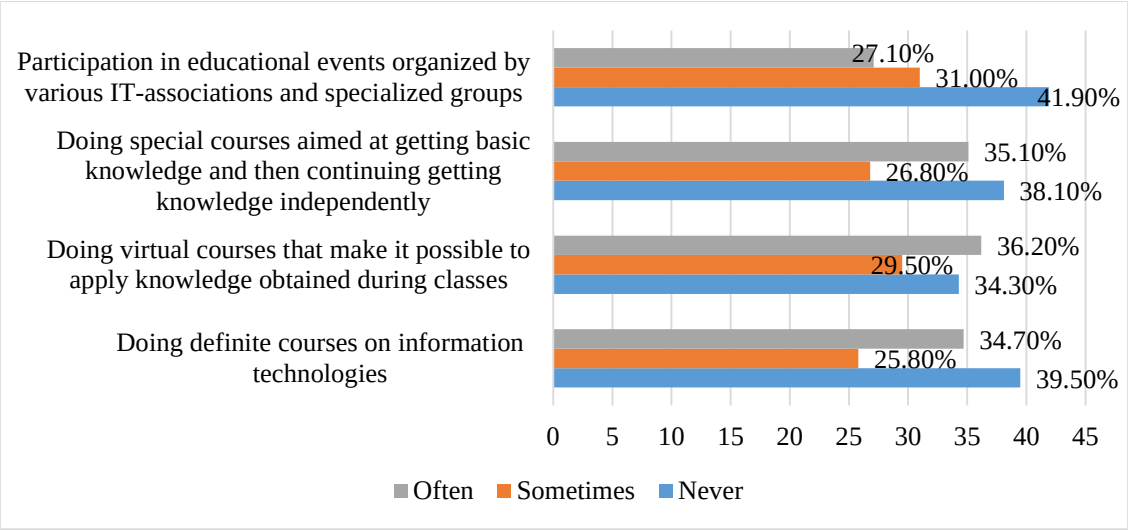

Figure 5 ***Frequency of using strategies of traditional learning by future IT-specialists***

As to traditional learning strategy, 34.70% of future IT-specialists were interested in doing the courses on working with special applications and digital instruments, whereas 25.80% of future IT-specialists used this strategy quite seldom. 36.20% of future IT-specialists preferred doing the virtual courses (Fig. 5).

On the question of the level of future IT-specialists' digital competence, it became clear that 63.60% of the respondents had an average level of digital competence, 28.30% showed a high level of digital competence and only 8.10% demonstrated a basic level of digital competence. The data collection on the question of the future IT-specialists' digital competence level concerned such knowledge and skills as: "Technological knowledge and skills; skills to know what opportunities are provided by different information technologies in the context of IT-specialists' professional activity"; "Knowledge and experience of using technologies for creating digital content; knowledge what technology is the most suitable and effective for a definite type of activity", "Technological knowledge; knowledge on information technologies and their development", "Knowledge on information culture, literacy and safety in information systems".

The obtained results demonstrated the significant differences regarding future IT-specialists' digital competence level depending on their preferences in using learning strategies. Future IT-specialists who often used different information technologies while learning had a higher level of digital competence (M=37.5; SD=9.57), than future IT-specialists who used more traditional learning strategies (M=31.4; SD=9.73).

Based on the obtained results four groups of future IT-specialists were identified. Thus, the first group (18.20%) contained students who studied intensively and expansively and used a wide range of learning strategies (traditional learning, self-directed learning and collaborative learning). 34.30% of future IT-specialists who preferred self-directed learning, used various information technologies intuitively and experimented with them were a part of the second group. The third group included 27.50% of future IT-specialists who did not show much enthusiasm and used different information technologies less intensively than the members of the first group. 20.00% of future IT-specialists who represented the fourth group preferred collaborative learning and developed their digital competence independently using mainly a combination of learning strategies.

Those, who studied intensively and expansively, used various information technologies and all the types of learning strategies, achieved a high level of digital competence (M=44.256; SD=9.073). Future IT-specialists who studied less intensively and used only definite information technologies achieved an average level of digital competence (M=37.153, SD=9.247) and the future IT-

specialist who preferred self-directed learning (M=30.752, SD=8.601) achieved a basic level of digital competence (Fig. 6).

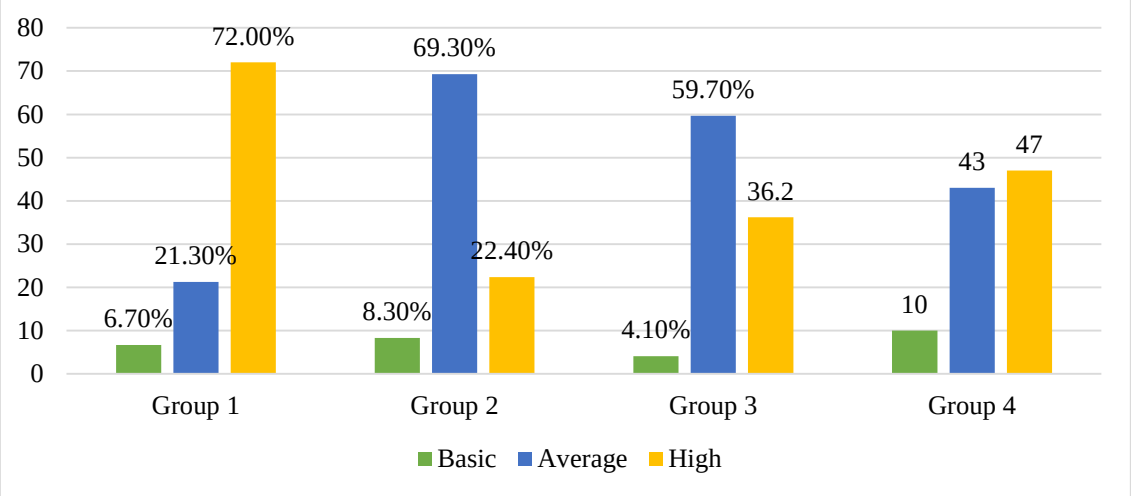

Figure 6 ***Comparison of digital competence level among the representatives of selected groups***

As we can see, the formation of future IT-specialists' digital competence and its level depends greatly on learning strategy chosen and the frequency of using contemporary information technologies for learning IT-disciplines.

Conclusion

The main aim of our research was to define core preferences in the choice of training and learning strategies in university educational process aimed at forming future IT-specialists' digital competence as the main indicator of their professionalism in IT-sphere considering information technologies as being the subject and the means of instruction. In order to achieve the main aim the team of researchers selected the proper diagnostic methodology and instruments for conducting research, defined core preferences in the choice of training and learning strategies aimed at creating their component matrix considering information technologies dichotomically as being the subject and the means of instruction and measured future IT-specialists' digital competence as the main indicator of their professionalism in IT-sphere. The researchers found out that all the respondents used contemporary information technologies for learning IT-disciplines, namely, all the students (100.00%) use contemporary information technologies in their formal learning, 68.80% − in their non-formal learning, 18.30% − in a wide range of educational activities that could be regarded as

informal learning and only 13.20% − combining informal and non-formal learning.

In the research the authors also considered the range of learning strategies used in the educational process for boosting effectiveness of IT-specialists' digital competence formation as the main indicator of their professionalism in IT-sphere. The conducted analysis became the basis for developing the component matrix of learning strategies showing their hierarchy depending on three factors chosen i.e. traditional, self-directed and collaborative learning. The research proved the idea that the use of information technologies resulted in rethinking of existing approaches to organizing the educational process at higher education institutions especially while training future IT-specialists. Thus, we strongly recommend taking into consideration the data represented in learning strategies component matrix based on three-factor analysis in the process of forming future IT-specialists' digital competence. And the most possible frequency of using contemporary information technologies for learning IT-disciplines is to be guaranteed.

Further research should be aimed at finding out the ways of enhancing the effectiveness of information technologies usage in teaching professionally-oriented disciplines on the basis of implementing adaptive and self-directed learning while training future IT-specialists.

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TRENDS IN THE TRAINING OF IT SPECIALISTS: EXPERIENCE OF INTERUNIVERSITY COOPERATION

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Abstract. *The active development of information technology determines the need to ensure the supply-demand balance of labour in the labour market. In modern conditions, it is necessary not only to increase the output of specialists with IT knowledge and skills, but also to orient all students, regardless of specialty, to receive other flexible digital skills. The main aim of the research study is to justify the need for the priority development of IT specialties and flexible digital skills in higher educational institutions, to identify its main trends at Polotsk State University, in the framework of cooperation with Rezekne Academy of Technologies, in particular. The research methodology is based on the principles of system analysis, formal logic and an interdisciplinary scientific approach. The novelty of the research is to generalize the unique experience of training specialists at the Faculty of Information Technology of Polotsk State University, based on the practical orientation of the learning process. In addition, the paper provides information characterizing the development trends of the IT sector in Belarus. The following recommendations are proposed:*

1) *the implementation of the principle of building up cross-functional skills by students at the first stage of higher education, and then this is a deep specialization of the workforce throughout life;*
2) *the use of creative educational technologies;*
3) *the creation of a web tool that implements the task of creating flexible digital skills among the population of older working age and children through training in the Republic of Latvia and the Republic of Belarus;*
4) *the implementation of joint educational programmes with a double diploma.*

Keywords: *digital economy, digital skills, flexible skills, information technology IT-education; IT sphere.*

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Introduction

Information technology is becoming an integral part of the development of modern socio-economic relations. The «informational dependence» of all stages of social reproduction is growing on the availability and accessibility of relevant, reliable information and the means to obtain and use it (Zaitseva, 2016).

Information technologies are the basis for improving the country's intellectual resources, which are necessary to provide additional potential for economic growth. Internet technologies that provide opportunities to improve the quality of work and the competence of subjects of the labour market occupy a special place in this process (Avdeeva & Chaplygina, 2017).

The nature of the development of information technologies is due to a combination of global and local trends. These include the global strategy for the transition to the information society (WSIS), the main directions for the implementation of the Eurasian Economic Union digital agenda until 2025, the State Programme for the Development of the Digital Economy and Information Society for 2016-2020, the Strategy «Science and Technology: 2018-2040», the National Strategy for Sustainable Development of Belarus for the period until 2035 (draft).

All this determines the need for training high-level specialists in the field of IT-technologies.

The main aim of the research study is to justify the need for the priority development of IT specialties and flexible digital skills in higher educational institutions, to identify its main trends at Polotsk State University, in the framework of cooperation with Rezekne Academy of Technologies, in particular. The research methodology is based on the principles of system analysis, formal logic and an interdisciplinary scientific approach.

Theory and practice of the formation of demand and supply in the labour market by specialties and education profiles

An analysis of theoretical approaches to rational employment (Ziankova, 2019) made it possible to generalize the reasons for the insufficient implementation of the principle of the maximum value of the workforce at workplaces on the national and international labour market.

The issue of matching skills remains relevant, as well as the related issue of insufficient and excessive continuing education. According to Eurofound research (Eurofound, 2016), in 28 countries of the European Union in 2005 - 2015, 14 % of the total employed population was classified as «under-qualified», and 28 % – had the status of «over-qualified».

So, in 2015, the share of insufficiently qualified workers varied from 6 to 30 percent, and the share of retrained workers ranged from 16 to 40 percent. For example, France and Sweden were the countries that showed the largest increase in the share of unskilled workers in 2005 - 2015 (from 10 to 19 percent in France, from 6 to 15 percent in Sweden), while in Greece and Turkey there was a decrease in this category of employed population. For the same period, France showed the largest decline in the employed population in the status of «super-skilled» from 46 to 26 percent, and Croatia – from 43 to 29 percent. Observations on the expectations of workers of their ability to work are interesting. For example, more than 80 % of male and female workers under the age of 55 in Germany, Portugal, Denmark, Sweden believe that they can work up to 60 years.

In Denmark, the Netherlands, Norway, Sweden, workers are ready to finish work at 67 years old, and in Albania, Greece, Hungary, Malta, Slovakia, Turkey, workers are ready to finish work at 62 years old (Eurofound, 2016).

The authors also revealed that the principle of building students cross-functional skills at the first stage of higher education, and then – deep specialization of the workforce throughout life is not fully implemented (The Global Human Capital Report, 2017).

At the Economic Forum in Davos (Economic forum in Davos, 2019), global risks associated with unemployment, as well as underemployment as a fact of the underutilized production potential of the employed population, which are aggravated by the adverse effects of technological advances, and the aging trend of society, are discussed.

A study of global documents (The Global Human Capital Report, 2017) showed that in the world community, national labour markets show a different demand for labour across specialties. For example, business administration and law, social sciences, information and communication technologies are the most popular specializations in all labour markets. The economies of South America (Argentina, Brazil, Chile and Colombia) are characterized by the employment of specialists in business, administration and law, while students in Ireland, Denmark, the United States, Canada, New Zealand and France specialize more in arts and human sciences.

Technical specialties and construction are required by the economies with a high demand for petrochemical engineers such as Qatar, Brunei Darussalam, Kuwait, the United Arab Emirates, Malaysia and Bahrain.

In Belarus, the graduation of specialists from higher education institutions, which forms the labour supply in 2018, was represented by the following main education profiles (National Statistical Committee of the Republic of Belarus, 2019): communications, law, economy, management, economics and organization of production – 36.3 percent of total output; engineering and

technology – 12.2 percent (it is this type of education that specializes in the IT-sphere); pedagogy – 9.5 percent; agriculture and forestry, landscape gardening - 7.5 percent.

About 70 thousand specialists work in the information and communication technologies sector (millions in other fields of the economy), but despite their small numbers, it was this field in Belarus that determined the dynamics of the key economic indicator, gross domestic product, in 2019. In January-August, the growth of gross domestic product amounted to 1.1 percent. At the same time, the contribution of information and communication technology sector organizations was 0.55 percentage points. The same contribution to the growth of gross domestic product was made by all the organizations related to other fields - industry, construction, agriculture, forestry, fisheries and trade. Thus, the contribution to the growth of the gross domestic product of one specialist in the field of information and communication technologies was on average 54 times greater than the contribution of one specialist in another field. However, the high growth rates of export earnings of residents of the high-tech park were more impressive.

In the first half of 2019, the export of high-tech park residents' services increased by 38.1 percent (National Statistical Committee of the Republic of Belarus, 2019).

In Western countries, there is an active process of digitalization of the economy. Developed countries are willing to spend tens of billions of dollars to finance this process. Accordingly, the demand for programmers, engineers, and other IT specialists is high, and thanks to this, the export of computer services in Belarus is growing by tens of percent annually. As for the prospects of the IT sector, for high growth rates of this industry, education in the field of high technologies should be actively developed.

In the past five years, a steady trend has been formed in Polotsk, Novopolotsk, Vitebsk. This is the creation of new IT companies and the opening of branches of large Belarusian and foreign IT companies Corpitech, Andersen-Bel, A1QA, ITechArt, Ocsico, SaM Solutions, FuryLion (almost 1000 new job vacancies for industrial programmers were created in Polotsk, Novopolotsk), LACIT, Epam Systems, Exadel, ITS Partner, ITechArt Andersen-Bel etc. (Vitebsk). In fact, a stable system of three complementary components has developed in the Polotsk region: high-quality physics and mathematics education in schools, competitive IT education in Polotsk State University, and innovative high-capacity entrepreneurship.

Investing in the development of IT education and the sector of information and communication technologies in the regions, the state solves the problem of the outflow of young talented specialists to Minsk or abroad.

Analysing the increasing number of distributed graduates of the Faculty of Information Technology of Polotsk State University (from 24 in 2012 to 112 in 2019), a growing number (from 200 people in 2008 to 1,100 in 2019), as well as an expanding line of specialties (from 2 in 2008 to 5 in 2020), we observe a stable state support of training at the Faculty of Information Technology. This is due to the high quality of education, which allows one to employ all the graduates of the state-funded education. This will ensure the competitiveness of Belarus in the global economy and the sustainable growth of its gross domestic product.

Experience of the Faculty of Information Technology of Polotsk State University in the training of IT specialists, taking into account the changing requirements of the labour market

The All-Russian Centre for the Study of Public Opinion conducted a large-scale study of the attitude of the Russian society towards higher education, during which about 30 questions were asked (All-Russian Centre for the Study of Public Opinion, 2019).

First question: «People want to get a higher education. What do you think, why?»

Of the nine motives for obtaining a higher education proposed, the respondents put the following motive in first place – «getting a diploma to get a good job» (33%), and second – «getting specialized knowledge in order to become a good professional» (25%).

Polotsk State University conducted a similar research study among 300 respondents.

According to the study, the answer «obtaining a diploma to get a good job» took first place (42 percent), the answer «obtaining special knowledge to be a good professional» took second place (30 percent).

The second question: «Which of the opinions on higher education do you most agree with?»

Sixty four percent of the Russian respondents and 66 percent of the Belarusian respondents chose the following answer option: «Higher education, first of all, should provide special professional knowledge and skills in the field chosen by a student, so that, after graduating from high school, s/he can easily move from theory to practice». The answer «Higher education should provide general knowledge and skills, provide a broad outlook so that a student can study independently in the future, to cover new areas of knowledge» was chosen by 28 percent of the Russian and 34 percent of the Belarusian respondents.

The third question: «What, in your opinion, is the most important during your studies?»

Of the eight proposed answers, no more than two could be chosen. The respondents from Russia put the answer «It's good to study, to make the best possible professional in one's field» in first place (59 percent), in second place «To find a future job, establish contacts with potential employers» (34 percent).

The Belarusian respondents preferred the answers «To learn to live independently, acquire skills of adult behaviour, be responsible for oneself» (28 percent) and «To study well, to make the best possible professional in one's field» (25 percent).

The results of the questionnaires lead us to the conclusion that it is important to quickly build skills in labour resources, taking into account the changing conditions of the labour market.

Despite the fact that there are three or four resumes per vacancy in the IT sector, the information technology sector is experiencing a shortage of specialists.

Experienced professionals are rarely in an active job search and they are not represented on job sites. IT companies are forced to lure them from each other through interesting projects and higher salaries. The graduates of IT specialties of universities have insufficient knowledge for a quick start. In addition, there are areas that have arisen recently, so there are no ready-made personnel for them (serverless computing, blockchain technology, data mining, pentesting, DevOps and much more). The situation is complicated by the fact that due to the development of digital technologies, the requirements for employees continue to increase. All this complicates the development of the IT industry and forces companies to spend resources on training and fighting for employees, and not on production.

However, despite the increasing requirements for work skills, there are criteria that remain virtually unchanged for today's scarce developers. These are: work experience of two years (preferably in large projects), knowledge of tools and frameworks used by the customer, conversational English (Intermediate level), technical English, higher IT education.

To develop special professional skills, attract young staff who dream of working in a specific IT company, reduce the period of the adaptation period, leading IT company experts conduct specialized free courses for students of the Faculty of Information Technology. This undoubtedly contributes to the successful distribution of graduates («Java Programming» – LACIT, Epam Systems, «DevOps», «.net Programming» – Andersen-Bel, «Software Testing» – A1QA, «SAP ABAP Development», «Node.js programming» – LeverX and others).

To create an educational environment aimed at ensuring the practical orientation of training, ITechArt holds a competition for the best course project for the first-year students of the Faculty of Information Technology. The leading

specialists of IT companies are actively involved in the modernization of the curricula for specialties and curricula of special disciplines, in the formation of a line of specialties, technical tasks for course and diploma design, all types of practices, master's studies.

The students of the Faculty of Information Technologies are actively involved in the implementation of joint projects with companies (the largest: the VR-project «Virtual simulator for the training of technical personnel of gas control points» (unitary enterprise «Vitebskoblgaz») and the project «Top-level software for the gas stove verification system» (Research and production republican unitary enterprise «Belgaztekhnika»); team building in the form of a cultural and historical quest, the open championship of the Faculty of Information Technologies "IT-skills", the Republican Andersen-Bel Prize Programming Olympiad, the IT-sportland with the participation of the Andersen-Bel team, the professional conferences A1QA, Epam Systems, excursions with the participation of schoolchildren and foreign applicants in LACIT, A1QA, Epam Systems, LeverX, ITechArt, meet ups for students and schoolchildren Exadel, Corpitech, ITechArt, Andersen-Bel, etc.).

IT companies sponsor new laboratories and conferences. For example, an educational and research laboratory jointly with Epam Systems, a virtual reality laboratory jointly with Andersen-Bel and ITS Partner, an augmented reality laboratory jointly with Andersen-Bel and Corpitech, LACIT laboratory artificial neural networks. The first International Scientific and Practical Conference «Information and Communication Technologies: Achievements, Problems, Innovations (Information and Communication Technologies-2018)» (ITS Partner), First Regional IT room «POLOTSK IT-4RUM: HI TECH future of the city with a great past» (Corpitech, Faculty of Information Technology, High-Tech Park) were carried out.

By creating multi-industry laboratories where students will gain knowledge in new areas and practice them, the IT business will receive staff that it is necessary now to carefully search for.

The successful, highly innovative, research and production organization LACIT proposed creating a Joint multi-industry complex on the basis of Polotsk State University.

Use of information educational technologies in the formation of flexible digital skills at Polotsk State University

As noted by Mikhail Kovalev and Galina Golovenchik «The transition to a digital economy is irreversible. There is an opinion that Belarus with its information and communication technology potential (32nd place in the world, according to ITU rating) should not hesitate. First of all, it is necessary to

sharply increase the training of personnel for this sector of the economy – and not only programmers, but also business IT specialists, IT marketers, etc. The share of employees in the IT sector is only 2.2 percent of the employed population (estimated EY), while in the USA – 3.8 percent, the EU – 3.7 percent. It is also very important to organize the effective continuous development of digital competencies among all specialists and prepare them for future changes» (Kovalev & Golovenchik, 2018).

Following the indicated trends, in 2019, for the first time in the region, recruitment for the specialty «Electronic Marketing» took place in Polotsk State University.

The significant role of information educational technologies in the formation of flexible digital skills among specialists of various types of economic activity determines the need for their increased use. In this regard, the authors propose the creation of a web-based tool that will allow matching the labour resources of older working age with the technological parameters of jobs, as well as ensure the formation of engineering skills in children of different ages through their training in two bordering States (Latvia, Belarus).

The web tool can be placed on one of the available, simple and free platforms, for example Eliademy. It has all the necessary tools – from creating classes (using texts, video, audio, tables and other materials) to communicating with the audience. There is quite a lot of competition in the information services market, but the functionality of the designed web tool is unique in terms of coordinating the efforts of people of an older age group who want to find work, taking into account the dependence «my qualification level – the technological parameters of the workplace».

The creation of a web project will take place in stages:

- development of a business plan, including the analysis of the target audience, identifying the potential users' problems, web project monetization tools, risks;
- creation of a prototype system with the definition of high-level components of the catalogue, search, authorization, etc;
- designing mockups of the user interface and map transitions from one interface to another;
- description of the operation of the system for the end user;
- selection of software product development technology;
- organization of support for the operation of the resource.

Double educational diploma programmes are another educational tool that helps to build flexible skills among specialists of different types of economic activity. The authors consider the creation and ensuring the sustainable implementation of such programmes relevant in Belarus and Latvia, since

training on them allows you:

- to form social skills of a graduate taking into account the mentality of the two countries,
- to develop process skills through testing the project method and working in cross-country team project teams,
- to develop the skills of managing the resources of two or more countries through access to the academic and infrastructure resources of another university,
- to receive international training and secure a competitive advantage in the labour market, not leaving the national labour market, but supplementing it with the skills and abilities that an undergraduate receives from working in intercountry educational projects,
- to improve the knowledge of a foreign language, get a European diploma, which certainly enhances the competitiveness of a specialist who studied under the double diploma programme.

An example of the practical implementation of this approach is the master's programme «Regional Planning and Development», implemented jointly with Rezekne Academy of Technologies (Latvia).

The joint curriculum of the master's programme consists of several parts:

- a national component;
- a component of a higher education institution, including the module “Disciplines of specialization”, such as Knowledge Management, Research and Analysis; Structured Dialogue between Decision Makers and Society; Regional Economics and Policy; Processes of European Integration; Intercultural Business Communications; History of Interregional Contacts (Culture Aspects); Planning, Management and Analysis of Development Projects; Spatial Planning; Transport and infrastructure Planning.
- compulsory courses conducted jointly by partner universities, within Module disciplines: Regional Economics and Management / Regional Socio-cultural Processes. This block involves the academic mobility of undergraduates in a partner university;
- elective courses;
- master's thesis. The Commission for the defence of the master's thesis includes teachers from the partner universities.

Thus, the authors believe that the formation of flexible skills should be carried out at all levels of higher education and can provide the formation of IT skills; improving knowledge of a foreign language; communication skills etc.

Conclusions

1. The qualification of workers is one of the main factors determining the situation in the labour market. At the same time, the principle of building up cross-functional skills at the first stage of higher education, and then the deep specialization of the workforce throughout life, is not fully implemented. National labour markets show a different demand for labour across specialties. Despite the fact that in Belarus the non-technical education profile is predominant in the graduation of specialists, specialists in the field of IT technologies are more in demand. In Western countries and Belarus, there is an active process of digitalization of the economy. As a result, the need for specialists is growing.
2. The experience of the Faculty of Information Technologies of Polotsk State University includes such training elements as: conducting specialized free courses by IT companies; holding by companies of competitions for the best course project for the first-year students of the FIT, joint development of curricula for specialties and curricula of special disciplines, student participation in joint projects and activities with enterprises; team building in the form of a cultural-historical quest, conducting an open championship of the Faculty of Information technologies “IT-skills”, as well as a republican programming Olympiad, excursions with the participation of schoolchildren and foreign applicants.
3. The formation of flexible skills among students and graduates, as well as the effective continuous development of digital competencies among students, is important. In the framework of this area, the authors proposed the creation of a web-based tool that allows you to combine the labour resources of older working age and people over working age with the technological parameters of jobs, as well as ensure the formation of engineering skills in children of different ages through training in Latvia and Belarus.
4. The effectiveness of the implementation of joint master's programmes in English is grounded on the example of the Regional Planning and Development Programme (university partner – Rezekne Academy of Technologies) and their role in the formation of graduates of such educational programmes with social skills, taking into account the mentality of the two countries; development of process skills through testing the project method and working in cross-country team project teams; the formation of the resource management skill of two or more countries through access to the academic and infrastructural resources of European universities.

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IMPACT OF DIGITAL TECHNOLOGIES ON PEOPLE HEALTH AND MEANS TO AVOID INFORMATION FATIGUE

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Abstract. *Internet become as basic component of daily routine. Although the Internet has many positive aspects, most people spend too much time on their smart devices spending less time playing outdoors. A decrease in physical activity not only sets up information fatigue, which leads to increase in diseases of the nervous and heart systems. Many of scientific articles deal only with the features of information fatigue and its consequences for human health, however research articles that analyze tools that can protect against information fatigue have not been found. Only commercial companies advertise their software, which help monitor what users are doing on their computer. Novelty of the article is that it explores how information technology affects young people lives and analyses software that can help control working time with these smart devices also.*
Keywords: *diseases, information fatigue, monitoring working time, smart devices.*

Introduction

21st century is the century of information technology and Internet. The technologies are neither good nor bad. Modern technologies bring new opportunities, facilitate learning and communication, and broaden horizons. However, the online world also carries certain threats: unwanted and even life-threatening contacts on various dating sites, videos and games with traumatic and violent content, bullying, unconscious translation of virtual space into reality. Various types of information contribute to the dissemination of thoughts, emotions, feelings, and thus influence decisions and actions. It is especially painful when the technology affects children who are not yet able to think critically and defend themselves. Technology had to make life easier and bring people closer, however it seems they distract people. Most people are dependent on their digital devices and need a constant connection to the internet. Everyone

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spends too much time on their smart devices. The digital information fatigue affects relationships and health.

Information technology and online social networking led to a dramatic increase in the amount of information (Rodriguez, Gummadi, & Schoelkopf, 2014). Many modern people are now suffering from a dangerous state of information overload as the ability to obtain more information than is useful. American scientist B. Gross first became interested in the scientifically negative effects of information overload on the brain (Gross, 1964). He introduced the term "*information overload*". Later scientists (Dean & Webb, 2011) emphasize that brains have limited information processing ability, so it is best suited to focus on one task at a time. When humanity switch between tasks, especially complex ones, they become dramatically less efficient.

In 1996 researcher D. Lewis suggested a new phenomenon – "*information fatigue syndrome*" definable as fatigue and stress resulting from the need to encounter large quantity of information (Lewis, 1996). The researcher explained effects of the syndrome on health. Such effects may include paralysis of analytical ability, permanent search for information, increased anxiety and fear, and reduced confidence in decision-making. (Thomas, 1998; WordSpy, 2019.12.10). The mentioned syndrome goes by many names as information overload, information explosion, data smog, info pollution, the communication tsunami and so on (Kabachinski, 2004).

Many of the scientific articles deal only with the features of information fatigue and its consequences for human health, however research articles that analyze the tools that can protect against digital fatigue have not been found. Only commercial companies advertise their software, which help monitor what users are doing on their computer.

The *aim* of this article is not only to describe how information technology influences people's lives, but also to suggest the tools that can monitor working time with smart technologies. This article generalizes experience of teaching of information technology to the students at Kaunas University of Technology. The course teaches information and communication technology, their advantages, and potential threats.

Research tasks:

- Overview the main technologies that allow to protect from harmful information on the Internet.
- Generalize experience of teaching of information technology to the students of Kaunas University of Technology.

Research methods. Research methods include analysis of scientific publications and the generalized experience gained from students' projects, analyzing benefits and potential threats of the communication technologies.

The article is structured in the following way. First section introduces the main means that allow to avoid the digital information fatigue. Second section generalize experience of teaching of information technology.

Literature review on tools that allow to protect from harmful information

Scientific articles that analyze the tools that can protect against digital fatigue have not been found. Only commercial companies advertise their software, which help monitor what users are doing on their computer. Many of the companies offer filtering or blocking content on websites. It is one of the possible ways to protect young people from inappropriate and harmful information on the Internet. Some applications integrate web filters or support the ability to block specific website URL; others have tools such as screenshots, social media blocking or use special algorithms to detect and block inappropriate online content.

Windows manufacturers integrated “Windows 10 parental controls” functionality (Jones, 2019) designed to safeguard children from inappropriate online content. Parents can create a separate account for their children and easily monitor their activities.

There are also preventive measures developed by other manufacturers. For example, “K9 Web Protection” and “True vine” (TrueVine, 2019.12.03) programs can help protect children from accessing harmful online. The website blocking programs are compatible with Windows, Android, and iOS. “K9 Web Protection” blocks web pages and can even block search engines (Softonic, 2019.12.10). The application features the specially designed child protection filter against web proxy tampering. There are tools for time limits sets and real-time access to websites also. “True vine” services block dangerous content.

The “Rescue Time” software can be installed on a PC and is also compatible with a smartphone or tablet (RescureTime, 2019). The application tracks time spent in social networks, captures which programs is used, allows to enter timeout limits. Built-in alerts provide overview of the day activity.

Other software “Qustodio” (Qustodio, 2019.11.07) lets to control how much time kids spend online. The software records and provides detailed information about how long children are on specific websites or the words they look for in search engines. It informs also if kids have tried to go to a blocked website. This software works on Windows, Mac OS X, Android, iOS, and Kindle. The program has 29 categories of filters to block access to websites via a mobile phone. Access restrictions can be time-based or depended on the content of the website. The software allows to control the screen time, capture contents of emails with the keywords entered by parents. The program generates a daily overview and a detailed summary of child's online activity.

"Net Nanny" (Nanny, 2019.11.14) is a website blocking software compatible with "Mac", "Windows", "iOS" and "Android" devices. This software integrates 18 categories of filters that allow quickly restrict access to unwanted websites. The program blocks swearwords to prevent children from reading. It also prevents typing words that are inappropriate in the search box. The program informs parents via email in the form of a report that children have tried to enter inappropriate words into the search engine and had been blocked. The program supports time control of children's Internet access, as well as configuration of multiple children's Internet access profiles.

Sending the message to parents is as important as reading activity reports. Software "McAfee" (McAfee, 2019.11.14), sends a text message as soon as the kids try to access banned site. Applications such as "Spy Agent" (SpyAgent, 2019.11.04) or "Norton Family" (Norton, 2019.11.04.) monitor social media activity and block online bullying also. Application "Barracuda Web Blocker" blocks malware or rogue bidding additionally (Barracuda, 2019.11.20). Other application "Surfer" sends email notifications when children enter specially selected words into search engines (Safesurfer, 2019.11.27). Some of them take screenshots while your child is online so parents can physically see what they saw on computer screen.

Software "InterGuard" provides high quality software for blocking websites, whitelisting URLs, categorizing content, tracking web search, getting traffic bandwidth (Uzialko, 2019). One of the best features of this software is that it cannot be detected. This means that device users do not realize that the software is running in the background. This enables parents easily monitor their children's online activities. The software also provides graphical reports.

Website blocker "Aobo Website Blocker" is different from other common online content blockers. This software has a content filtering algorithm that can block websites independently (Softonic, 2019.11.20). There is no need to manually block adult games or any other inappropriate website. The software currently supports these platforms: Windows and Mac OS.

Another tool is "Block Site" (BlockSite, 2019.11.20) created using Wireless Intrusion Prevention System technology (Cisco, 2018.02.18). This tool improves web browser by extending its functionality. The tool can be added to "Google Chrome" or "Mozilla Firefox" web browsers with built-in advanced features. They can block websites or filter words from search engines or web pages. It is also possible to set a specific time interval during which the web browser operates.

Social networks as Instagram and Facebook provide new tools to help people manage time on social networks (Infocenter, 2018.08.01). They allow to set daily time limits and the ability to temporarily disable instant messaging.

Study: how social networks affects young people life

This part summarizes a study of teaching of information technology to the students of Kaunas University of Technology. The study finds out what technologies young people use; how much time they spend on the Internet; for what purposes they use the Internet; if they know about information technology that can control time on the Internet.

At the beginning of the school year, students (questioned 250 students from 18 to 20 years old) were asked what information technology they use to communicate with friends and relatives. The answers showed that students communicate through Facebook, Skype, Messenger, Viber, Instagram, Snapchat and WhatsApp (Figure 1). Most students referred to Facebook, Instagram and Viber or Messenger.

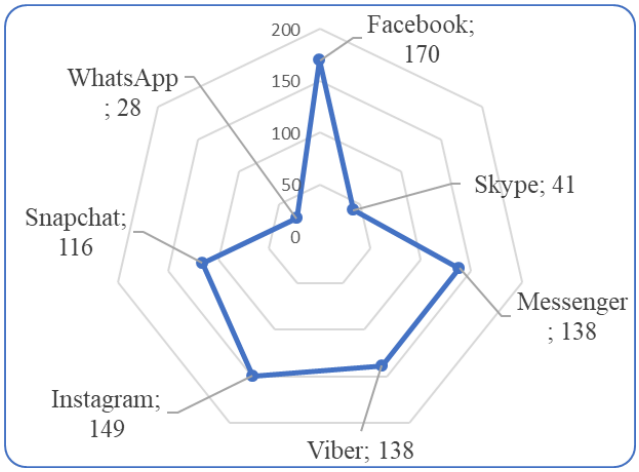

Figure 1 ***Survey on the usage of communication software***

All semester, in the information technology course, students worked on projects that explored the impact of the technologies on their lives. They analyzed various communication software. Project groups created questionnaires to interview their friends and acquaintances.

Authors of this article divided the projects questionnaires data into two groups to find out how social networks affects people life: if young people are dependent on their digital devices and is need a constant connection to the Internet. The aim was to find out whether this dependence could lead to digital information fatigue.

The first group consisted the data that analyzed how social networks affects people life. The aim of the first study was to find out how much time young people spend in social networks. The following questions were therefore under consideration: how many times a day they look at social networks; what they do

on the Internet; when they access social networks; if they check social networks before going to bed; could they consider themselves addicted to social networks and so on.

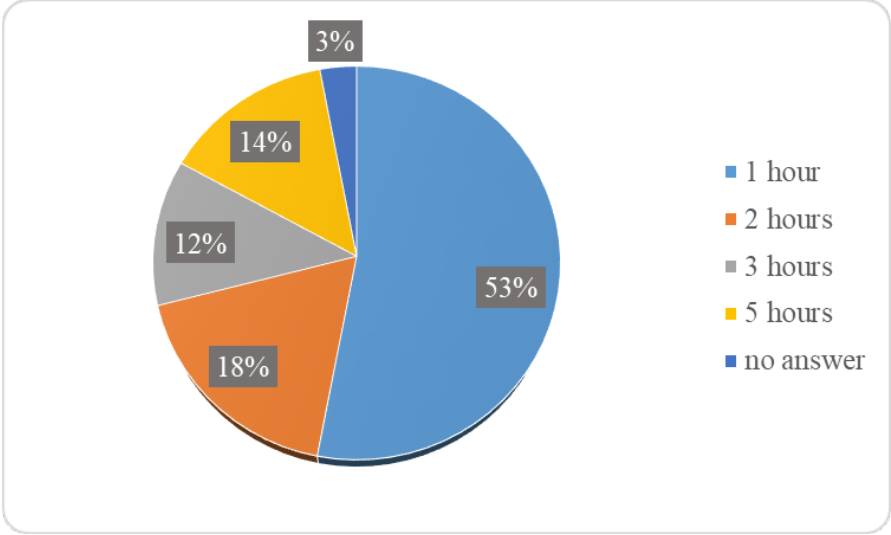

Figure 2 ***Survey "How often people use social networks per day"***

About half of the respondents (questioned 119 people from 15 to 20 years old) said that they use social networks for 3 hours and more per day (Figure 2). Some of them use the Internet for more than 5 hours a day. More than a third of participants responded that they visit social networks more than 10 times a day. Students activities on the Internet are searching for information, playing games; communicating with people; spending time on social networks, doing projects; filling documents; buying things on Internet; chatting with friends; studying; spending free time; watching films and so on. People access social media during free time, while eating, at school/work time or any spare moment. Two-thirds of the participants check social media before going to bed. Only about half of the respondents admitted that they are addicted from social networks.

In the second study authors explored data on usage digital devices: when young people use their digital devices; if the respondents track their time spent on smartphones; do they know applications that track time spent on digital devices and have they tried them. Respondents (questioned 37 people from 15 to 20 years old) answered (Figure 5) that they often use their smartphones in a lecture, in working hours, while waiting in the queue, while driving or eating, before going to bed, after waking up and so on.

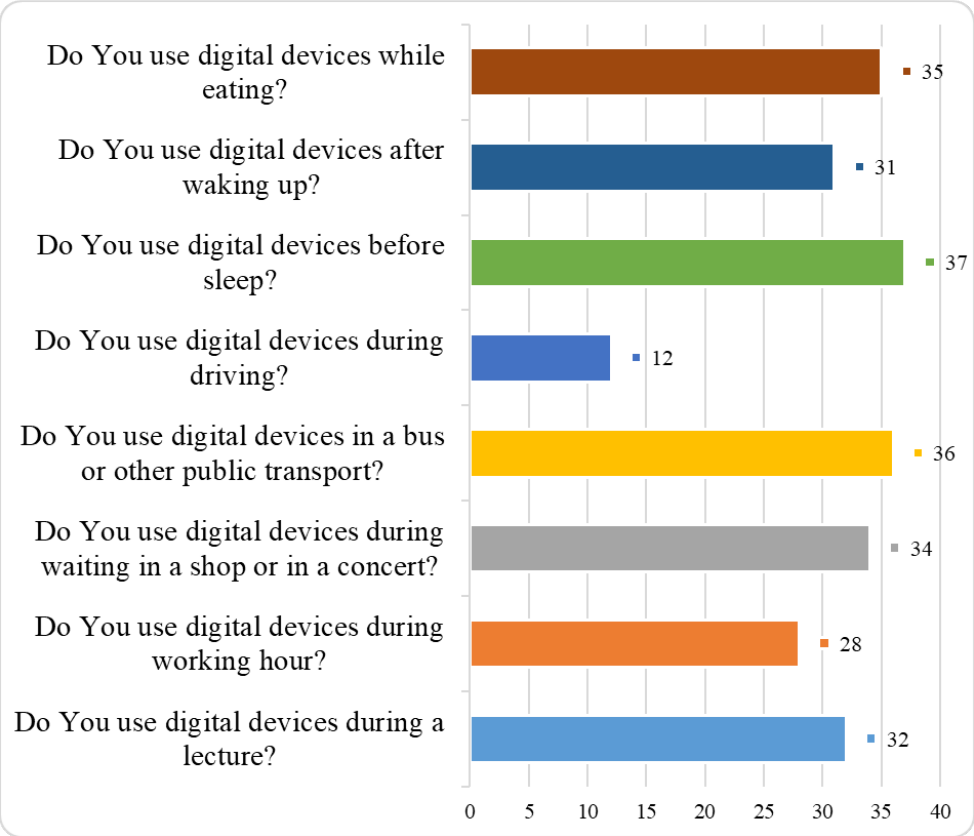

Figure 3 ***When young people use their digital devices***

However, almost half respondents answered that they do not track their time spent on smartphones and only one-fifth respondents use applications to track time spent on smart devices (Figure 5).

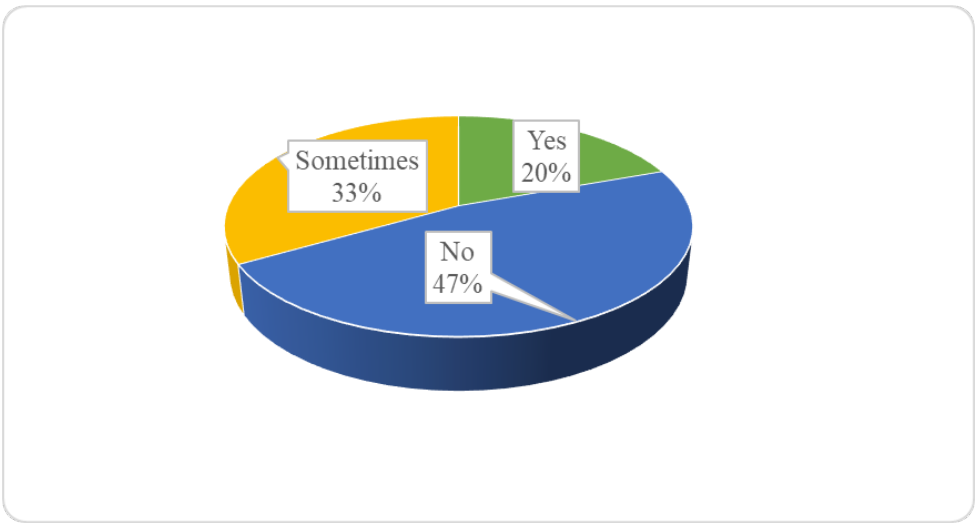

Figure 4 ***If respondents track their time spent on smartphones***

Only few respondents said that they use applications to track time spent on their smart devices (Figure 5). They named tools such as: Instagram tool, iPhone screen time function and Apples screen time clock.

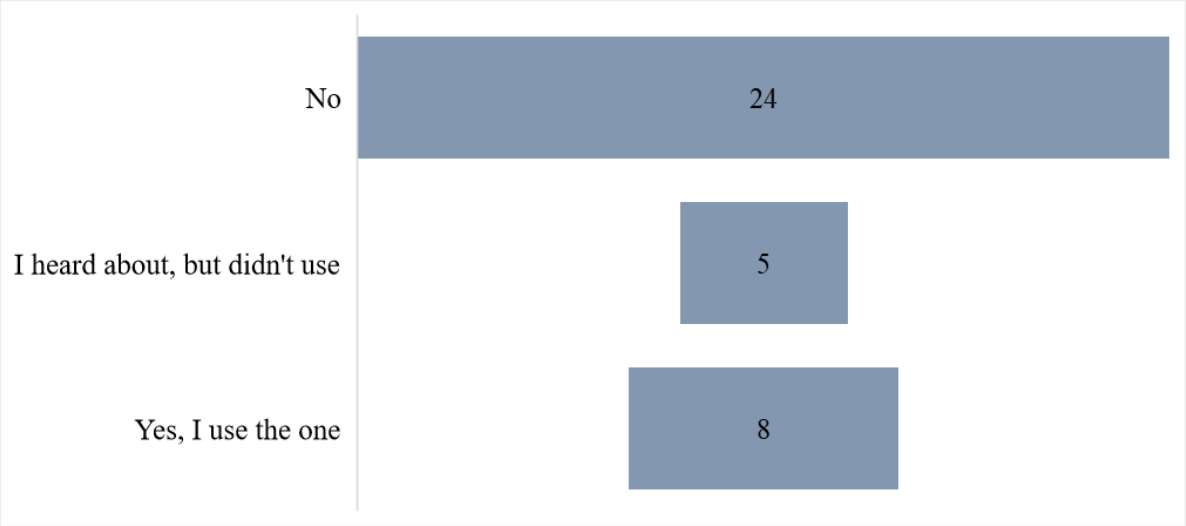

Figure 5 ***If respondents know applications that track time spent on digital devices and if they have tried them?***

The research showed that young people spend quite a lot of time in the social digital space. Almost half respondents answered that they are dependent on their digital devices and need a constant connection to the internet. The searching for various types of information may contribute to the dissemination of thoughts, emotions, feelings, and thus influence decisions and actions. This can cause information fatigue. Almost half respondents do not track their time spent on smart devices and do not know any software that could help them. In the first chapter mentioned tools could help the people manage time while setting daily time limits and the temporarily disabling instant messaging.

Conclusions

Summarized study of teaching of information technology showed that young people communicate through Facebook, Skype, Messenger, Viber, Instagram, Snapchat and WhatsApp. They spend time on their smartphones searching for information, playing games; communicating with people; spending time on social media, doing projects; filling documents; buying things on Internet; chatting with friends; studying; spending free time; watching films and so on. Young people use social networks for three hours and more per day. They use their smart devices in a lecture, in working hours, while waiting in the queue, while driving, before going to bed, after waking up, while eating. This gives us an insight, that any of

them assign their free time cautiously. The searching for various types of information may contribute to the dissemination of thoughts, emotions, feelings, and thus influence decisions and actions. This can cause information fatigue. Most of respondents answered that they do not track their time spent on smart devices and do not know any software that could help them.

It is important to mention that information technology companies treated tools for filtering or blocking content on websites to protect young people from inappropriate and harmful information on the Internet. Some applications integrated web filters or support the ability to block specific website URL; others provide tools such as screenshots, social media blocking or use special algorithms to detect and block inappropriate online content. Not only technology companies, but also social networks applications, such as Instagram and Facebook, encourage people to track their time on social media. The mentioned tools could help the people manage time while setting daily time limits and the temporarily disabling instant messaging.

Summary

Internet become as basic component of daily routine. Although the Internet has many positive aspects, most people spend too much time on their digital devices.

Article’s study explores how information technology affects people's lives and suggest technologies that can help control working time with smart devices.

Generalized study of teaching of information technology showed that young people communicate through social media. They spend time on their smartphones searching for information, playing games, communicating with friends, spending time on social media, doing projects; filling documents; buying things on Internet; chatting with friends; studying or watching films and so on. Young people use social networks for three hours and more per day. They use their smartphones in a lecture, in working hours, while waiting in the queue, while driving, before going to bed, after waking up, when eating. This gives us an insight, that any of them assign their free time cautiously. The searching for various types of information may contribute to the dissemination of thoughts, emotions, feelings, and thus influence decisions and actions. This can cause information fatigue. Most of respondents do not track their time spent on smart devices and do not know any apps that could help them.

It is important to mention that information technology companies treated tools for filtering or blocking content on websites to protect young people from inappropriate and harmful information on the Internet. Some applications integrated web filters to support the ability to block specific website URL. Others have tools such as screenshots, social media blocking or use special algorithms to detect and block inappropriate online content. Not only technology companies, but also social media developers, such as Instagram and Facebook, encourage people to track their time on social media. The mentioned tools could help the people manage time while setting daily time limits and the temporarily disabling instant messaging.

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THE EFFECT OF DIGITAL STORYTELLING ON TEACHER EDUCATION: EXPERIENCES OF PRE-SERVICE TEACHERS

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Abstract. *Digital storytelling (DST) has emerged as a powerful tool in teacher education. However, in Lithuania the effect of this method on pre-service teachers' education has been poorly investigated. The purpose of the current paper is to explore the experience of pre-service teachers in implementing DST method: from idea generation to the final product creation. The novelty of the current research is the usage of DST as a mean for development pre-service teachers' ICT skills together with cooperation skills and creativity. The focus group interview method was implemented in order to collect the data and explore the opinions and experiences of perspective teachers. The research findings demonstrate that the usage of DST contributes to reveal student' insights of future work, familiarizes students with future profession peculiarities, enhances their ability to cooperate, teamwork skills, and facilitates their ICT skills. The results highlight the importance of DST usage in developing perspective teacher's creative personality and capability to interact.*
Keywords: *digital storytelling, teacher education, pre-service teachers.*

Introduction

One of the prerequisites for this study is the development of collaborative capacity through adoption of ICT. The need for this study, related to teacher education, had been induced by the conclusions of different organizations, such as the European Commission, OECD, The United Nations, World Economy Forum (*The 10 skills*, 2016), which are being formed a new view on the general competencies change. One of the most important skills, emphasized by all organizations, is cooperation. In 2018 The European Committee had renewed the list of lifelong learning skills (2019), where the problem-solving skills and critical thinking were recognized as crucial for coping with challenges of XXI century and were viewed as "work with others in a constructive way, remain resilient and

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manage one's own learning and career" (Key competences for lifelong learning, 2019, p. 11).

As it was shown in the Program for International Student Assessment (PISA, 2015), the achievements of Lithuanian pupils in this sphere are very scarce, since only 2.5 percent of pupils achieved the highest level of cooperation; hence Lithuania is being rated 31-36 within 51 participating countries. These results show that the amount of time and resources allocated for cooperation skills development are insufficient.

We assume that Lithuanian teachers are not properly prepared to apply diverse means for pupils' cooperation skills enhancement. In the Lithuanian Teacher Training Regulations (2018) there was identified that the educators must develop and deepen their competences such as creativity and problem solving, professional partnerships and digital literacy throughout all his/her active career. This implies that prospective teachers, during their studies, must be given an opportunity to try out a variety of tools to develop their collaborative skills. And one of the most effective ways to solve this issue, offered by the authors of the current study, is the creation of Digital Storytelling in a student group. Moreover, the implementation and possibilities of the Digital Storytelling (DST) in Lithuanian system of pre-service teacher education remain poorly investigated.

The understanding of the prospective teacher's professional identity becomes particularly important in this context. On the one hand, the professional concept of a teacher is shaped by political or organizational requirements (Coggin et al., 2019). On the other hand, depending on various impacts, the teacher develops a personal identity in different forms or attitudes, associated with the emotional content identified by Kearney (2011). It is still quite common to discuss the teacher's professional image with students orally or present their insights in written form. However, in the 21st century, it was decided to combine two important points in the competencies of both students and teachers: to use DST as a learning didactic tool for disclosing and understanding teacher's professional activity.

The present study shows how digital storytelling has been implemented within the pedagogical traineeship (a semester-long practice) of pre-service teachers at a public university. The aim of the current research was to investigate the impact of Digital Storytelling (DST) implementation on the pre-service teacher education, in terms of student skills enhancement. The research questions were the following:

1. How does the implementation of DST impacts the pre-service teachers' cooperation (teamwork, task distribution), communication (interview skills, conflict management) and ICT skills?
2. How does the implementation of DST influence pre-service teachers' cooperation communication and ICT skills?

3. What barriers were encountered by students while making DST video?

Literature review

The literature represents the digital storytelling (DST) as a helpful, transformative tool for learners in a range of disciplines and learning contexts. The usage of digital storytelling projects can enrich student learning experience, enhance student sense of autonomy and interactions, especially when they are given an opportunity to demonstrate and discuss their projects (Kearney, 2011). Digital storytelling is a combination of storytelling and digital tools. For example, digital storytelling is characterized by interactivity, nonlinearity, flexible outcomes, user participation, even co-creation. The storytelling can be regarded as a methodology for sharing information, as the digital stories can be created and distributed, and there are possibilities to provide engaging opportunities for scholarship, pedagogy, cross-disciplinary discussion, community building, and distribution of work (Barber, 2016).

According to Robin (2011), the usage of DST in pedagogical activities can be divided into the following groups: (a) personal narratives of significant events; (b) historical films on past events; (c) narratives - information about certain ideas or practices. Although, as Robin (2008) points, many stories combine a variety of traits and it is very difficult to discover pure stories of one type or another, for example, an autobiographical background can become the backdrop for informational storytelling, etc. (Robin, 2008).

The perception of future professional identity is a very important element in prospective teacher studies. According to Ticknor (2014), the professional identity of the educator is quite temporary, awkward, contradictory, full of tension between personal and professional attitudes. And given the 21st century skills and literacy requirements, it is important for teachers to be able to use a variety of tools themselves, while revealing the features of a professional image. One of the tools that can be used to reveal a teacher's professional identity is DST. The application of DST tool in this context was explored by Coggin et al. (2019), who revealed interactions between institutional administrative requirements or limitations and perceptions of personal traits and preferences. Investigating the use of DST in pedagogical studies, the researchers have shown that prospective teachers developed a teacher-centered discourse in which teacher pedagogical power is created through coherence between class and personal relationship (Coggin et al., 2019). Tendero (2006) and Kearney (2011) highlighted the possibility of emotional self-concept disclosure.

In teacher education the "digital storytelling production experiences can be a salient demonstration of engaging with interdisciplinary topics via relevant technological mediums" (Shelton, Archambault, & Hale, 2017, p. 59). Authors

state that the DST making enhances the pre-service teachers' content knowledge and technological skills. In addition, the learners build a deeper understanding and connection to the material, increase their knowledge and skills of video-making process (Shelton et al., 2017).

Methodology

The purpose of the current paper is to explore the experience of pre-service teachers in implementing DST method: from idea generation to the final product creation. The novelty of the current research is the usage of DST as a mean for development pre-service teachers' ICT skills together with cooperation skills and creativity. The focus group interview method was implemented in order to collect the data and explore the opinions and experiences of perspective teachers. The focus group of 14 groups of preservice teachers produced digital storytelling videos (projects) and was organized in December 2019. The teachers were selected according to their compliance to the goals of the research. Questions for research participants in focus group covered topics about student' insights of future work, familiarizes students with future profession peculiarities, enhances their ability to cooperate, teamwork skills, and facilitates their ICT skills. The focus group interviews were conducted using a semi-structured interview guide.

The interviews lasted approximately 2h, were recorded on a digital recorder, and transcribed verbatim. All interviews were conducted and analysed in Lithuanian. Themes and quotes were translated to English for presentation of the results. After transcription, the interviews were analysed applying content analysis (Elo & Kyngas, 2008). The data were read in whole in order to get a sense of the interviews. Then meaning units were identified, coded, and condensed into subthemes and the themes were finally identified. The researchers conducted the analysis process separately and then met to discuss the findings and agreeing on the final themes. New groups of participants were added until data saturation was reached.

Research results

How does the practice of creating a DST influence pre-service teachers' understanding of their future profession?

The analysis of the stories revealed 3 thematic areas (Table 1). The prospective teachers were very sensitive to the subtleties of the profession, observing the processes at school and creating the image of the teacher. The general tendency of all stories was to show and communicate to the environment (parents of students, prospective teachers, students who think about enter teaching profession) that the teaching profession is complex, important and significant.

Table 1 ***The content of student digital stories***

Group of themes	**Title and aims of the digital stories**	**Title of the digital story**
Inspiring to become a teacher/remain in a profession	Aim: To compare the opinions of teachers from different generations in terms of their values, professional views and beliefs; to show that teachers of any age are worthy of admiration.	"Three generations of teachers" "The vocation to become a teacher is timeless"
	To demonstrate the positive aspects of teacher's job, to support teachers in the media world.	"Inspiring teacher" "Physically active teacher" "Do you think to become a teacher?"
	To list all advantages of being a teacher; to enhance a desire of students to become teachers; to prevent teachers' drop out.	"Why is it worthy to be a teacher?" "The message to teacher"
Inspiring teachers to change	To motivate teachers to be physically active in order to involve their students into active and healthy way of life.	"Physically active teacher" "The creative teacher"
	To analyze and predict what kind of features the new generation of teachers will possess?	"Future teachers: Z generation teachers" „The picture of the responsible teacher"
Teachers' personal lives/ difficulties of teacher life	To reveal how do teachers behave after their working time; to demonstrate that teachers have the same concerns, life difficulties and aspirations as other people.	"Teacher after lessons" "The portrait of modern teacher" "Teacher's usual working day" "Teacher to teacher" "Teacher Jonas has problems"

This is illustrated by the titles of some stories, such as *"Teacher – Superhero", "Teacher Inspirer" and "Future Generation Z Teacher"*. These stories illustrate meaningful aspects of particular importance to modern society: conventional values and vocation (*"The vocation to become a teacher is timeless", "Three generations of teachers"*). These stories openly reveal the ideas and values of the vocation of the teacher, who have sincerely shared the experience with the audience, pointing out the difficulties, or reluctantly disclosing the first pedagogical experiences.

Another popular theme was the complexity of the teacher's work (*"Teacher after lessons", "The portrait of modern teacher", "Teacher's usual working day", "Teacher to teacher", "Teacher Jonas has problems"*). The students dared to show themselves the unexpected subtleties of the teacher's work that the teacher

does even after school (e.g. simultaneously cooks the dinner and reads a professional literature; checks students' tests at home; face different problems).

The third thematic was the contemporary inspirational example of a teacher (*"Inspiring teacher", "Do you think to become a teacher?", "Why is it worthy to be a teacher?", "The message to teacher", "Physically active teacher"*). The stories demonstrated how important an inspiring, modern, active teacher is. It can be noted that throughout the stories, the theme of a creative and inspirational teacher dominates. The creators of these stories have chosen very engaging approaches to reveal a modern and inspiring picture of the teacher. For example, using a sense of humor demonstrate how teacher's inspiration can be enhanced by active physical activity, or how nature surrounding helps teacher to gain an inspiration and share it with students.

To sum up the topics of DST we may assert that the thematic of Teacher Portrait offered by the course supervisors, allowed the perspective teachers to set a very clear direction for the creation of digital histories, given the wide variety of DST options available, both thematically and technologically. The storylines did not repeat, meaning that there were broad possibilities for expressing creativity. Moreover, the various technological approaches have been applied: live filming, animation, combination of footage and animation, combination of photos and animation, and utilization of various other sources of video clips.

How does the implementation of DST influence pre-service teachers' cooperation communication and ICT skills?

The results of student focus groups interviews revealed several main categories related to their experience of creating the digital stories. The experience of cooperation, establishing informal relationship and overcoming difficulties were the most central within students' responses.

Cooperating and learning from each other

The broadest and the most important category of responses implied students' experiences of cooperation and learning from each other. They viewed the cooperation as an inevitable activity helping to find common solutions and enrich their knowledge.

> "We have learned to cooperate with each other; learned to listen and hear each other in order to come to the consensus, find a mutual solution, as we are of the different backgrounds and have our own views and opinions. One day we came to have dinner all together <…> everyone expressed their own ideas, applying brainstorming method <…> and after we listed different advantages of teaching, I could not even imagine some of them. It was very advantageous, that we could communicate and fulfill thoughts and bring new ideas to others." (Group 5)

Some respondents reported about a change in their understanding of the importance of cooperation.

> "I thought that the best way is to work alone, but now we are a team and it is very important while creating a film, generating ideas". (G10)

Therefore, the cooperation between students happened through the search of agreement when there was a need to find a common solution for the certain issues. Working for the achievement of the common goal, the students interacted and promoted their individual and peer learning. Students became more engaged and gained the courage to execute certain tasks.

Overcoming difficulties through cooperation

The establishment of interaction between students contributed not only to enhanced communication, an also to students' abilities to cope with challenges while working together. The respondents reported that the cooperation and mutual support improved their collective confidence and beliefs in the successful accomplishment of the DST assignment. At the very beginning the respondents had experienced the sense of confusion without having a clear focus on certain goals and common understanding of the task. Nevertheless, working in team helped them to overcome the difficulties and engage in a meaningful work.

> "At the beginning we were somewhat embarrassed, because we didn't know how to make the assignment. But being in a group, cooperating with each other we did a great job. We realized that everything is possible when you do it in team." (G8)
>
> "We really enjoyed the work. It was challenging, because we did not know how we will work with equipment, how to film – we did not have any experience. But it was challenge, it was very interesting and exciting to see the result. We thought we will never go through, but we did, and we are happy about the results." (G4)

In addition, the students expressed about enhancement of their communication and problem-solving skills, ability to search for compromise and courage to communicate not only within the group of learners, but with potential respondents.

> "I have learned how to deal with others, find a compromise and agreement while interviewing teachers, ask for the appointment, communication with teachers." (G12)

Furthermore, the respondents learned to manage conflicts and search for an agreement through the process of communicative interaction.

> "We have learned to understand each other. We discussed a lot, sometimes, there were conflicting situations, but we managed to come to agreement and compromise." (G13)

Allocating time

Some students reported about the improvement of their time planning skills, which was a prerequisite for successful task implementation.

> "I think we improved our group work skills, planning the activities, finding mutual solutions. The time planning was crucial for us. We managed to set clear deadlines and keep the pace during all period of DST creation". (G2)

Some students successfully planned their activities, while others did not manage to establish clear deadlines and communication. Therefore, their DST creation experiences were accompanied by some sense of tension.

> "We had a lot of materials and discussed a lot about what pieces to include or exclude. We were limited in time and there was a kind of pressure to choose the right priorities. So, we were constantly discussing". (G1)

Thus, in order to avoid the possible tension and confusion related to time limits, the group members working on DST must establish clear and rigorous time frames and follow them.

Building informal relationship

Working on the DST project established and improved students' informal relationship and friendship. Besides, there was a shift from meetings based on communication at university space to meetings in the non-formal environments.

> "We were constantly communicating and discussing with each other. We often organized team meetings to discuss the issues, not only at university, but in the public cafes. It has really improved our relationship." (G3)
>
> "We have discovered each other. When filming, we have spent two hours with great people and there was a great weather. The atmosphere was so exciting, we were instantly laughing." (G7)

Another important insight related to communication was establishment of common virtual informal communication spaces (e.g. via messengers) and supporting this communication all day long. As a result, the respondents noted that they were able to cognize the life rhythms of other group members, which enhanced their sense of presence and interpersonal relationship within the group.

> "I experienced the work in team, continuous and constant cooperation when we had to dedicate time for this activity. While communicating via messengers with other group members, I realized that I knew their life rhythms, when they come back from work, when they are available online. You feel the life rhythm of your colleagues." (G11)

Some students experienced a sense of reluctance at the beginning of the DST project, however, later they admitted the positive impact of informal interaction and teamwork and expressed their joy from cooperation.

> "O was really inspired by filming the story. At first, I didn't want to gather somewhere on Saturday, I was so reluctant. But I went, and it was so much fun! When I came home, I did all my assignments with a pleasure. I was so energized." (G2)
>
> "I wasn't very enthusiastic about this assignment, as I viewed it as a burden. But later I became so excited about this work, I really enjoyed working with my team, doing technical work, getting together with our own children and working while they're playing." (G6)

As a result, some respondents reported their satisfaction with the results and emotionally expressed their opinion about the DST project, attempting to motivate the potential students:

> "If you'll introduce this assignment to other students and they'll be resistant, just tell them my position: Dare! Go! Motivate! Don't be afraid! I enjoyed very much!" (G16)

Developing ICT skills

The students reported about the development of their ICT skills, mainly related to video creating and montage.

> "The Windows Movie Maker has a limited number of options, all the rest programs are not free, and you have to use the illegal versions or pay some fee. Those programs have much more options and the product will be much more quality when you use them. The montage of the digital story took four days, working few hours a day." (G15)

Although the DST project assignment implied a development of a broad range of competencies, some students reported the enhancement of their ICT skills as the most valuable and important.

> "I have learned to use the software for making the digital stories, and it was the most important advantage of this task. I did not enjoy the groupwork very much." (G3)

We assume the importance of this competence for perspective teachers, as they will be dealing with a new generation of children which require much broader involvement of ICT into teaching and learning process.

Enacting creativity for emotional content

Some groups of students supported their films with appropriate technologies, diversified with sound and video effects, while other groups simply compelled the whole films of its pieces. Some DST projects included usage of humor for representing the body images and for highlighting certain aspects of teachers' lives. Nonetheless, some respondents admitted that the bringing the creative solutions into their work required a significant amount of time and effort.

> "There was a lot of work. I've spent one evening in order to learn how to montage the story, because I have never done that before. At first, I had to receive the information and think, how to represent it in a movie. We need to be creative to make things easier." (G16)

Distributing responsibilities

The task distribution was recognized as a prerequisite for establishing an effective and successful communication. Despite we expected wider involvement of all group members into film creation procedure, most groups claimed that only one person was responsible for the montage, while others were mostly involved into data collection and filming process.

> "I liked that in our team we had a person who edited all the pieces we've sent. It was very efficient way of working, when one person was responsible for montage and others could send the materials. It was easier". (G9)
>
> "We have distributed the duties: some were responsible for sound, montage, filming. Everyone did the job they were good at." (G3)

The respondents stated that the montage work could be a field of possible conflicts where the opinions of creators could not coincide leading to the contradictions and clashes. Therefore, the relationship between teamwork and montage work remains questionable in terms one's accepting of own role and understanding of the roles of others. Nevertheless, distributing tasks helped to overcome the potential conflicts and establish an effective communication.

What barriers were encountered by students while making DST video?

Facing technical issues

This group of barriers mainly refers to students' concerns while facing issues in finding the appropriate software, obtaining a quality equipment for filming and audio taping.

> "We had some issues with filming equipment, because we were filming using our smartphone cameras, that is why we were concerned about the quality of video and audio materials. We wanted to create a really good product." (G4)

As a result, students experienced a sense of uncertainty and confusion, which led to feeling of incapability to achieve the goal. Moreover, they were expected a greatest supervisor's control about this issue.

Feeling incapable

The lack or complete absence of experience in DST making led to decreased motivation and reluctance at the beginning of DST implementation. The students knew what they wanted to do, however, they did not know how to implement all their plans.

> "It was a new experience for me, and the most difficult was to start doing the assignment. I didn't know where to start and how should it look like at the end." (G10)
>
> "We needed to find the golden middle. We had many thoughts from the very first day, but we didn't know how to implement all our ideas." (G7)

And the support of supervisors was crucial in both coordinating and directing student ideas and efforts, especially during the first stages of the DST implementation.

> "Because it was our very first time, we had a sense of suspense, as we were uncertain what will be the result and how we're going to achieve it. Perhaps, the film montage looked frightening. But the support and advices of supervisors were helpful. We found the right way and now, we are satisfied with the result." (G8)

Selecting the relevant information

The respondents admitted the certain level of difficulty related to selection of appropriate information for the DST film. After filming and taping the materials, the students received huge amounts of different data, which had to be processed and selected.

> "It was quite difficult to select the information, because we collected a lot of data and visual materials. We had to be very precise about the goal of our work and select the information in accordance to it. It took 1.5 month to select all the materials and two days to montage the film." (G5)

The data processing was time consuming and required a significant amount of effort. Moreover, the time constraints (the DST had to be about 4 minutes long) caused an additional tension from one point; however, they provided a clear timeframes and guidance for the final product from another point.

Discussion

Digital story telling in teacher education is an effective way of providing the necessary skills that can then transfer into real self-directed pedagogical activities. Although one of the essential tasks of the research was to enable students to learn how to use this learning tool, the topic of the Teacher's Image allowed to reveal the features of the emerging professional identity. The themes of the stories created by students, have shown that some certain type of DST is unlikely to be applicable to the disclosure of a professional identity, as this element encompasses a wide range of emotional and subject matter aspects. Namely, the theme of the

narrative "The Teacher's Image", presupposes the assumptions of identity perception. It is noted that the narratives created by students were primarily dominated by highlighting the positive values or traits of teachers' personalities. Unlike in other studies studies, there is little emphasis on the bureaucratic aspects, political or organizational requirements or restrictions. The dominant feature of the stories is the emotional content - teacher feelings, difficulties, moods. This may be explained by the fact that this task was implemented at the very beginning of the study, when many things were new, unknown and undisclosed. Contrary to other studies, however, the stories did not really reveal signs of tension, major contradiction, or any kind of temporality. This is because the students of pedagogical studies have a strong commitment for pedagogical work, they perceive difficult situations, but in their narratives usually tend to speak not about problems, but about their solutions. Another feature of the narrative is the disclosure of certain didactic approaches, although this aspect remained poorly developed. Perhaps, if the task would be formulated in a different way, such as "Teacher in the classroom" or "Teacher in the lesson", the students produce a more detailed disclosure of didactic decisions.

There were several barriers to the digital story telling in teacher education, such as technical barriers because students encountered a software problem. The lack of experience and motivation was also clearly stated, although ideas were generated smoothly. The students also considered the barrier that it was difficult to select the information accordingly. However, these barriers were not highlighted and were mentioned as improved aspects in the future.

Conclusions

In summary, the Digital Storytelling project implementation in pre-service teacher education opens broad possibilities for enhancement of student cooperation and learning engagement. However, the attention must be payed to the details of the process organization, and the role of course supervisor here is crucial. Students need to gain clear guidelines and establish effective communication in order to benefit from full collaboration and peer learning.

The research revealed that the DST creation process is an effective mean and tool, which includes several procedural steps leading to the complex acquisition of pedagogical competence. Even though it was the first attempt to implement this tool, the results demonstrate that its realization helps the perspective teachers to understand how collaborative processes should be developed for quality products creation. There is a need for further research on how digital storytelling project could be implemented during the in-service practice of perspective teachers. In addition, the further research could be done on how the DST may be used to build teacher critical thinking and agency for school/teaching improvement.

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ПРОБЛЕМЫ И РЕШЕНИЯ ПОВЫШЕНИЯ ПУБЛИКАЦИОННОЙ АКТИВНОСТИ В УНИВЕРСИТЕТАХ И НАУЧНЫХ ЦЕНТРАХ УЗБЕКИСТАНА

Problems and Solutions to Increase Publication Activity at Universities and Scientific Centers of Uzbekistan

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Abstract. *The article analyses the publication activity in the Republic of Uzbekistan during the years of independence. A background has been given to the collection of funds for academic libraries until 1991, in the early 90s and over the past decades, where the dynamics of changes in the number of scientific publications in universities is traced. An analysis is given of the reasons for the decline in interest in scientific research, the publication of scientific papers in high-ranking journals, as well as trends in solving these problems in the country. The results of analytical studies of data from information systems Scopus and Web of Science are presented. The factors that most influence the quality of teaching and research are highlighted. The authors of the article expound their personal experience in conducting seminars, trainings, and master classes at universities in Uzbekistan. The article presents a training program for doctoral students, teachers and researchers on the use of world electronic information resources of leading publishers, as well as an analysis of their effectiveness. Information is also given on the reforms carried out in the country in recent years in the field of supporting libraries and scientific research, which have contributed to increasing publication activity.*
Keywords: *academic libraries, effectiveness, electronic information resources, publication activity, scientific research, training program, universities.*

Введение
Introduction

Информационное обеспечение научных исследований и разработок, интеграция научной информации в научно-образовательный процесс являются необходимыми компонентами инфраструктуры любого высшего учебного заведения (ВУЗа) и научного центра. Они оказывают непосредственное влияние на качество их деятельности. Оценка

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эффективности деятельности научно-образовательных учреждений формируется с учётом публикационной активности: числа опубликованных статей и/или числа цитирований этих статей в престижных научных журналах. Наукометрические показатели используются и при формировании ведущих мировых университетских рейтингов: The Times Higher Education World University Rankings (THE); QS World University Rankings; Academic Ranking of World Universities и др. Результаты наукометрических исследований показывают, что уровень публикационной активности в различных странах напрямую связан с финансированием исследований и разработок (Sandström, 2009; Leydesdorff & Wagner, 2009; Wang et al., 2012) и объёмом потребления научной информации (Moed, 2005; Jung, Kim, So, & Kim, 2015). Порядок использования индикаторов результативности научных исследований в системах аттестации университетов и при выстраивании международных рейтингов университетов описан на национальных сайтах государственных структур многих стран, и на сайтах наиболее авторитетных мировых университетских рейтингов: The Times Higher Education World University Rankings, QS World University Rankings, Academic Ranking of World Universities. Вопросы корреляции между показателями научного выхода, финансированием исследований, разработок и объёмом потребления научной информации были рассмотрены в работах многих ведущих специалистов (Moskaleva & Razumova, 2017; Sandström, 2009; Leydesdorff & Wagner, 2009). Реформы, осуществлённые за годы независимости в системе образования Республики Узбекистан, дали свои положительные результаты. Компетентными органами, министерствами, ведомствами, а также непосредственно самими образовательными учреждениями всех уровней была осуществлена колоссальная работа по теоретико-методологическому и информационному обеспечению учебного процесса. В последние несколько лет изменениям подверглись и система осуществления научно-исследовательских работ, и этапы защиты диссертаций на соискание научной степени. Повысились требования к научным исследованиям, рейтингам научных центров и ВУЗов, где научные публикации занимают важное значение для оценки их деятельности. Реформы, проводимые в Узбекистане в области науки и образования коснулись и актуальных задач доступа к ценной информации, базам данных, электронным журналам для исследователей, докторантов и студентов. Узбекистан также за последние годы активизировал работы по подписке на научно-образовательные электронные ресурсы ведущих издательств и агрегаторов мира, таких как EBSCO Information Services, Clarivate Analytics, Emerald, Springer, Proquest и др. Национальная подписка в период с 2016-2019гг. на базы данных EBSCO Information Services и аналитическую базу данных Web of Science в

2016-2017гг. имела важное значение для научных центров Академии Наук (АН) и ВУЗов республики в повышении уровня научных исследований и качества преподавания (Rakhmatullaev & Kim, 2018).

Но остается ряд проблем, которые необходимо решить для развития научных исследований, качества защищаемых научных разработок и диссертаций. Эти проблемы связаны: с неумением авторов представлять результаты своих научных исследований в форматах, удовлетворяющие престижные научные издательства; с нехваткой научно-методической литературы и тренинг курсов по подготовке научных статей. Нет исследований по изучению причин низкого уровня публикационной активности в высокорейтинговых научных журналах, нет их научного анализа и решений по устранению этих проблем.

Цель и методы исследования
Aim and methods of the research

Цель исследования – проанализировать публикационную активность в университетах и научных центрах АН Узбекистана за период с 2016-2019 гг. и определить факторы, влияющие на повышение уровня публикаций в высокорейтинговых научных журналах ведущих издательств. Общество с ограниченной ответственностью (ООО) “E-LINE PRESS” является партнёром и официальным представителем ведущих издательств и агрегаторов научно-образовательной информации в Узбекистане, а Наргиза Пазилова (один из авторов данной статьи) – сертифицированный тренер по работе с ресурсами этих компаний.

В данном исследовании применяется метод статистического анализа данных по использованию научно-образовательных электронных ресурсов в ВУЗах и научных центрах АН Республики Узбекистан. Нами были опрошены 626 респондентов из числа докторантов, исследователей ВУЗов и научных центров АН Узбекистана. Был подготовлен специальный опросник, где были следующие вопросы:

1. С какими трудностями вы сталкиваетесь при написании научных статей?
2. С какими трудностями вы сталкиваетесь при публикации научных статей в престижных научных журналах?
3. Что вы считаете наиболее эффективным для повышения уровня научных исследований, публикаций и защит диссертаций?

По первому вопросу 53% респондентов не имеют опыта публикаций в высокорейтинговых журналах, у 23% - слабый уровень знания английского, а у 3% - русского языка, у 14% опрошенных недостаточно навыков написания научных статей (Рис.1), 20% опрошенных испытывают другие

трудности, связанные с недостаточностью научного материала для публикации, с нехваткой времени на подготовку статей и др.

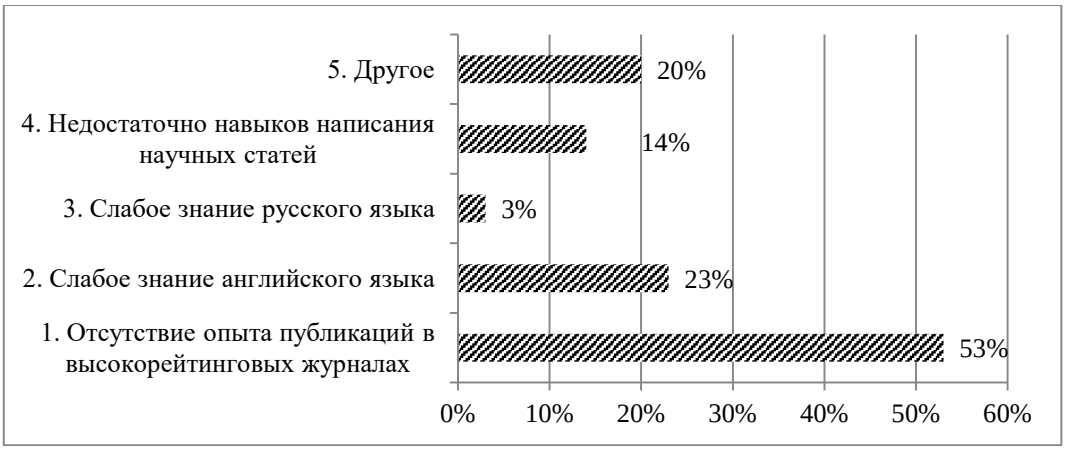

Рисунок 1. ***С какими трудностями вы сталкиваетесь при написании научных статей?***
Figure 1 ***What difficulties do you encounter when writing scientific articles?***

На вопрос о трудностях при публикации статей в престижных научных журналах (Рис.2) 48% опрошенных докторантов и исследователей заявили об отсутствии финансовой поддержки для оплаты взноса за публикацию, 34% - о долгом ожидании очереди для публикации, 19% респондентов затрудняются в оформлении статьи под формат выбранного журнала, и 16% из них утверждают о наличии проблем с оплатой в иностранной валюте за публикацию, у 7% - другие трудности и 6% - не знают где публиковаться.

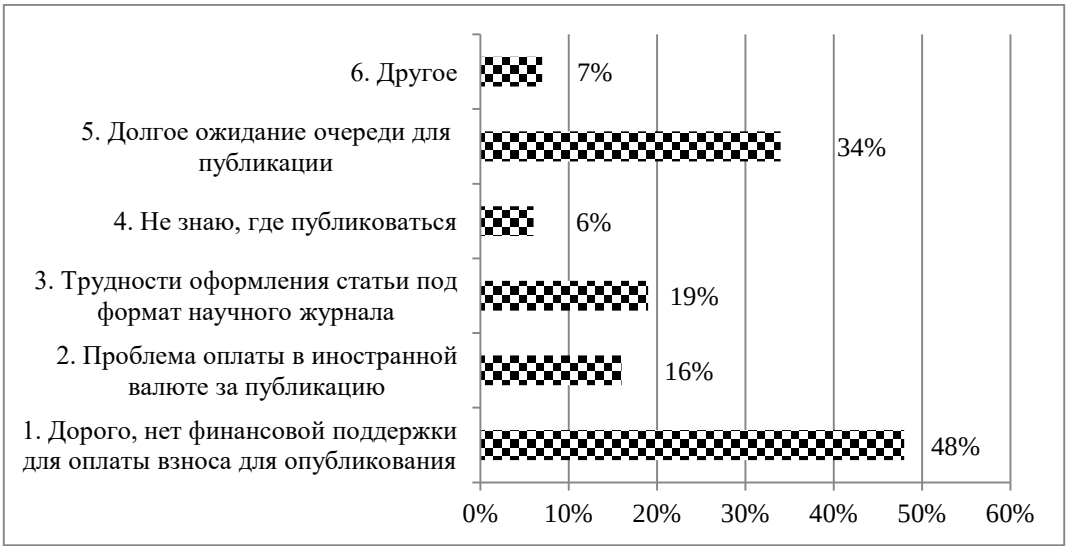

Рисунок 2. ***С какими трудностями вы сталкиваетесь при публикации научных статей в престижных научных журналах?***
Figure 2 ***What difficulties do you encounter when publishing scientific articles in prestigious scientific journals?***

Результаты опроса по третьему вопросу показали (Рис.3), что для повышения уровня научных исследований, публикаций и защит диссертаций наиболее эффективным является обеспечение доступа к электронным научно-образовательным ресурсам ведущих зарубежных издательств - 24% респондентов, организацию тренингов по написанию статей указали 20%, участие в международных научных конференциях - 19%, решение вопросов оплаты публикации в зарубежных научных журналах – 18%, и повышение информационной обеспеченности библиотеки организации, включая подписку на журналы – 17% опрошенных.

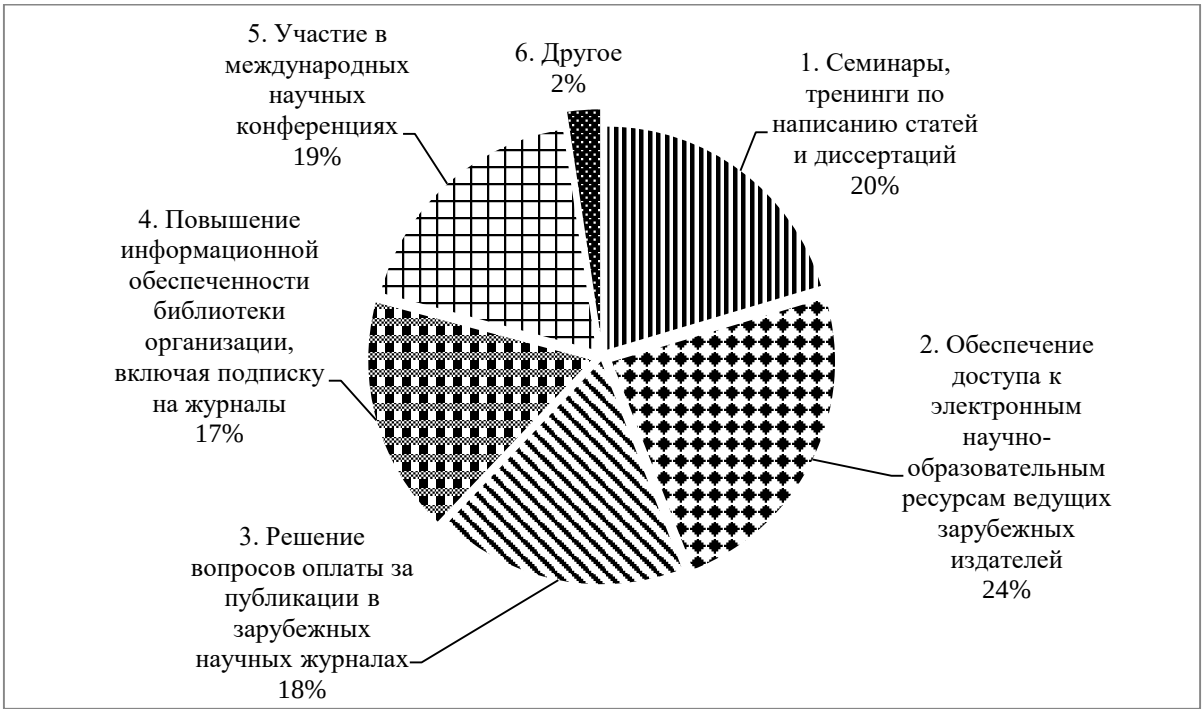

Рисунок 3. ***Что вы считаете наиболее эффективным для повышения уровня научных исследований, публикаций и защит диссертаций?***
Figure 3 ***What do you think is most effective for raising the level of scientific research, publications and dissertations?***

Кроме того, были исследованы статистические данные, полученные из базы данных WoS (Clarivate Analytics, 2018). Из Рис.4 видно, что наиболее активны в использовании аналитической системы были именно ВУЗы. Это главным образом объясняется повышением количества преподавателей и студентов, знающих английский язык (Министерство высшего и среднего специального образования Республики Узбекистан [МВССПО РУз], edu.uz), а также требованием включать обзор научных статей из ведущих зарубежных журналов по искомой теме в аналитическую часть диссертационных работ и научных отчётов.

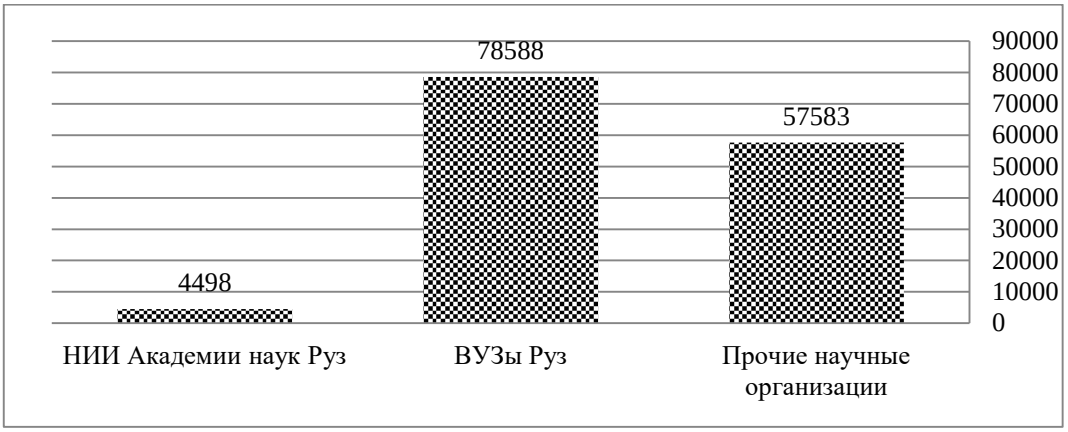

Рисунок 4. ***Общая статистика пользования базой WoS за июль-декабрь 2017г.*** *(Clarivate Analytics, 2018)*
Figure 4 ***General statistics of WoS database usage for July-December 2017***

Важным аспектом в распространении знаний по базам данных научно-образовательных ресурсов является организация и проведение тренингов, семинаров и презентаций. Организованные тренинги для ведущих ВУЗов республики по обучению докторантов, ассистентов и преподавателей по работе с базами данных, аналитическими системами, написанию научных статей и диссертационных работ принесли свои важные плоды в повышении публикационной активности, качества научных исследований и преподавания.

Если проанализировать статистику использования аналитической информации из базы данных WoS (Clarivate Analytics, 2018), как показано на Рис. 5, то можно заметить, что наибольшее количество просмотров приходится на ноябрь 2017г.

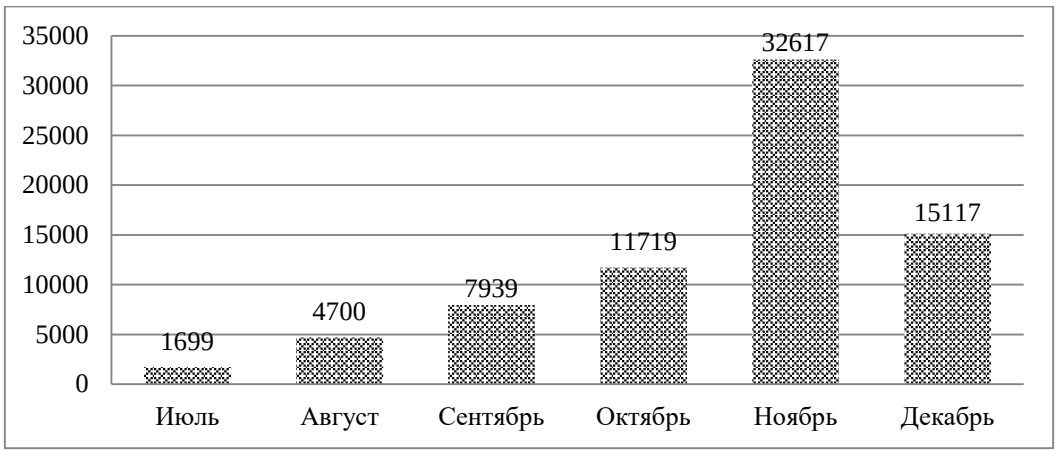

Рисунок 5. ***Статистика пользования базой WoS за июль-декабрь 2017г*** *(Clarivate Analytics, 2018)*
Figure 5 ***WoS database usage statistics for July-December 2017***

Это связано с тем, что в октябре-ноябре 2017 г. были проведены ряд учебных курсов для докторантов Ташкентского Университета информационных технологий, Ташкентского института инженеров железнодорожного транспорта, Ташкентского Государственного Экономического Университета, и презентации во многих ВУЗах республики дали хорошие знания по использованию ценных ресурсов и их применению для научных исследований, написанию научных статей и диссертаций.

Опыт компании Clarivate Analytics (Kasyanov, 2018) по национальным подпискам в странах постсоветского пространства позволяет утверждать, что это произошло за счёт следующих объективных факторов:

- научные сотрудники Республики Узбекистан получили возможность находить наиболее авторитетную научную литературу, на основе изучения которой они могут проводить более влиятельные научные исследования;
- у учёных появилась возможность находить наиболее авторитетных и активных иностранных партнёров, общаться с ними и обмениваться исследовательским опытом.

Возможность оценить качество научного журнала позволила учёным публиковаться в лучших научных журналах мира. Наконец, оценка результативности научных исследований, основанная на прозрачных библиометрических показателях, позволяет руководству научных организаций принимать стратегические решения о дальнейшем развитии исследований.

В наукометрии для анализа и сопоставления цитируемости работ принято использовать показатель нормализованной средней цитируемости (Normalized Citation Impact), который количественно показывает, насколько лучше или хуже цитируется работа или группа работ относительно среднемирового уровня в той же предметной области.

Например, как показывает график на Рис. 6 сопоставление не по количеству публикаций, а по показателю их нормализованной средней цитируемости даёт более объективную оценку. Очевидно из рисунка, что работы учёных Узбекистана по химии цитируются почти в 5 раз меньше среднемирового уровня, а работы по ботанике и зоологии по своей важности ничем не уступают работам иностранных коллег.

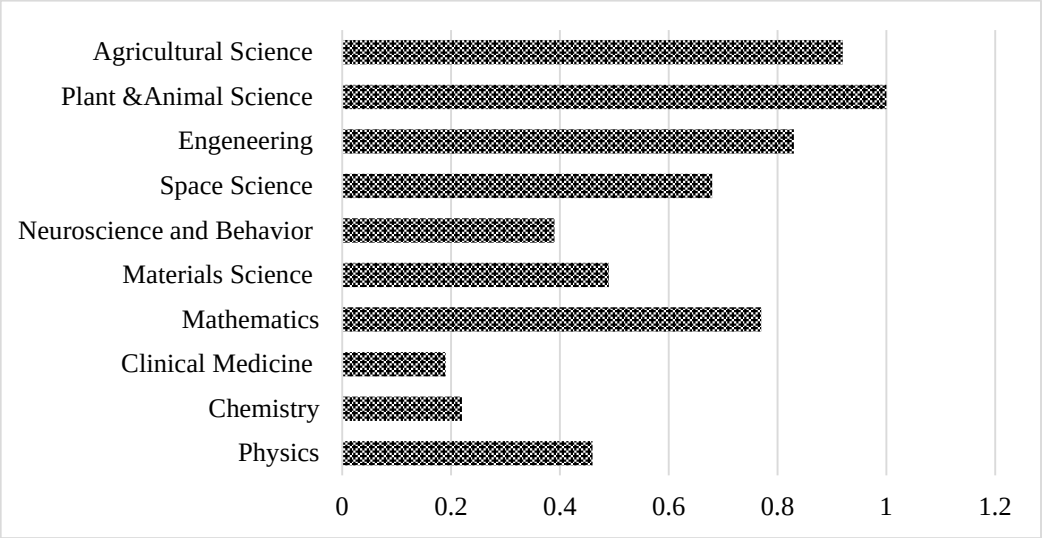

Рисунок 6. ***Нормализованная средняя цитируемость публикаций Узбекистана за 10 лет в разбивке по предметным областям*** *(Kasyanov, 2018)*
Figure 6 ***Normalized average citation of Uzbek publications over 10 years by subject area***

Выводы по исследованию
Conclusions

На основе анализа опроса докторантов и исследователей ВУЗов и научных центров АН можно сделать выводы:

- отсутствие опыта публикаций в высокорейтинговых журналах у большинства опрошенных вызывает трудности при написании научных статей для публикации в престижном научном журнале;
- слабый уровень знания английского языка и отсутствие навыков написания статей у некоторых респондентов вызывает трудности при оформлении их в соответствии с требованиями выбранного научного журнала;
- многие опрошенные не имеют возможности публиковаться в престижных журналах из-за отсутствия финансовой поддержки для оплаты взноса за публикацию;
- из-за низкого уровня информационной обеспеченности библиотек, в том числе доступа к электронным ресурсам ведущих зарубежных издательств в научно-образовательных организациях республики, у большинства опрошенных докторантов и исследователей отсутствуют навыки по написанию научных статей, работы с мировыми информационными ресурсами и поиска высокорейтинговых журналов для публикации;

- для повышения уровня научных исследований, публикаций и защит диссертаций в ВУЗах и научных центрах АН Узбекистана наиболее эффективным является:
  - обеспечение доступа к электронным научно-образовательным ресурсам ведущих зарубежных издательств;
  - организация тренингов по написанию статей и работе с мировыми информационными ресурсами;
  - участие докторантов и исследователей в международных научных конференциях;
  - увеличение доли подписки на информационные ресурсы, включая журналы в научно-образовательных организациях республики.

Анализ использования электронных научно-образовательных баз данных ведущих издательств мира показал, что:

- наблюдается тенденция роста доступа к электронным журналам со стороны докторантов, преподавателей, студентов и научных сотрудников, а также публикационной активности. Видно, что научная результативность Узбекистана в период Национальной подписки на научно-образовательные электронные ресурсы (2016-2019 гг.) значительно выросла и обогнала этот же показатель в предыдущие годы;
- основными причинами такой активизации являются: повышение уровня знаний английского языка среди пользователей; наличие требований к соискателям ученых степеней от Высшей Аттестационной Комиссии (ВАК) и специализированных советов на счёт публикации в высокорейтинговых научных журналах для защиты диссертационных работ;
- интеграция в мировое научное пространство, развитие научных и образовательных связей, поощрение публикационной активности в ВУЗах и научных центрах АН, проведение тренинг-семинаров также сыграли немаловажную роль в активизации использования научных электронных ресурсов;
- правительственные решения по поддержке науки и образования, инновационному развитию страны, интеграции науки, образования и производства дали положительные результаты в повышении уровня научных исследований и качества преподавания в научно-образовательных учреждениях республики;
- обеспечение оперативного доступа к научно-образовательной информации, финансирование исследований, увеличение затрат на подписку в ВУЗах и научных центрах, проведение учебных

курсов по использованию информационных ресурсов и их применению для научных исследований, написания научных статей и диссертаций оказывают непосредственное влияние на повышение уровня публикационной активности в республике.

Summary

Information support of research and development, integration of scientific information into the scientific and educational process are necessary components of the infrastructure of any university and scientific center. They have a direct impact on the quality of their activities. Evaluation of the effectiveness of scientific and educational institutions is formed taking into account the publication activity: the number of published articles and/or the number of citations of these articles. Naukometric indicators are also used in the formation of the world's leading university rankings: The Times Higher Education World University Rankings (THE); QS World University Rankings; Academic Ranking of World Universities, etc. As follows from the results of scientometric research, the level of publication activity in different countries is directly related to the financing of research and development and the volume of consumption of scientific information. Recent studies show that the level of publication activity is also directly related to the volume of subscription costs. In this way, the status and trends of information and science in a country in general can be assessed through its funding, in particular the cost of acquiring scientific information.

The aim of the study is to analyze the publication activity in Uzbekistan during the years of independence and to determine the factors that influence the increase in the level of publication activity in universities and scientific centers of the country. As is known, one of the defining criteria for improving the international and local ratings of universities and research centres is the publication of staff in scientific journals with high impact factors. Leading Western universities have long been convinced that active information support for scientific research and teaching process is valuable scientific information in the form of electronic scientific journals, books, textbooks, multimedia resources, etc. - this is one of the main criteria for success in improving the prestige of the organization and the quality of their activities. Therefore, there is a significant increase in funding for subscriptions to the databases of the world's leading publishing houses, such as Springer, EBSCO Information Services, Oxford University Press, ProQuest, etc.

The article analyzes the activity of using the databases of scientific journals of the world's leading publishing houses, as well as the impact of this factor on the publication activity of universities and research centers of the Republic for 2016 and 2017. The results of the research allowed to identify the reasons for the decline in interest in scientific research, publication of scientific papers in high-rated journals, as well as trends in addressing these problems. Factors that have the greatest impact on the quality of teaching and research are highlighted. The program of training doctoral students, teachers and researchers on the use of world electronic information resources of leading publishing houses, as well as an analysis of their effectiveness is presented.

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DIGITAL TECHNOLOGIES FOR COGNITIVE LINGUISTICS STUDIES IN MAGISTRACY

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Abstract. *The field of higher education in Russia is undergoing significant changes that require reviewing past practices and professional activities. This article aims to study the potential of using modern digital technologies in linguistic experiments in cognitive linguistics regarding writing master's degree theses.*
The analysis of recent cognitive studies has shown that the area for this research is diverse and includes investigating aspects of cognitive semantics, translation techniques, concordance, phrase variability, and others. Research results show that cognitive science widely uses empirical data received through digital technologies such as Google. This digital tool can be accessible and suitable for linguistic experiments and the author demonstrates its application. The paper presents a model of the linguistic experiment on studying the variability of the structure of a conceptual binominal phrase in Russian and English. According to the obtained results, Russian users of the Internet feature a higher tendency for changing the order the binomial concepts than the English-speaking ones. These data provide language material for conclusions and further considerations from a cognitive perspective. The framework of this experiment can be a motivating factor for those who want to master their research and language skills in the magistracy.
Keywords: *big data, cognitive linguistics research, corpus-driven studies, digitization, higher education, linguistic experiment, master's degree.*

Introduction

Master's degree not only allows graduates to gain a high level of professionalism, the ability to solve complex management, analytical, research tasks, but it also is a link to Life Long Learning (LLL). LLL is becoming more meaningful and important nowadays, and the higher education sector is progressively increasing its provision of lifelong learning worldwide. Master's degree programs offer a great opportunity for LLL. Many studies devoted to the problems of training in magistracy acknowledge the importance of this stage in the teacher's education (Katashinskih, 2012; Fattakhova, Yusupova, & Fedorova, 2016; Hamidullina, 2017; Kvashina, 2017). An essential factor of training in the master's degree is the research activity of students. "Research is important because it helps us to understand the society and framework we live in and because it gives us the means to make life better" (Erixon, Frånberg, & Kallós,

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2001, p.9). In addition, research in linguistics afford undergraduates to get up-to-date knowledge, learn about new achievements and employ new digital technologies for expanding the personal experience in the language studies. “It is important to create possibilities for learners to explore and discover on their own so that ideas and knowledge come from real solutions related to learners’ personal experience” (Bubnys, 2019, p.90).

Although many studies have indicated that research is highly important for the development of a language teacher, there is an insufficient number of papers devoted to particular research tools applicable to use in the context of such research. Our investigation in this area revealed that there are some digital resources suitable for language studies from a cognitive perspective at the analyzed level of education. In this paper, we establish perspective research areas for the students studying on master's programs on language and cognitive linguistics and indicate available modern digital tools for such research. As a result, this paper presents a model of a linguistic experiment utilizing a digital research tool for the cognitive study of the word order of conceptual binominals in different languages.

The research aim is to analyze trends of prospective usage of cognitive corpus linguistics in educating master’s degree students. The present investigation involves observation of literature on corpus cognitive linguistics and on usage of Google search in these studies. This analysis helps to find potential areas of research for master’s dissertations in cognitive corpus linguistics. The experimental approach enables to propose a model of a linguistic experiment in the framework of discovered areas that is designed to obtain data for further cognitive studies. In our model experiment, we test variability of conceptual binominals in Russian and English using data from Google as corpus analogue. To establish in which language the variability is more frequent, we compare the obtained data and calculate the percentage ratio of conceptual binomial word order variability in Russian and English. The result shows what language has more tendency for changing word order in the binominals. Further studies of these data may be of considerable practical value in language research on the master’s level.

Literature review

Recent studies reveal a strong link between language studies, linguistics and cognitive linguistics. This is because cognitive linguistics plays a leading role in modern linguistic research. A great number of cognitive linguist associations such as the International Cognitive Linguistics Association (ICLA), the Russian Cognitive Linguists Association (RCLA), the Polish Cognitive Linguistics Association (PCLA) and many studies prove this statement. The vast researchers’ interest results in numerous master’s degree programs in cognitive linguistics

offered by different universities, for example, universities of Russia, Germany, the USA and other countries.

Studying cognitive phenomena through the prism of linguistics is the core of cognitive linguistics. Cognitive linguistics offers new perspectives in traditional language problems; it puts forward new insights and explanations for most challenging long-standing issues. It is believed that the shift from the objectivist view of cognition and language to the empirical view of cognition and language marks the progress of human knowledge and the study of language philosophy (Dapeng, 2014).

There are many promising research areas in cognitive linguistics, for example, the study of speech and mental mechanisms, cognitive studies of text and discourse and others. The motivation for this literature review stems from several existing studies dealing with the cognitive and language phenomena we consider relevant in the context of the master's programs. In our view, they provide a wide range of ideas for further studies.

First, along with the mentioned above areas, we regard such application of theoretical knowledge as the evolution of language and cognition by integrating evolutionary linguistics and the framework of cognitive linguistics (Pleyer & Winters, 2014).

Second, there is the convergence of cognitive linguistic research and social-linguistic research. Cognitive sociolinguistics creates new values within cognitive linguistics for both linguistic study and social study, opens up new horizons for cognitive linguistics, and in the meantime, it is a continuation of the 20th-century revolution against Chomskian generative linguistics (Chevrot, Drager, & Foulkes, 2018).

Third, the study of syntax, the syntax of dialogue, in particular, can have a big potential for further research. The mechanism of utter construction in dialogues: dialogic syntax has such key theoretical features as the dialogical syntax, real abstractions, application of dialogic bootstrapping strategy, and dialogic analysis of spoken language constructions. The study of this phenomenon broadens cognitive studies of syntax, thus representing a new research trend in cognitive linguistics (Guocai, 2015).

Thus, we have established several areas in modern cognitive studies having great potential for further development both on master’s programs on linguistics and cognitive linguistics in particular.

In order to identify the applicable research tool, this paper analyzes several recent studies on this matter. The era of the Internet provided people with a vast opportunity of getting information of various kinds to investigate and analyze it from different perspectives. University staff widely use digital and interactive technologies (Sorokovyh, Kappusheva, Gerasimova, Olejnikova, Korotkova, Baranova, & Nadzhafov, 2013).

Corpus techniques in language studies have become a common practice in higher education establishments (Conroy, 2010; Blanchard, Tetreault, Higgins, Cahill, & Chodorow, 2013 and others).

Corpus techniques and cognitive approaches have widespread adoption in the practice of teaching a foreign language, for example, in the study of phrasal verbs. They may present difficulty because of their number and polysemy. Teaching phrasal verbs through cognitive linguistics by combining the theory of event conflation with corpus-based research allows creating a list of phrasal verb particles and meanings. For example, R. Spring showed in his research that this method provides evidence that learners taught with the particle list improved their ability to conjecture the meanings of novel phrasal verbs more effectively than learners who studied common phrasal verbs as whole units (Spring, 2018).

Some papers apply corpus-based cognitive semantics to translation studies (TS) who are particularly interested in revealing evaluative aspects of the units of meaning of source texts and their translations. As K. Zethsen puts it, what may formerly be described as something intangible like an 'atmosphere', now becomes tangible because of the patterns emerging from large numbers of examples. Empirical examples in various languages of such evaluative patterns are not automatically generated but come about as the result of computer-generated concordance lines and thorough manual analysis (Zethsen, 2008).

Moreover, modern corpus linguistics has crossed the line that limits researchers only to a certain structured corpus of given texts. Internet search engines have opened up new opportunities for scientists studying different aspects of language and speech. In particular, the use of search engines such as Google or Yandex allows receiving significant empirical material, which can serve as a source of study of various linguistic phenomena associated with cognitive processes (Suleymanova, 2019; Petrova, 2019).

The relative ease and accessibility of gaining such databases can be an attractive factor for young researchers studying for master’s programs in the cognitive direction. These tools allow, for example, studying concordance of different elements of language. Until recently, it was assumed that to study concordance we require specialized software, but it turns out that a search engine such as Google can generate queries into almost limitless corpora, for example, using the Advanced Search feature from the main portal page (Robb, 2003; Sha, 2010).

This affords the implementation of data-driven learning (DDL), or corpus-based language learning, which involves the learner in an exploratory task to discover appropriate expressions or collocates regarding his writing. However, the problematic units of meaning in each learner’s writing are so diverse that conventional corpora often prove futile. The search engine Google with the characteristics of dynamic corpora can provide quantitative parameters for

evaluating a chunk of language. Thus, we consider that employing Google as a research tool will enable a prospective master's degree researcher to widen the range of potential investigation areas within cognitive linguistics. A linguistic experiment presented in this paper can serve as an example of such a study.

Materials and methods

The proposed experiment deals with the structural variability of a phrase. Structural variability studies involve issues of cognitive modeling of syntax. This is due to the principles that organize the speech-making activity of a person. There is the principle of specification (or the principle of individualization), which implies an individual understanding of the event with the allocation of its details (Furs, 2007, p.82). Thus, by using different structural variants of the phrase, the speaker realizes the principle of individualization in his speech-making activity.

In the model experiment, we consider the structure of conceptual binominals, which include two nouns with conjunction *and*, for example, *добро и зло - good and evil.* These nouns possess conceptual meaning in Russian and English. The order of components in the binominals reveals the importance of each element: the most important element goes first. The change in the order of components exposes a shift in the cognitive focus of the speaker. The comparison of structural variability of binominals in the two languages can shed some light on the process of conceptualization in both languages.

The experiment aims to investigate Google's potential for cognitive research to provide empirical data for the study of the variability of phrases in different languages.

The material of the experiment is a conceptual binominal phrase in Russian and English: (1) добро и зло/ good and evil and (2) жизнь и сметь/ life and death.

The task is to compare the frequency of variability of word order of these conceptual binominal phrases in two languages. To fulfill the task, we used an advanced search with the exact phrase and rich text format. Table 1 shows the results of the empirical data.

Table 1 ***Number of entries of conceptual binomial*** *(Retrieved from Google 2.12.2019)*

Phrase	Russian	English
1.1. добро и зло/ good and evil	1,930	12,800
1.2.зло и добро / evil and good	172	943
2.1. жизнь и сметь/ life and death	1,870	38,400
2.2. смерть и жизнь/ death and life	979	5,650

The data show that there is the variability of the word order in the conceptual binomial pair. Thus, Google has provided empirical data for the further analyses from a cognitive perspective.

Research results

The analysis of the percentage of phrases 1.1.; 1.2. and 2.1.; 2.2. will show in which of the languages the variability of the word order of a conceptual binominal phrase is higher. I calculated the percentage using Formula 1:

Percentage = (Value ⁄ Total Value) × 100

Where Total value is the number of entries of phrases, 1.1. and 2.1.,

Value is the number of entries of phrases 1.2. and 2.2.

Table 2 presents the result of the calculations.

Table 2 ***Percentage ratio of conceptual binomial word order variability in Russian and English***

Variability of the word order of the phrases	Russian	English
1.1.-1.2. *добро и зло/ зло и добро* *good and evil/ evil and good*	8,9 %	7,3%
2.1.-2.2. *жизнь и смерть/ смерть и жизнь* *life and death/death and life*	52,4%	14.7%

These results show that Russian users of the Internet feature a higher tendency for changing the order the binomial concepts than the English-speaking ones. These results provide material for conclusions and further studies in the language environment of these data. Analyzes of the vast textual data will elucidate details of the established linguistic fact, which is not the subject of this paper. Thus, the experiment proves the potential of the Google search to provide statistical data relevant to cognitive studies. Though this approach does not replace other methods of linguistic research, it can enrich our understanding of cognitive and linguistic phenomena.

Conclusions

Modern linguistic education allows students to realize the concept of LLL and their research potential in the framework of master's programs in cognitive linguistics. Knowledge in cognitive linguistics can be helpful not only in teaching languages but in investigating issues of artificial intelligence, cultural and social

phenomena and others. There are some areas in cognitive linguistics that can have great potential for further studies at master's level, such as the study of syntax variability, conceptualization and categorization of the meaning and social and cultural aspects of the language. Research in cognitive science actively exploits empirical data obtained through digital technologies, in particular by the Internet search such as Google. This digital tool due to its accessibility and adjusting coverage widens the scope of linguistic experiments that opens up broad prospects for young researchers in this field. Our observation suggests the possibility that a various number of languages can be the subject of investigation and comparison from the cognitive perspective using this digital tool. However, some limitations should be noted. First, Google as a tool can be suitable for gathering empirical data, which have parameters strictly identified by the purpose of the research. Second, a sophisticated method of the analysis of such data is necessary. This paper provides a preliminary approach for the research of this kind. The application of this technology in cognitive linguistics demands further research.

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ИССЛЕДОВАНИЕ ПОТРЕБНОСТИ В ЭЛЕКТРОННЫХ НАУЧНО-ОБРАЗОВАТЕЛЬНЫХ РЕСУРСАХ В УНИВЕРСИТЕТАХ

Research of Needs in Digital Scientific and Educational Resources in Universities

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Abstract. *Currently, without the effective information support of scientific research and the educational process, the innovative development of higher education isn't possible. But the databases of leading publishers such as Springer Nature, Wiley, Elsevier, Oxford University Press and others are very expensive for universities in developing countries and countries with economies in transition. It is necessary to conduct researches to analyze the demand for digital information resources of publishers to determine the most popular sources for each university. The article is devoted to the results of research on the demand for electronic scientific and educational resources in 63 universities of Uzbekistan, as well as their impact on publication activity. Interviewed more than 1200 respondents from among doctoral students, applicants for academic degrees, teachers and researchers. Based on the results of the survey, the most frequently used sources of information for scientific research, problems they face when writing scientific articles, and information resources they often use are identified. Such researches were conducted in the republic for the first time. The results of the survey made it possible to get a clear picture of the state of information support of universities, to develop recommendations to improve of acquisition funds of academic libraries, on organizing and conducting thematic trainings for doctoral students, teachers, and researchers.*
Keywords: *database, digital scientific and educational resources, digital libraries, education, information support, scientometrics, statistics.*

Введение
Introduction

В настоящее время без эффективного информационного обеспечения научных исследований и образовательного процесса невозможно инновационное развитие высшего образования. Без актуальных источников научных исследований, образовательного процесса и результатами экономических и социальных исследований трудно сейчас

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говорить о прогрессе общества вообще. Студенты, преподаватели и научные сотрудники нуждаются в постоянно обновляемых источниках информации, особенно в базах данных научных журналов. Но базы данных таких ведущих издательств как Springer Nature, Wiley, Elsevier, Oxford University Press и других являются очень дорогими для университетов развивающихся стран и стран с переходной экономикой. Как показывают исследования (Kryukova, 2019) поиск научной информации занимает от 23 до 50% времени от всего объема научно-исследовательской работы. Поэтому очень важно сократить время поиска, предоставить пользователям наиболее актуальную для них информацию, дать эффективные инструменты навигации в огромном поле данных электронных ресурсов.

Очевидно, что все больше проявляется тенденция к предоставлению открытого доступа к научным и образовательным ресурсам для всех пользователей (Machovec, 2017). Но пока это касается только малой доли источников, использование которых недостаточно для полномасштабных научных исследований и анализа реальных результатов проведённых научных работ и достижений. Исследования европейских и американских ученых в области наукометрии показывают, что публикационная активность напрямую зависит от объема подписки библиотек высших учебных заведений (вузов), актуальности, новизны источников информации для исследователей (Moskaleva & Razumova, 2017). Исследователи считают, что состояние и тенденции развития информационного обеспечения можно оценивать через его финансирование, в частности через затраты университетов на приобретение научной информации (Razumova & Kuznetsov, 2018).

В Узбекистане, где в настоящее время интенсивно проводятся реформы в системе высшего образования и в научных учреждениях Академии наук, вопросы доступа к мировым научным источникам особенно актуальны. Республика взяла курс на инновационное развитие и обеспечение этих учреждений необходимыми информационными ресурсами является жизненно важным для успешной реализации реформ (Avezova, 2016). В мире заметна тенденция существенного повышения в вузах доли затрат на электронные ресурсы. Важно отметить, что абсолютные значения бюджетов на комплектование электронными ресурсами в вузах республики довольно низкие, если сравнить их с мировыми показателями. Например, в 2016 г. для ведущих университетов России это значение было равно примерно 330 тыс. долл., в то время как крупные американские и европейские университеты тратят на комплектование 8–12 млн долл. (Lawson, Meghreblian, & Brook, 2016). С 2006 по 2016 гг. объем подписки в мире в среднем вырос с 32 до 61%. Но, к сожалению, в Узбекистане этот показатель не превышает пока 10-15%. Необходимо проведение исследований по

анализу спроса на электронные информационные ресурсы зарубежных издательств для определения наиболее востребованных источников для каждого вуза, сформировать консорциумы библиотек вузов по их тематикам, разработать рациональную стратегию планирования расхода финансовых средств на подписки, организации тренингов и презентаций по тем или иным источникам информации.

Цель и методы исследования.
Aim and methods of the research

Цель исследования – выявление потребности высших учебных заведений Республики Узбекистан в электронных научно-образовательных ресурсах ведущих издательств мира, для эффективного планирования на них подписки и активизации их использования в научных исследованиях и образовательном процессе. Кроме того, анализ проблем, с которыми сталкиваются исследователи при написании научных статей и диссертаций с точки зрения информационного обеспечения в вузах республики, также является предметом исследований.

В представленном ниже материале использованы результаты опроса в рамках ежегодного Международного форума «Доступ к научной информации и публикационная активность» в Ташкенте и материалы научно-практической конференции **«**Вопросы организации общего доступа и эффективного использования мировых научно-образовательных ресурсов в науке и образовании», проведенные в 2019 году. Был разработан специальный опросник, который включает следующие вопросы: «С какими трудностями вы сталкиваетесь при написании диссертационной работы?», «С какими ведущими издателями электронной научно-образовательной информации и аналитическими системами вы знакомы? Пользовался. Пользуюсь.?», «Главные источники научно-образовательной информации для вашей научной и педагогической деятельности?», «Что необходимо по совершенствованию информационного обеспечения вузов?». Этот опросник был роздан всем участникам во время вышеуказанных мероприятий. Опрошено 1195 респондентов из 63 университетов Узбекистана из числа докторантов, соискателей ученых степеней, преподавателей и научных сотрудников. Но не все респонденты ответили на поставленные вопросы полностью, а только на те, на которые они посчитали наиболее важными для них. Поэтому в ответах по каждому вопросу было дано разное количество ответов.

В изучении проблемы использован метод статистического наблюдения, являющийся одним из методов статистического анализа

(Gromyko, 2005; Tuktarova,2010). Хотя мы использовали единовременное наблюдение, но, в перспективе, такой опрос будет производится регулярно (периодическое наблюдение) для исследования динамики. По результатам опроса определены наиболее часто используемые источники информации для научных исследований, проблемы, с которыми сталкиваются исследователи при написании научных статей и диссертаций, какие информационные ресурсы они чаще используют.

Хотя анализ мировых информационных ресурсов для вузов и научных центров республики проводились и ранее (Rakhmatullaev, 2017), но исследования по разным факторам в республике проведены впервые. Результаты опроса необходимы, чтобы получить наглядную картину состояния информационного обеспечения вузов, по организации и проведению тематических тренингов для докторантов, преподавателей, исследователей. Кроме того, такие исследования помогают разработать рекомендации по улучшению комплектования фондов академических библиотек, подготовить рекомендации по подписке на электронные издания по профилю вуза.

Результаты исследований
Results of research

В большинстве случаев в республике финансирование подписки осуществляется централизовано: через Министерство высшего и среднего и специального образования (МВССО) республики или через Национальную библиотеку Узбекистана. Например, с 2002 по 2018 годы Национальная библиотека Узбекистана полностью покрывала расходы на подписку на базы данных EBSCO Information Services для 83 библиотек, включая 60 вузов. В 2018 году она подписалась на ресурсы ProQuest и 14 государственных вузов республики имели доступ на ценные базы данных диссертаций. С 2019 меняется политика подписки и главная библиотека республики будет поддерживать, главным образом, публичные библиотеки, которые находятся в ее подчинении. МВССО, получив кредит Всемирного банка в 2017 году для поддержки подведомственных вузов, предоставила им возможность пользоваться электронными ресурсами компании Elsevier, включая доступ к аналитической системе Scopus в течение трех лет. Это связано, главным образом, с тем, что одним из важных показателей рейтингов вузов в республике является количество публикаций в журналах из списка Scopus.

Вообще, централизованная подписка в республике – это наиболее распространённый способ оказания информационной поддержки для вузов и институтов Академии наук. Комитет по координации развития науки и

технологий при Кабинете Министров (ныне Министерство инновационного развития РУ) поддержал национальную подписку на аналитическую базу данных Web of Science в 2016 г. Академия наук планирует возобновить подписку на эту аналитическую систему для научных центров своего ведомства.

На вопрос «С какими трудностями вы сталкиваетесь при написании диссертационной работы?» ответили 251 респондента (Табл. 1). Недостаточный уровень информационного обеспечения вузов и научных центров, связанный со слабой подпиской на зарубежные научные журналы для проведения обзора научных исследований, остается наиболее острой проблемой – 30% опрошенных. Т.к. главное требование ВАК республики – это публикация в научных журналах из списка Scopus, то респонденты (29% опрошенных) отмечают, что второй по значимости проблемой является именно публикация научных статей в престижных изданиях. В разделе «Другое» (27%) респонденты отметили на разные другие причины: недостаток навыков в навигации в источниках электронных научных ресурсов, финансовые проблемы для участия в международных конференциях и т.д. В настоящее время с 2018 года и в столице и во всех областных публичных библиотеках или вузах имеется доступ к баз данных диссертаций ProQuest. Поэтому фактор отсутствия доступа к базе данных научных диссертаций не самая острая проблема (14% опрошенных).

Таблица 1. ***Результаты опроса по критерию «С какими трудностями вы сталкиваетесь при написании диссертационной работы?»***
Table 1 ***Survey results based on the criterion "What difficulties do you encounter when writing the dissertation?"***

Вопрос по критерию	Респонденты	%
1. Слабый уровень информационного обеспечения для проведения обзора зарубежных научных исследований	102	30%
2. В моей организации нет подписки на базы данных научных диссертаций	48	14%
3. Публикация научных работ в зарубежных научных журналах из списка ВАК	101	29%
4. Другое:	93	27%

На вопрос «С какими ведущими издателями электронной научно-образовательной информации и аналитическими системами вы знакомы? Пользовался. Пользуюсь.? ответили 877 респондента (Табл. 2). Т.к. с 2018 года в республике имеется национальная подписка на базы данных Elsevier, то большинство опрошенных знакомы и используют ресурсы этого издательства (29%). Остальные издатели и агрегаторы электронной научно-образовательной информации используются меньше.

На вопрос «Главные источники научно-образовательной информации для вашей научной и педагогической деятельности?» ответили 714 респондента (Табл.3). Исследования показывают, что главными источниками информации для научной и педагогической деятельности в вузах является открытые источники Интернет (39%). Причем речь идет не о специализированных веб сайтах открытой научной информации, как www.doaj.org, www.doar.org и др. Это в основанном не рецензируемые источники Google. Очень часто преподаватели и исследователи прибегают к помощи таких ресурсов для подготовке к лекциям, при написании научных статей и диссертационных работ. К сожалению, эта практика распространена и среди студентов. На втором месте стоит использование библиотек самих вузов, где работают исследователи (22%). Это не плохой показатель, хотя не редко докторанты, при написании своих научных работ, используют не совсем актуальные, «не свежие» источники.

Таблица 2. ***Результаты опроса по критерию «С какими ведущими издателями электронной научно-образовательной информации и аналитическими системами вы знакомы? Пользовался. Пользуюсь.?»***
Table 2 ***Survey results based on the criterion "Which leading publishers of electronic scientific and educational information and analytical systems do you know? Used it. I use it.?"***

Вопрос по критерию	Респонденты	%
1. Springer Nature	93	10%
2. EBSCO information services	56	6%
3. E-Library	107	12%
4. ProQuest	61	7%
5. Clarivate Analytics (Web of Science)	121	13%
6. Elsevier (Scopus)	263	29%
7. Использую только открытые ресурсы Интернет	176	20%
8. Другое:	25	3%

Таблица 3. ***Результаты опроса по критерию «Главные источники научно-образовательной информации для вашей научной и педагогической деятельности?»***
Table 3 ***Survey results based on the criterion "What are the main sources of scientific and educational information for your scientific and pedagogical activity?"***

Вопрос по критерию	Респонденты	%
1. Библиотека учреждения, где я работаю	204	22
2. Другие библиотеки (Национальная и др.)	149	16
3. Открытые ресурсы Интернет (Google и др.)	361	39
4. Ведущие издатели научно-образовательной информации (Springer, EBSCO и др.)	132	14

Среди респондентов (16%), большинство которых проживает в столице, наиболее популярным местом для получения нужной актуальной информации является Национальная библиотека Узбекистана. Национальная библиотека действительно обладает большими, по сравнению с другими библиотеками, возможностями по подписке на зарубежные научные журналы и обладает богатым фондом. Кроме того, в эту категорию входят и исследователи, которые широко используют Республиканскую научную медицинскую библиотеку и областные публичные библиотеки (Информационно-библиотечные центры). Информационные ресурсы (электронные научные журналы и книги) ведущих издательств (таких, как Springer, EBSCO Information Services и др.), на которые подписаны некоторые вузы республики, являются главными источниками для 14% исследователей.

Было полезно узнать предложения пользователей – 898 ответов по повышению эффективности информационного обеспечения вузов (Табл. 4), что имеет важное значение при подготовке рекомендаций.

Таблица 4. ***Результаты опроса по критерию «Что необходимо по совершенствованию информационного обеспечения вузов?»***
Table 4 ***Survey results based on the criterion "What is needed to improve the system of information support for universities?"***

Вопрос по критерию	Респонденты	%
Создание единого электронного реферативного журнала	147	22%
Подписка на электронные базы данных	224	33%
Создание оригинальных научных электронных журналов	183	27%
Увеличение тиража имеющихся (печатных) научных журналов	71	10%
Увеличение количества наименований научных журналов	153	22%
Создание электронных версий отечественных печатных научных журналов	120	18%
другое:	11	2%

Многие респонденты (33%) указали на необходимость расширения подписки на электронные базы данных, главным образом ведущих издательств мира. 18% - за создание электронных версий отечественных печатных научных журналов, а также 27% опрошенных указали на необходимость новых электронных научных изданий по разным направлениям научной деятельности для повышения оперативности доступа к информационным ресурсам. Это связано с тем, что в республике ощущается нехватка академических изданий, отвечающим международным требованиям. Они считают, что это позволило бы повысить оперативность доступа к ресурсам. Реферативный научный

журнал по различным отраслям наук также имеет важное значение для научных исследований (22%).

Выводы по исследованию
Conclusions

Проведенный анализ потребности в информационном обеспечении вузов, а также проблем, с которыми сталкиваются докторанты, преподаватели и исследователи вузов при написании диссертационной работы является важным аспектом в деле повышения эффективности научных исследований и образовательного процесса. Они отражают не только показатели, касающиеся содержания электронных научных ресурсов, необходимых для вузов, но и факторы, которые препятствуют для их нахождения и использования, а также для написания научных работ.

Полученные статистические данные показали с какими трудностями сталкиваются опрашиваемые при написании диссертационной работы и как это связано с информационным обеспечением научных исследований в вузах Узбекистана. Тревожным фактором является то, что главным источником в учебном процессе и проведении аналитического обзора работ для многих репондентов остаются открытые ресурсы Интернет (39%). Слабый уровень доступа к ресурсам ведущих издательств мира напрямую связан с низким уровнем публикационной активности (29%). Соответственно эти показатели могут служить для принятия решений на уровне министерств. Ректората и директоров библиотек по более эффективному планированию информационного обеспечения в вузах страны.

Результаты отчета статистическим исследованиям востребованы в Министерстве высшего среднего и специального образования и в других министерствах и ведомствах для принятия решений по централизованной подписке, а также эффективному планированию доступа к зарубежным базам данных для подведомственных вузов и научных центров. Директора библиотек на основе полученных отчетов готовят планы подписки, списки баз данных тех или иных источников. Руководители вузов и библиотек организуют семинары и тренинги для докторантов, соискателей учёных степеней, преподавателей, которые нуждаются в дополнительных знаниях по навигации в электронных источниках. Опрос планируется проводить ежегодно. Это позволяет выявлять наиболее востребованные темы и ресурсы ведущих зарубежных издательств для исследователей республики, рационально использовать финансовые ресурсы, выделяемые для подписки на дорогостоящие базы данных ведущих издательств мира.

Summary

Currently, without the effective information support of scientific research and the educational process, the innovative development of higher education isn't possible. But the databases of leading publishers such as Springer Nature, Wiley, Elsevier, Oxford University Press and others are very expensive for universities in developing countries and countries with economies in transition. It is necessary to conduct researches to analyze the demand for digital information resources of publishers to determine the most popular sources for each university. The purpose of the research is to identify the needs of Uzbekistan universities in electronic scientific and educational resources of the world's leading publishers, for effective planning of their subscription and activation of their use in scientific research and the educational process.

The article is devoted to the results of research on the demand for electronic scientific and educational resources in 63 universities of the republic. Interviewed more than 1200 respondents from among doctoral students, applicants for academic degrees, teachers and researchers. Based on the results of the survey, the most frequently used sources of information for scientific research, problems they face when writing scientific articles, and information resources they often use are identified. Such researches were conducted in the republic for the first time. The results of the survey made it possible to get a clear picture of the state of information support of universities, to develop recommendations to improve of acquisition funds of academic libraries, on organizing and conducting thematic trainings for doctoral students, teachers, and researchers.

The results of the report are in demand at the Ministry of Higher Education and other ministries and departments for making decisions on centralized subscription to foreign databases for subordinate universities and research centers. The library directors, on the basis of the reports received, prepare plans for subscription, including lists of databases of various sources. Heads of universities and libraries organize seminars and trainings for doctoral students, applicants for academic degrees, and teachers who need additional knowledge on navigation in electronic sources.

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DATA GENERATION FOR THE ACQUISITION OF THE UNIVERSITY COURSES OF INFORMATICS AND STATISTICS IN THE HEALTH CARE SPECIALITIES

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Abstract. *The authors of the present article are investigating the influence of the data generation in the university courses of informatics and statistics (UCIS) on the acquisition of both the UCIS and other study courses in the health care specialities. First of all, the authors inquired students in order to find out their attitude to the UCIS. The inquiry results show evidence that an important role in the acquisition of UCIS has the work/study material – data. The UCIS work/study material can be associated with various branches, including health care. The data of the health care patients are of a special status. Their use is strictly regulated/limited.by legislation. The authors of the present article offer an acceptable solution – data associated with the health care patients are generated from the parameters of statistics of scientific publications. Investigations were performed in the Red Cross Medical College of Rīga Stradiņš University (RCMC of RSU). It was found out that the data generation resulted in higher marks both in UCIS and many other study courses. In this article, the authors present proposals how to generate data comparatively easy, apply traditional MS Excel generation tools as well as tools of Goal Seek and Solver.*
Keywords: *data generation, health care, study courses, university informatics and statistics courses.*

Introduction

The authors' investigations show that the student attitude to UCIS is neither expressed positive nor expressed negative – it is rather neutral. The authors are sure that the student attitude becomes more positive if the UCIS work/study material – data – is associated with the field of health care; whereas investigations of other scientists show evidence that the marks in UCIS has an important influence on the marks in other study courses. All that indicates the importance of data generation.

Research questions:

What is the UCIS achievement of the set results?

What is the comprehensibility of the UCIS study content?

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What is the student's contribution to the UCIS acquisition?

What is the influence of data generation on the assessments in other study courses?

What is the influence of the UCIS assessments on the marks in other study courses?

Material and methods

In order to find out the students attitude to UCIS, the authors asked them 31 questions during the period of time from 2012 to 2019. Twenty-one students were from the RCMC of RSU, 10 students from the Riga Technical University. There is specialty "Medical physics and engineering" in the Riga Technical University. The graduates of this specialty will work with medical technology.

Research questions:

What is the UCIS achievement of the set results in the 5-point scale? (Self-evaluation)

What is the comprehensibility of the UCIS study content in the 5-point scale? (Self-evaluation)

What is the student's contribution to the UCIS acquisition in the 5-point scale? (Self-evaluation)

Regarding the data generation and the influence of UCIS on the knowledge evaluation of other courses, the authors surveyed the RCMC of RSU graduates database with the knowledge evaluation of 366 graduates of treatment and 427 graduates of nursing speciality study courses.

Results

A median table was obtained after inquiring 31 students (Table 1). The obtained results show that it is necessary to improve comprehension of the study content and to achieve a more substantial student contribution to the course acquisition.

Table 1 ***Medians of variables***

Variable	Summary	Health care (n=21)	Medical technology (n=10)
Achieving the results set by UCIS	4	4	4
UCIS comprehensibility	3	3.5	3
Student contribution to UCIS acquisition	3	3	3

n- number

The following results were obtained after processing the database of the RCMC of RSU graduates. The treatment and nursing specialities have many different study courses that is why the calculation of correlation was done for each speciality separately depending on the number of generated data sets in the course. In the first column (Table 2), the Spearmen correlation coefficient r is given, in the second column there is the Spearmen coefficient p value, and in the third column the number of pairs involved in the Spearman correlation n. Statistically significant and positive correlations are printed in bold because the authors were interested in which study courses the evaluation increased by increasing the number of generated data sets. For example, by increasing the number of generated data sets in the treatment speciality, the evaluation of knowledge increases in the humanities (r=0.199, p<0.001, n=346). In total, there are many study courses, therefore only some of the correlation results are shown.

Table 2 ***Spearmen correlation coefficient between the numbers of generated data sets in the treatment speciality***

Variables	r	p	N
Humanities	**.199**	**<.001**	**346**
Medical terminology, English	.064	.266	302
Latin in medicine	**.388**	**<.001**	**194**
Sociology	.044	.421	336
Pedagogy	**-.110**	**.044**	**337**
Psychology	**.211**	**<.001**	**330**
Information technologies, statistics	-.007	.899	336
Anatomy, cytology and genetics	.001	.981	358

r - Spearmen correlation coefficient
p – p value of Spearmen correlation coefficient
n- number

For example, by increasing the number of generated data sets in the nursing speciality, the evaluation of knowledge increases in philosophy of care taking (r=0.363, p<0.001, n=422). In total, there are many study courses, therefore only some of the correlation results are shown (Table 3).

The level of comprehension correlates with the level of contribution (Spearmen correlation coefficient r=0.568, p=0.001, n=31). By increasing the level of comprehension, the student would be more interested in working, and the contribution level would also increase. A comparatively lower level of comprehension of students of medical technology speciality can be explained by the fact that programming is included in the course for all students. Programming for students of health care is actual only then if the student qualifies for a higher mark than 8.

Table 3 ***Spearmen correlation coefficient between the numbers of generated data sets in the nursing speciality***

Variables	r	p	N
Philosophy of care taking	.363	<.001	422
Natural sciences	-.145	.003	420
Psychology and sociology	.202	<.001	416
Entrepreneurship	.162	.010	255
Information technologies and statistics	.165	.001	409
Clinical procedures in practice of medical nurses, radiology	.144	.003	417
Medical terminology, English	.181	<.001	366
Latin in medicine	.214	<.001	415

r - Spearmen correlation coefficient
p – p value of Spearmen correlation coefficient
n- number

The data of the health care patients are of a special status. Their use is strictly regulated/limited.by legislation. The authors of the present article offer an acceptable solution – data associated with the health care patients are generated from the parameters of statistics of scientific publications (Aviñó, Ruffini, & Gavaldà, 2018; Hartmane, Mikazans, Ivdra, & Derveniece, 2018; Janssen & Dundurs, 2018; Kalnina, Selga, Sauka, & Larins, 2018; Mickevica, Margaliks, & Mamaja, 2018). In order to increase the comprehension level, the authors recommend to generate the data. Generated data can be used in the study process for both health care and medical technology students. For generating the data you can use the traditional MS Excel tool Data/Data Analysis/Random Number Generation. The most popular data distributions acquired in the statistics course are Discrete and Normal (Nelson & Nelson, 2014).

First of all, let us generate the discrete random variable data according to the article (Heidemann et al., 2019). In the article, 74% of respondents are men, and 26% are women. We will generate data for 3,000 imaginary patients. Allocate the MS Excel A column for generating the data. Design the MS Excel sheet (Figure 1).

	A	B	C	D
1	Data	Gender	Labels	Percent
2		Male	0	0.74
3		Female	1	0.26
4				=SUM(D2:D3)

Figure 1 ***MS Excel sheet design for generating the discrete random variable***

Fill in the Data/Data Analysis/Random Number Generation window (Figure 2).

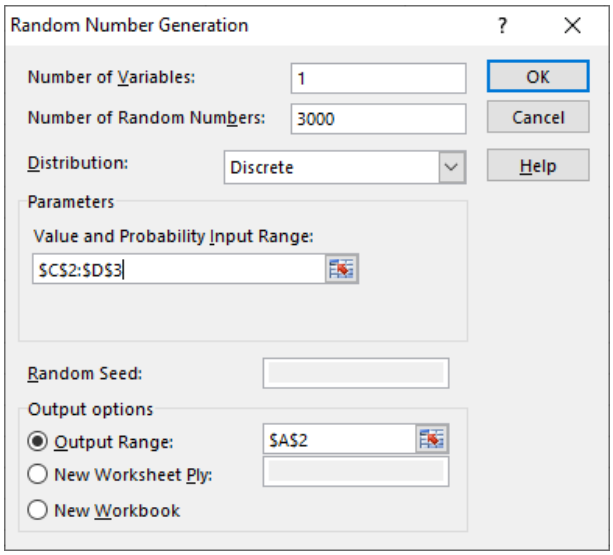

Figure 2 ***Filling in the Data/Data Analysis/Random Number Generation window for generating the discrete random variable***

In the column A, 0 and 1 values are generated, in total 3,000.

Let us look at normally distributed data generation according to the article (Tanwi, Shashank, & Kishwar Hayat, 2013). Almost all LDL values are in the interval of [25; 200] mg/dL. By the 3 sigma rule, almost all normally distributed data values are in the mean interval of ± 3 std. deviations. So the desired mean of the generated data is (25+200)/2=112.5 and std. deviation is (200-25)/6=29.2. Fill in the Data/Data Analysis/Random Number Generation window (Figure 3).

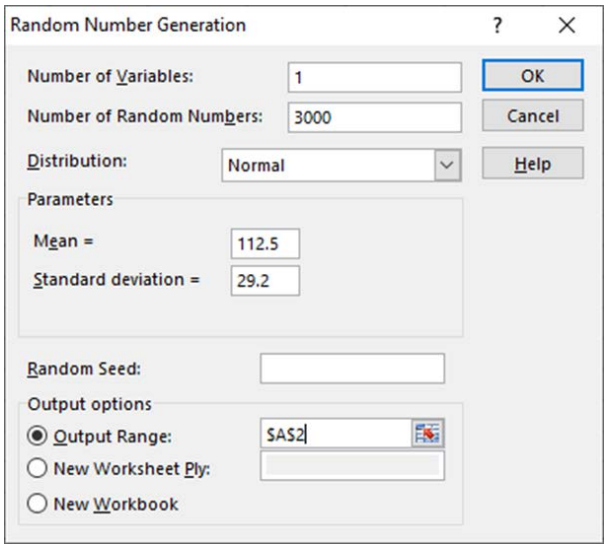

Figure 3 ***Filling in the Data/Data Analysis/Random Number Generation window for normal distributed variable generation***

In the column A, totally 3,000 values are generated. It is recommended to round up the data values for further use with the function =ROUND(A2;0) (if to integer number). In order to avoid false – negative values, a minimum value must be calculated for the generated data =MIN(A2:A3001). If the minimum is negative, then the minimum values should be replaced by positive numbers. For further analysis, copy data as values – Paste Special/Values.

Data can also be generated by using the MS Excel tools Goal Seek and Solver. The Goal Seek tool is used to find x value for the one-argument equation f(x)=y, if x is known. The Solver tool has many uses. It can solve systems of equations and inequalities, and optimize functions. In the simplest case, you can also solve the same tasks as Goal Seek.

Let us solve the equation 2x+6=0 with Goal Seek and Solver. First, fill in the MS Excel sheet (Figure 4). In the cell B1, enter a random start value for x, for example 4 (Saleh & Latif, 2008; Guerrero, 2010; Chandrakantha, 2014; Wray, 2015; Ezeokwelume, 2016; 15.053. Excel Solver [15053ES]; Excel Goal Seek Function [EGSF]; An Introduction to Spreadsheet Optimization Using Excel Solver [ISOUES]).

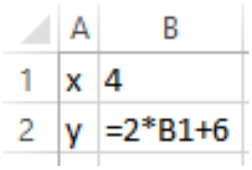

Figure 4 ***Design of the MS Excel sheet for solving the equation 2x+6=0***

After that, fill in the Goal Seek window. Data/What-If Analysis/Goal Seek (Figure 5). In the cell B1, the solution -3 is recorded (Guerrero, 2010; EGSF).

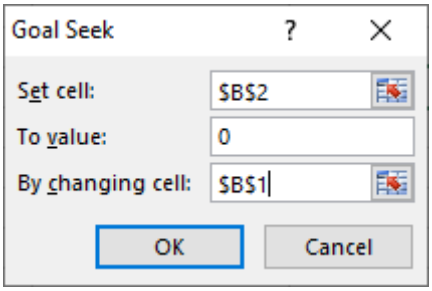

Figure 5 ***Filling in the Data/What-If Analysis/Goal Seek window for solving the equation 2x+6=0***

The Solver tool sheet is designed in the same way as Goal Seek (Figure 5). Then, fill in the Solver window. Data/Solver (Figure 6). If a negative solution to the problem is possible, then the option “Make Unconstrained Variables Non-

Negative" should be turned off. To solve linear problems, select "Simplex LP" from Select a Solving Method list. In the cell B1, the solution -3 is recorded (Saleh & Latif, 2008; Guerrero, 2010; Chandrakantha, 2014; Wray, 2015; Ezeokwelume, 2016; 15053ES; ISOUES).

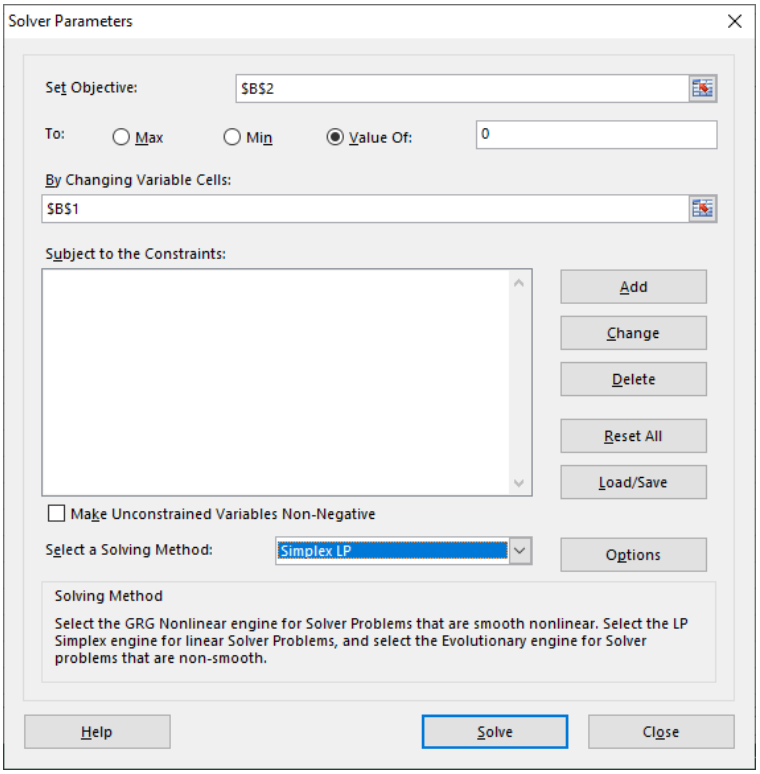

Figure 6 ***Filling in the Data/Solver window for solving the equation 2x+6=0***

Now, use Goal Seek to generate the data. Let us generate 3,000 LDL data, starting with a value of 25 and ending with a value of 200. Let us suppose the data change linearly with a step x. The task is to find the step x. Design the MS Excel sheet (Figure 7). In the column A, the row of formulas continues to the cell A3001. In the cell B, like before, enter a random start value for x, for example 4 (Guerrero, 2010; EGSF).

	A	B	C
1	Data	x	4
2	25	y	=MAX(A2:A3001)
3	=A2+C1		

Figure 7 ***Designing the MS Excel sheet for generating data with Goal Seek***

Fill in the Goal Seek window (Figure 8). The step is calculated approximately 0.06. Similar to generating normally distributed data, column A should be rounded to the desired number of characters (Guerrero, 2010; EGSF).

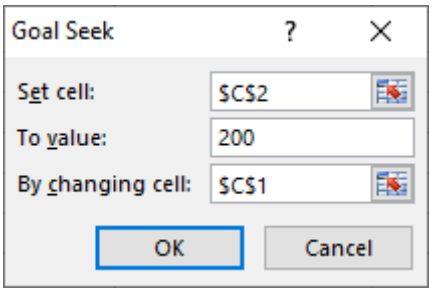

Figure 8 ***Filling in the Data/What-If Analysis/Goal Seek window for data generation***

Design the Solver tool sheet in the same way as for Goal Seek (Figure 7). After that, fill in the Solver window Data/Solver (Figure 9) (Saleh & Latif, 2008; Guerrero, 2010; Chandrakantha, 2014; Wray, 2015; Ezeokwelume, 2016; 15053ES; ISOUES).

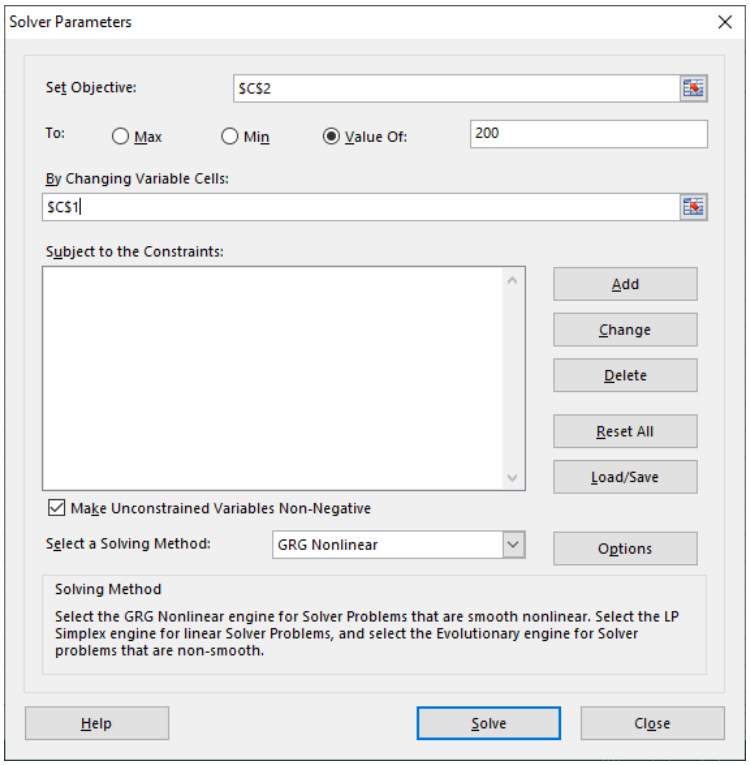

Figure 9 ***Filling in the Data/Solver window for data generation***

The authors of the present article have discussed the simplest solutions of data generation. These solutions are possible to make more complex in various ways, for example:

- Introduce a set cell and minimize it so that the parameters of statistics do not differ much from the desired ones.
- For the non-linear data sequences, introduce the non-linear functions in data generation.

Conclusions

The authors' research has proved that:

- the data generation improves the evaluation of other study courses;
- the data generation improves the UCIS evaluation.

Generating larger amounts of data improves students' attitude towards UCIS, which in turn contributes to the achievement of the set goals. A larger number of generated data sets allow the student to practise more and understand the study content.

The data generating is necessary to make the UCIS more interesting and understandable, and also to improve the students' knowledge evaluation in other study courses.

In the nursing speciality, the number of generated data sets has a more positive influence on the evaluations of courses than those of the treatment speciality. The authors could not find explanation other than the fact that there were more data on the nursing graduates.

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THE SOLUTION FOR STUDY PROGRAMME LEARNING OUTCOME ALIGNMENT WITH STUDY COURSE LEARNING OUTCOME

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Abstract. *The research question of this paper is - How can we better help professors with developing course descriptions and how we can help study program directors to reach study program aims through learning outcomes? This issue is very common for all Latvian higher education institutions as well as other higher education institutions outside of Latvia. It became clear after reading the new changes of the Law of Higher Education of the Republic of Latvia that two major changes had to be made first in course descriptions: updating the course descriptions to the new requirements and creating a mapping of the study programs. The decision was made to start work on a Course Management System. The goal purpose was to create a Course Management System that will help professors with developing course descriptions and will help study program directors to reach study program aims through learning outcomes. At first together with students the authors did a detailed analysis of the system and then developed it. Now the system is ready for implementation. Thanks to the developed system at Ventspils University of Applied Sciences has solved several important issues related to the course descriptions.*
For study programme learning outcome alignment with study course learning outcome will be used matrix method. CMS is web application what is developed using HTML, CSS, Javascript, and CSS frame Bootstrapare, PHP framework Laravel and MySQL.
Keywords: *learning outcome, matrix method, study course management system, study programme development.*

Introduction

This issue is very common for all Latvian higher education institutions as well as other higher education institutions outside of Latvia. For every institution of higher education not only in Latvia but also in other countries in the world the accreditation process is important. Accreditation is a type of quality assurance process with what programs are evaluated and verified by an external body to determine if the appropriate standards are met. Every higher education institution strives to show good results in obtaining a positive accreditation. In 2018 the Ministries of Education proposed new changes to the Law on Higher Education

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Institutions regarding accreditation of study fields (Latvijas Vēstnesis, 1995). One of the most important issues is the study program and study course learning outcomes - how study program learning outcomes are achieved through the study course learning outcomes. It became clear after reading the regulations that two major changes had to be made first: updating the course descriptions to the new requirements and creating a mapping of the study programs. If the course descriptions are not described then it is not possible to create a study program mapping. The professors filled the course description very slowly. After a year less than half of the course descriptions were designed in the new format. Other conclusion was that there was not only one place where all course descriptions are kept but many and course descriptions are formatted differently. To overcome these shortcomings, the decision was made to start work on a Course Management System (CMS). At first together with students was performed a detailed analysis of the system and then developed it using Agile Scrum methodology. Now the system is ready for implementation. Function of importing existing course description files was built into the system so that the work of the professors who had already developed the course descriptions was no for nothing. Thanks to the developed system at Ventspils University of Applied Sciences (VuAS) has solved several important issues related to the course descriptions and they are:

- Study program mapping is provided automatically.
- Study course descriptions are kept in one place.
- Users can access up-to-date study course descriptions.
- It is possible to retrieve study course descriptions at any time, for example to submit accreditations.
- You can retrieve information on the literature required for studying at the library.
- Students (both current and prospective) can obtain study course catalogs.

Since one of authors have been working as a study program accreditation expert for over 4 years, authors can conclude that the problem of study course descriptions and mapping of study program learning outcomes is very common for all Latvian higher education institutions. In the research authors have come up with a solution that can make work easier for higher education institutions and ensure higher quality of study.

The purpose of research is to create Course Management System that will help professors with developing course descriptions and will helps study program directors to reach study program aims through learning outcomes.

Literature review

In every higher education institution quality assurance is a matter of concern. Since 2005 according to the Bologna process significant progress has been made in quality assurance – qualifications' framework, recognition and the promotion of the use of learning outcomes. All these factors contributed to a paradigm shift towards student-centered learning and teaching (BFUG Working Group on Qualifications Frameworks, 2007; European Students' Union, European University Association, European Association of Institutions in Higher Education, & European Association for Quality Assurance in Higher Education, 2015). Study programmes and their components have to be designed in terms of learning outcomes: what students need to know, understand and be able to do by the end of the learning process (European Students' Union et al., 2015). The achievement of learning outcome has to be assessed through procedures based on clear and transparent criteria (European Higher Education Area, Bologna process, European Comission, 2015; European Union & Education Audiovisual and Culture Executive Agency, 2018). Learning outcome (Damiani, 2019):

- implement a learner – centered approach in designing and delivering study programmes;
- make study programmes fully transparent;
- ensure the recognition of the learning achievements of mobile students.

The Law of Higher Education of the Republic of Latvia defines the learning outcome as "a set of knowledge, skills and competence to be acquired at the end of the study programme, study module or study course" (Latvijas Vēstnesis, 1995). The learning outcome is determined for study programs and study courses. Different methods may be used to demonstrate how the learning outcome of the study programme correlates with learning outcome of the study course. One of the most basic methods to reflect the relationship between study results is the matrix method. Many institutions use the matrix method for mapping the learning outcome of the study programme with those of its educational components (European Higher Education Area et al., 2015).

According to Latvian legislation higher education institutions in Latvia are required to use the matrix method (Figure 1) for study program mapping.

		SP LO 1	SP LO 2	SP LO 3	SP LO 4	SP LO 5	SP LO 6	SP LO 7	SP LO 8	SP LO 9
Study course A	Study course A LO 1	X								X
	Study course A LO 2	X							X	
	Study course A LO 3		X							
	Study course A LO 4					X		X	X	
	Study course A LO 5				X		X			
Study course B	Study course B LO 1		X							
	Study course B LO 2	X								
	Study course B LO 3				X					
	Study course B LO 4					X	X			
	Study course B LO 5							X	X	
Study course N	Study course N LO M				X					

Abbreviations:
LO – learning outcome
SP – study programme

Figure 1 ***Relationship of study programme learning outcome with study course learning outcome***

It is very important to mention that the study course learning outcome can be defined in two ways:

- absolute (direct) relevance - in this way the learning outcome in the study programme is achieved through the study course learning outcome. The learning outcome is added/indicated from the list of learning outcomes to be achieved by the study programme (the user chooses the learning outcome from the list) (Figure 2).
- custom (related) relevance – which learning outcome in the study programme is achieved through the study course. In this case the learning outcome is added to the study course which is linked to one or more learning outcomes to be achieved by the study programme (Figure 3).

		Knowledge				Skills			Attitudes		
		KLO1	KLO2	KLO3	KLOn	SLO1	SKLO2	SLOn	ALO1	ALO2	ALOn
Sudy course A	LO A1	X									
	LO A2								X		
	LO A3		X								
	LO A4					X		X	X		
	LO AN				X		X				
Sudy course B	LO B1		X								
	LO B2										X
	LO B3				X						
	LO B4					X	X				
	LO BN								X		
Study course N	LO NM				X						

Figure 2 ***Absolute (direct) relevance***

	Knowledge				Skills			Attitudes		
	KLO1	KLO2	KLO3	KLOn	SLO1	SKLO2	SLOn	ALO1	ALO2	ALOn
SC 1	X		X			X	X			X
SC 2					X			X		
SC 3		X		X					X	
SC 4	X	X				X				X
SC 5	X		X			X		X	X	X
SC 6				X	X	X				
SC 7	X	X					X	X	X	
SC 8		X	X	X	X					
SC 9				X	X	X	X			
SC 10		X	X					X	X	
SC N				X	X	X		X	X	

Figure 3 ***Custom (related) relevance***

Methodology

To implement the content of the study program in accordance with its aim, the study program and course descriptions must describe the learning outcomes of the study program. The learning outcomes of each study course must be related to the learning outcomes of the study program. Learning outcomes of each study program can be achieved through several study course learning outcomes. In order to clearly and qualitatively describe the learning outcomes both for the study programme and for study courses, followed by the design of the mapping of the learning outcome. It is necessary to develop information systems for study program's learning outcome alignment with study course learning outcome. Such a system has been developed in Ventspils University of Applied Sciences.

The information system has been developed and implementation steps will be launched in 2020 (Figure 4). First we need to enter the basic data (information about faculty, study directions, study programs) into the system and then we have to start importing and editing data from prepared study course descriptions as well as entering new data of study courses. When data entry in the system is completed the mapping of learning outcomes will be generated and different course catalogues will be created. The expected result is that such information systems will under strict and uniform conditions store course descriptions and facilitate the development of learning outcome mapping and allow to create and publish course catalogues for different user groups. As a result Ventspils University of Applied Sciences will improve quality assurance: the process will continue further towards learning – centered approach in designing and delivering study programmes and increasing higher transparency of study programmes.

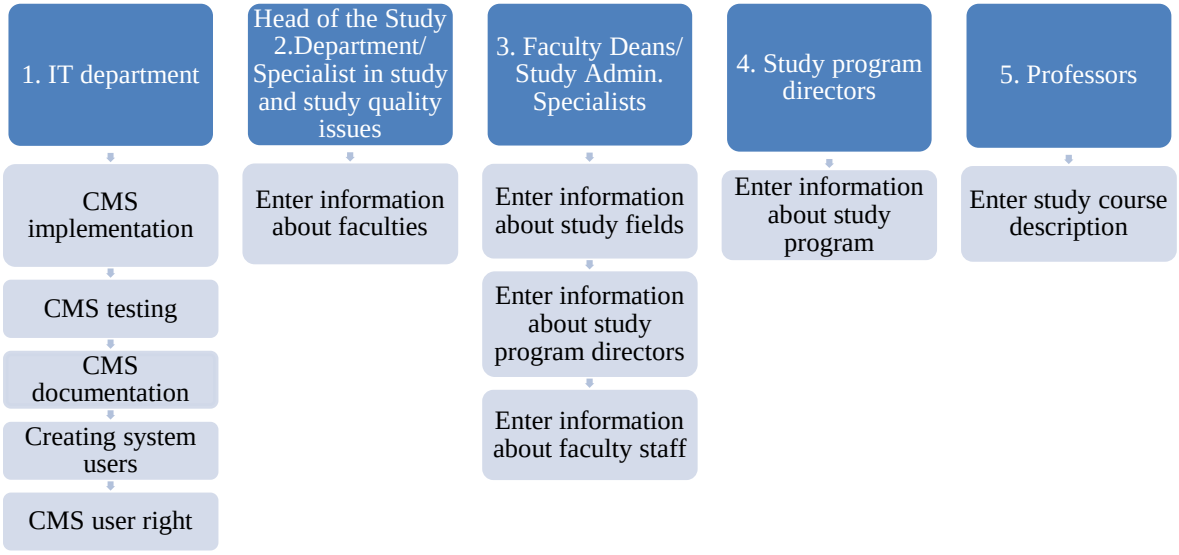

Figure 4 ***CMS implementation steps***

Research results

The Course Management System is already created. The authors have been working with students on this system development since 2017. The information system is developed as a web application. HTML, CSS, Javascript, and CSS frame Bootstrapare used for client-side solution. PHP framework Laravel is chosen for the development of the system and framework`s. MySQL was used for database creation. The database architecture consists of 25 interrelated entities. CMS is developed using Agile Srum methodology (Tytkowska, Werner, & Bach, 2015).

The main objective of the system is to ensure the storage and management of all study course descriptions. The definition of study course catalogues and the creation and presentation of an automatic study program and mapping of the study course learning outcome.

System functions: The system should ensure the addition, saving, editing, deleting, presentation and retrieving from database information about new faculty, study courses, study programmes, learning outcome derived achievable by study programmers. To make it easier to add new study courses users have the option to upload course description files. The system is reading the content of such files and filling the input fields needed to add a new course description. For each study programme the system will represent the mapping of study programme learning outcome. The system allows users to define (create new) study course catalogues by specifying their content and audience to view a list of course catalogues already stored in the system. You can also edit and delete catalogues. In Figure 5 is shown the main structure of CMS.

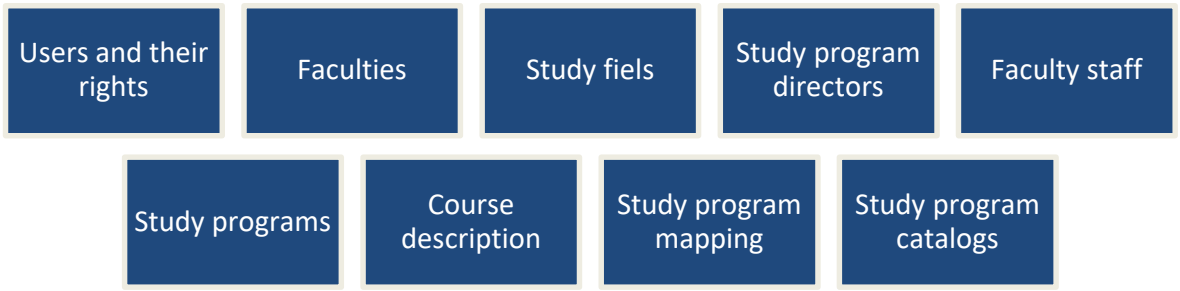

Figure 5 ***CMS main structure***

System users are divided into user groups according to their system usage permissions: Foreign Affairs Specialist, Potential students, Vice Rector for Studies, Students, Faculty Deans/Study Administration Specialists, Professors, Head of the Study Department/Specialist in study and study quality issues. In Figure 6 is shown all CMS users and their functions.

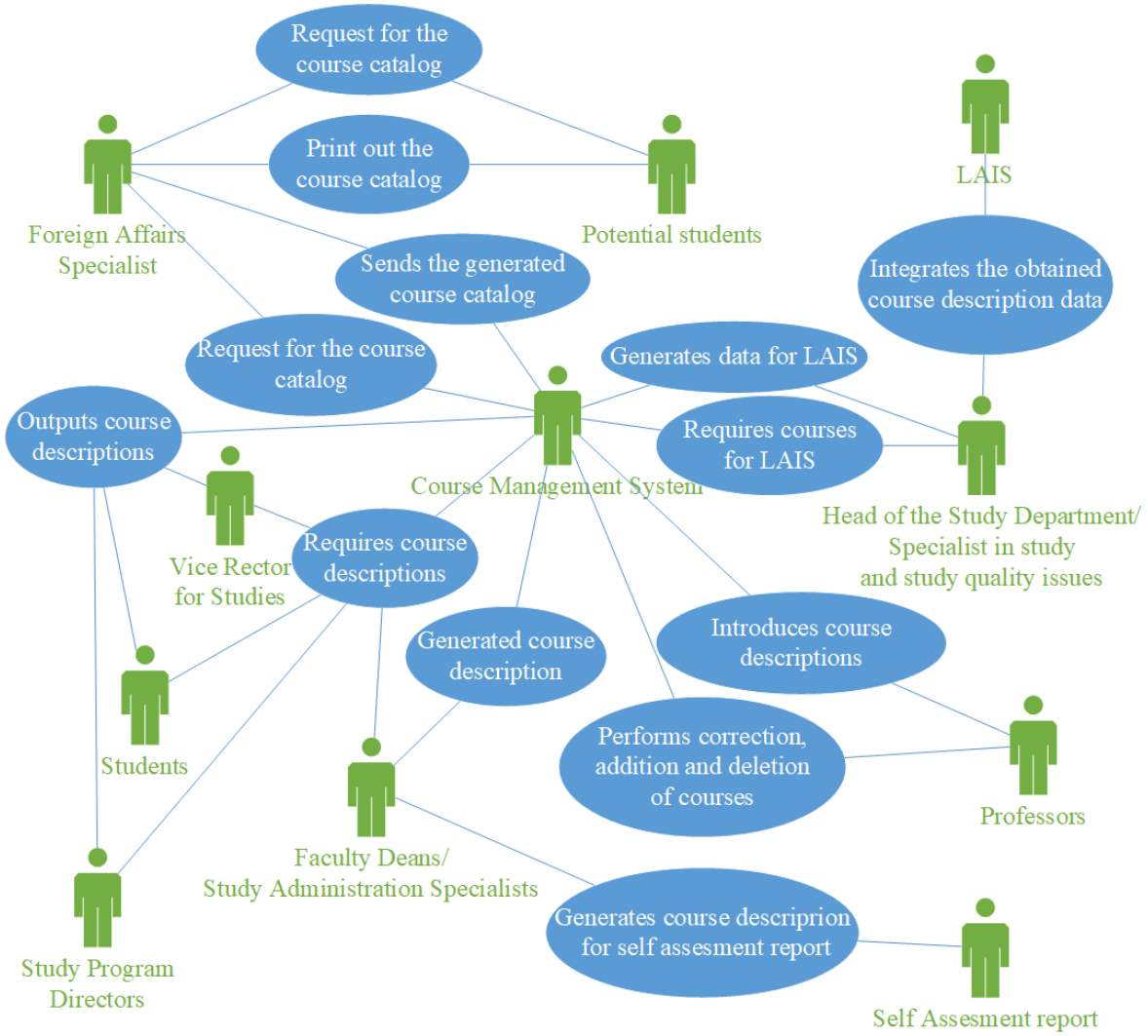

Figure 6 ***System users and their functions***

Conclusions

CMS will help professors with developing course descriptions and help study program directors to reach study program aims through learning outcomes. On the one hand, this is a practical study with a practical result. The most valuable features we would like to emphasize are: importing course description files, generating course descriptions for Latvian Higher Education Institution Information System (LAIS), study program learning outcome mapping based on full or partial relevance of the course learning outcomes, and assigning ranks to the course outcomes.

Another function that authors plan to integrate into the CMS to control changes to the curriculum is to determine the significance of the courses in the curriculum. The content of the study program is changing; it is influenced by such

conditions as changes in profession standards, labour market demand, etc. Changing the content of a study program is a natural process but it is very important to make it in accordance with the purpose of the study program. When making changes to the course descriptions one should not forget that through the study course learning outcomes the learning outcomes of the study program are achieved and thus the aim of the study program is achieved. Therefore it is very important to control that all study program outcomes are achieved. In order to control this, it is necessary to make a correlation between study courses and study program study results. As mentioned above it is most convenient to illustrate the relationship between the study program and the study courses in the form of a matrix, which is often done in practice. To determine the importance of each course in the study program, the authors suggest calculating the rankings for each study course link to the study program. Rank can be calculated by the local level of the node. To determine the rank of the elements of the local level, element input and output nodes have to be defined and after that the sum of input and output nodes is calculated by which the elements are ranked.

Acknowledgements

We would like to express our very great appreciation to students of bachelor study programme Computer Science of Ventspils University of Applied sciences for their valuable and constructive suggestions during the planning and development of CMS. We would also like to extend thanks to Mr. Endijs Mezitis for programming of CMS.

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ФОРМИРОВАНИЕ ИНФОРМАЦИОННОЙ КОМПЕТЕНТНОСТИ УЧАЩИХСЯ ПРИ ИЗУЧЕНИИ ФИЗИКИ СРЕДСТВАМИ КОМПЬЮТЕРНОГО МОДЕЛИРОВАНИЯ

Formation of Students' Information Competence when Studying Physics by Computer Simulation

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Abstract. *The article describes the expediency for students to acquire the skills to use software tools, the use of which gives the opportunity to form their information competence, to implement pedagogical methods of individualization and differentiation of their educational activities. The aim of the paper is to show the expediency and necessity of using the elements of computer simulation while learning Physics as a basis for the formation of information competence of the student. The main research methods were aimed at establishing the level of information competence of students using the elements of computer simulation in Physics lessons. The approach to the use of computer simulation elements in Physics lessons is considered, in particular, when studying the section "Atomic nucleus. Nuclear Energy" in the 9th form of general secondary education institutions.*

It has been found out that the study of Physics using the elements of computer simulation allows to increase the students' interest in learning physical phenomena and processes, the level of mastering knowledge through the use of visual means of educational materials, to stimulate the development of cognitive activity and creative thinking, which in general will promote the formation of the information competence level in students. Based on the experimental study, it was found that the process of forming the students' information competence using the elements of computer simulation has ensured the high achievements for the majority of students of the experimental class.

Keywords: *educational process, competence approach, competence, information competence, computer simulation, Physics training.*

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Введение
Introduction

Сегодня, в условиях значительных изменений во всех отраслях общественной жизни, возникла проблема радикальной перестройки и в образовании. Цель её - сформировать творческую, инновационную личность, способную к самореализации, самосовершенствованию и адаптации в обществе. Поэтому обучение в учреждениях общего среднего образования (УОСО) должно обеспечивать такие критерии: оптимальные предпосылки для самореализации личности ученика; раскрытие всех заложенных в нем природных задатков; стремление к свободе, ответственности и творчеству. Важным фактором, определяющим характер изменений в системе образования, является научно-технический прогресс, который на определенном этапе развития невозможен без информационно-коммуникационных технологий. Поэтому умение пользоваться информационно-коммуникационными технологиями (ИКТ) дает возможность сформировать информационную компетентность учащихся, реализовать методы индивидуализации и дифференциации их образовательной деятельности.

Основная цель работы - показать целесообразность и необходимость использования средств компьютерного моделирования для формирования информационной компетентности учащихся при изучении физики как фундамента в процессе развития инновационной личности.

В ходе исследования применялись следующие методы:

- *теоретические* - изучение, анализ и обобщение психолого-педагогической, научно-методической литературы, Интернет ресурсов с целью определения теоретических и методических основ формирования информационной компетентности учащихся по физике;
- *эмпирические* - наблюдения, анкетирование, тестирование, проведение экспертной оценки для установления уровня сформированности информационной компетентности учащихся;
- *педагогический эксперимент* (констатирующий, поисковый и формирующий) осуществлялся с целью проверки эффективности использования средств компьютерного моделирования на уроках физики;
- *статистические* - обработка результатов исследования и установлениеуровня сформированности информационной компетентности учеников экспериментального и контрольного классов, обоснование и установления правомерности выводов, сделанных на основе педагогического эксперимента.

Теоретические основы исследования
The theoretical basis of the study

В современном информационном обществе перед учениками возникает проблема дальнейшей деятельности при работе с большими объемами информации. Это, в свою очередь, приводит к необходимости их подготовки для осуществления различных информационных процессов: восприятия информации, ее обработки и использования в дальнейшей практической деятельности. То есть результатом их образовательной деятельности должно быть формирование у них информационной компетентности. В соответствии с этим актуализируется проблема формирования информационной компетентности учащихся как важного показателя творческих способностей личности.

Компетентностный подход в образовательной деятельности регламентируется на законодательном уровне и обретает широкое внедрение в теоретической и практической педагогике.

Реализация компетентносного подхода в обучении регламентирована Законами Украины «Об образовании» (Zakon Ukrayiny, 2019) и «Об полном среднем образовании» (Zakon Ukrayiny, 2019), Государственным стандартом среднего образования (Postanova Kabinetu Ministriv Ukrayiny, 2011) и происходит с учётом «Рекомендаций Европейского парламента и совета Европы о формировании ключевых компетентностей образования через всю жизнь» (Rekomendacii, 2006) и «Рекомендаций Европейского фонда образования о формировании цифровых навыков и компетенций» (Rekomendacii, 2019).

Теоретическую основу исследования составляют труды украинских ученых:

- Н. Бибик (Bibik, 2004), А. Локшиной (Lokshyna, 2007), А. Овчарук (Ovcharuk, 2004), А. Пометун (Pometun, 2004), С. Трубачевой (Trubacheva, 2014) и других о концептуальных положениях компетентностного подхода в образовании;
- Н. Баловсяк (Balovsyak, 2006), В. Быкова & А. Овчарук (Bykov & Ovcharuk, 2017), О. Дрогайцева (Drohajcev, 2009), Н. Сороко (Soroko, 2015), А. Спирина (Spirin, 2009) и других о формировании информационной компетентности.

Вместе с тем понятие компетентности в образовательном процессе европейского сообщества рассматривались в трудах ученых М. Амадио (Amadio, 2013), Ф. Вейнерт, Д. Райхен, & Л. Салганик (Weinert, Rychen, & Salganik, 2001), Й. Гордон, Г. Арйоманд, & С. Кеарнеу (Gordon, Arjomand, & Kearney, 2013), Ж. Делор (Delor, 1996), Т. Коке (Koķe, 2000), З. Олина, Д. Намсоне, & И. Франце (Oliņa, Namsone, & France, 2018), Дж. Равен

(Raven, 2002), М. Фуллан & Г. Скотт (Fullan & Scott, 2014), Г. Халлаш (Halash, 1996), В. Хутмахер (Hutmacher, 1997), И. Юргена (Jurgena, 2001) и других.

Среди ученых ближайшего зарубежья к вопросу компетентности обращались В. Байденко (Bajdenko, 2005), В. Болотов & В. Сериков (Bolotov & Serikov, 2004), О. Бутова (Butova, 2015), А. Восковская & Т. Карпова (Voskovskaja & Karpova, 2015), Н. Ефремова (Efremova, 2012), А. Жук (Zhuk, 2004), И. Зимняя (Zimnjaja, 2003), Г. Селевко (Selevko, 2004), С. Тришина (Trishina & Hutorskoj, 2004), А. Федоров, С. Метелев, А. Соловьев & Е. Шлякова (Fedorov, Metelev, Solov'ev, & Shljakova, 2012), А. Хуторской (Hutorskoj, 2003), Ф. Шарипов (Sharipov, 2010), С. Шишов (Shishov, 1999) и другие.

В работе (Liskovych, 2012) исследовались возможности использования элективных курсов по физике при формировании информационной компетентности учащихся путем использования современных ИКТ.

Формирование информационной компетентности учеников при изучении физики с использованием предметной виртуальной информационной среды рассмотрено в исследовании (Martynova, 2017).

В статье (Matvijchuk, 2015) предложена модель реализации принципа преемственности обучения физике на основе компетентностного подхода, одной из основных стержневых линий которой есть развитие информационной компетентности учеников.

Таким образом, использование ИКТ и средств мультимедиа на уроках физики и во внеурочное время способствуют решению вопроса по формированию информационной компетентности учащихся. Одним из возможных путей реализации ее формирования является использование в образовательном процессе элементов компьютерного моделирования. В связи с этим учителям необходимо менять методические подходы к созданию и использованию электронных учебных материалов, содержанию самостоятельной деятельности учащихся.

Среди моделей, которые используют для демонстрации на уроках физики, можно выделить две большие группы (Moklyuk, Moklyuk, & Lysyj, 2015):

- модели, с помощью которых раскрывают устройство и принцип действия различных экспериментальных установок (например, опыта Резерфорда, ускорителей различного типа, счетчиков микрочастиц, ядерных реакторов);
- модели, которые являются материальным воспроизведением логических или идеальных научных явлений и процессов (например, моделирование закона радиоактивного распада, цепной реакции, квантового характера излучения и т.д.).

Чтобы компьютерные модели соответствовали современным требованиям, их использование должно помогать учителю формировать умения, связанные с обработкой информации, умением анализировать, сравнивать, синтезировать, обобщать, структурировать учебный материал.

Методы, организация и результаты исследования
Methodology, organization and results of the research

Эффективность использования элементов компьютерного моделирования на уроках физики с целью формирования информационной компетентности учащихся проверялась на базе средней общеобразовательной школы №34 г. Винницы. Исследование проводилось в 9 классах на протяжении 2017-2018, 2018-2019 учебных годов. Общее количество участников составило 126 учеников (64 в экспериментальных и 62 в контрольных классах). Все виды учебной деятельности на занятиях по физике для экспериментальных классов проводились с использованием компьютерных моделей. Для учеников контрольных классов изучение учебного материала происходило с использованием традиционных методик обучения.

Например, при изучении ядерной физики одним из основных понятий есть явление радиоактивности, с которым учащиеся знакомятся в разделе «Атомное ядро. Ядерная энергетика» в 9 классах учреждений общего среднего образования (УОСО).

На начальном этапе его изучения учитель сообщает ученикам, что впервые данное явление зарегистрировал А. Беккерель, изучая явление люминесценции солей урана. В ходе исследования данного явления пропускали радиоактивное излучение сквозь электрическое и магнитное поля, обнаружили в нем α-, β- и γ-излучения. На основе этого можно продемонстрировать компьютерную модель данного опыта с соответствующими разъяснениями (рис.1).

Чрезвычайно важным для развития ядерной физики вообще и для изучения явления радиоактивности в частности было осуществление искусственного преобразования атомных ядер, результатом чего стало открытие нейтрона. Учитель для объяснения данного материала имеет возможность продемонстрировать компьютерную модель опыта (рис. 2).

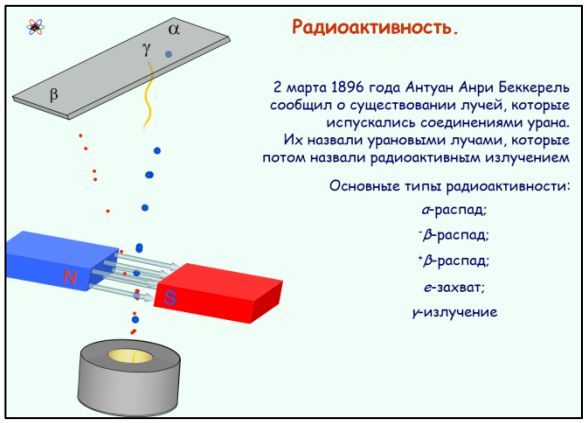

Рисунок 1. ***Компьютерная модель явления радиоактивности***
Figure 1 ***Computer model of the phenomenon of radioactivity***

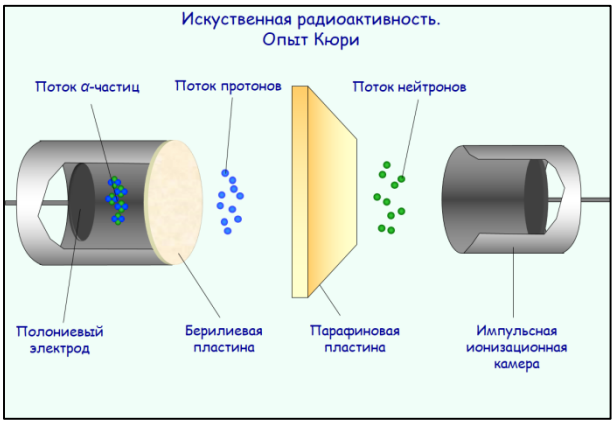

Рисунок 2. ***Компьютерная модель опыта Кюри***
Figure 2 ***Computer Model of Curie Experience***

Следовательно, изучение явления радиоактивности с использованием элементов компьютерного моделирования позволяет повысить интерес учащихся к изучению данного явления, в том числе и физики вообще, уровень усвоения знаний путем использования средств наглядности учебного материала; стимулировать развитие познавательной активности и творческого мышления; формировать у учащихся представления о явлениях микромира и закономерностях их протекания. Это в целом приведет к формированию современной физической картины мира и будет способствовать формированию высокого уровня информационной компетентности учащихся.

Во время экспериментального исследования на основе теоретического анализа (Bykov & Ovcharuk, 2017) было выделено четыре уровня сформированности информационной компетентности учащихся на основе оценки знаний учащихся УОСО (табл. 1).

На начальном этапе проведения эксперимента установлено преобладание среднего (29,4%) и начального (28,7%) уровней сформированности информационной компетентности учащихся экспериментального и контрольного классов (показатели примерно одинаковы: сохраняется общая тенденция распределения учащихся по уровням сформированности исследуемой компетентности), что указывает на недостаточную их сформированность.

Таблица 1. ***Уровни сформированности информационной компетентности учащихся***
Table 1 ***Levels of informational competence of students***

Уровень	Требования к учебным достижениям учащихся
Начальный	Ученик называет объект изучения (правило, выражение, формулы, символ и т.д.), но только тогда, когда этот объект (его изображение, описание, характеристика) предложено ему непосредственно; с помощью учителя выполняет элементарные задачи.
Средний	Ученик повторяет информацию, операции, действия, усвоенные им в процессе обучения, способен решать задачи по образцу.
Достаточный	Ученик самостоятельно применяет знания в стандартных ситуациях, умеет выполнять определенные операции, общая методика и последовательность (алгоритм) которых ему знакомы, но содержание и условия выполнения изменены.
Высокий	Ученик способен самостоятельно ориентироваться в новых для него ситуациях, составлять план действий и выполнять его, предлагать новые, неизвестные ему ранее решения, то есть его деятельность имеет исследовательский характер.

Полученные результаты подтвердили необходимость внедрения в образовательный процесс технологий, которые положительно влияют на формирование информационной компетентности учащихся. Одним из таких примеров является использование элементов компьютерного моделирования при изучении физики.

Выходя из этого, была предложена и апробирована система работы по формированию информационной компетентности учащихся в процессе изучения физики на основе использования элементов компьютерного моделирования. При этом все виды учебной деятельности (изучение нового материала, решение физических задач, проведения учебного эксперимента, контроль и коррекция) сопровождались демонстрацией компьютерных моделей.

Анализ результатов проведенного исследования происходил на основе определенных нами критериев, показателей и методов их оценки. Они отражают качественные и количественные изменения в сущностных и структурных характеристиках информационной компетентности учащихся и демонстрируют положительное влияние на динамику уровня ее сформированности (табл. 2).

Изучение динамики и уровней сформированности информационной компетентности учащихся по физике происходило поэтапно: путем проведения контрольных срезов (тестирования) в экспериментальном и контрольном классах до начала эксперимента, непосредственно в процессе его проведения и после завершения.

Таблица 2. ***Методика оценивания информационной компетентности учащихся по физике***
Table 2 ***Methods of assessing information competence of physics students***

Критерии оценки	Содержание критерия оценки информационной компетентности учащихся по физике	Методы оценки реализации критерия
1. Потребностно-мотивационный	Интерес к изучению физики и желание ее изучать. Сформированность внутренних мотивов по изучению физики. Сформированность потребностей к усвоению физических знаний. Психологическая готовность к изучению физики.	Анкеты, физические диктанты, тестирование.
2. Когнитивный	Наличие знаний (прочность, глубина, системность, осознанность, качество и устойчивость), умений и навыков по физике, а также способность их использовать при изучении специальных дисциплин и в профессиональной подготовке.	Физические диктанты, тестирование, контрольные и самостоятельные работы.
3. Личностно-рефлексивный	Развитие учебных качеств, необходимых для изучения физики. Развитие индивидуально-психологических особенностей студента, которые влияют на результативность учебной деятельности по физике. Определение физических упражнений и заданий, направленных на саморазвитие и самоопределение студента.	Беседы, анкетирование, тестирование.
4. Деятельностно-практический	Качество умений, навыков по физике и способность их применять при изучении специальных дисциплин и в профессиональной подготовке.	Опрос, тестирование, контрольные и самостоятельные работы.

Анализ результатов эксперимента позволяет констатировать положительную динамику, как в экспериментальных, так и в контрольных классах. Однако их сравнительный анализ показал, что динамика в контрольных классах обусловлена естественным процессом обучения в УОСО и незначительна по сравнению с экспериментальными.

Таким образом, полученные результаты убеждают в подтверждении эффективности и целесообразности экспериментальной работы, которая обеспечивает формирование информационной компетентности учащихся при изучении физики, вследствие значительной положительной динамики в экспериментальных классах (табл. 3, рис. 3).

Таблица 3. ***Сравнительная характеристика уровней сформированности информационной компетентности учащихся (в %)***
Table 3 ***Comparative characteristics of the levels of information competence of students (%)***

Уровень сформированности информационной компетентности	Экспериментальные классы	Контрольные классы
Высокий	40,9	11,0
Достаточный	44,8	40,8
Средний	13,9	43,9
Начальный	0,4	4,3

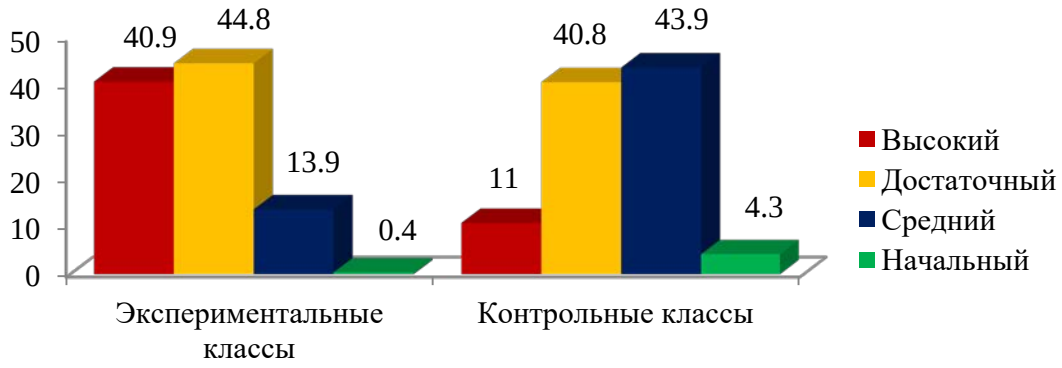

Рисунок 3. ***Распределение учеников по уровнях сформированности информационной компетентности учащихся***
Figure 3 ***Distribution of students by levels of informational competence of students***

Анализ полученных результатов (рис. 3) показывает, что процесс формирования информационной компетентности учащихся путем использования элементов компьютерного моделирования происходит успешнее, чем при использовании традиционных методик.

Выводы
Conclusions

В результате проведения экспериментального исследования обосновано и подтверждено целесообразность и необходимость использования средств компьютерного моделирования для формирования информационной компетентности учащихся при изучении физики. Следовательно, применение средств компьютерного моделирования на уроках физики предусматривало: привлечение учащихся к активной творческой образовательной деятельности, которая требовала умений и навыков получения новой информации; наличие инновационных форм и методов обучения, направленных на формирование информационных умений и навыков.

В заключение следует отметить, что формирование информационной компетентности у учащихся происходит путем:

- приобретения навыков работы с ИКТ;
- развития умения делать выводы и обобщения, использовать краткую рациональную запись;
- овладения способами работы с информацией: систематизация, анализ и отбор информации;
- критического отношения к получаемой информации.

Использование средств компьютерного моделирования при проведении уроков по физике и самостоятельной учебной деятельности учащихся обеспечивают:

- высокую степень самостоятельности учащихся при формировании информационной компетентности;
- наличие дополнительных источников информации наряду с учебником;
- информационную насыщенность учебного материала, которая значительно выше, чем во время проведения беседы;
- комбинацию различных типов представления учебного материала для привлечения большего количества органов восприятия информации, что способствует повышению уровня сформированности информационной компетентности учащихся.

Таким образом, использование ИКТ, в частности компьютерного моделирования, в образовательном процессе способствует формированию не только у учащихся, но и у учителей информационной компетентности.

Дальнейшие исследования могут быть осуществимы в направлении формирования информационной компетентности учащихся при решении задач по физике и выполнении лабораторных работ с использованием элементов компьютерного моделирования.

Summary

In conclusion, it should be noted that the formation of students' information competence occurs by: acquiring skills to work with the interactive whiteboard; developing the ability to draw conclusions and to summarize, to use a brief rational record; mastering the ways of working with information (systematization, analysis and selection of information); critical attitude to the information received.

We have proposed and tested a system for developing students' information competency in the process of studying Physics based on the use of computer simulation elements. All kinds of educational activities (learning new material, solving physical problems, conducting an educational experiment, monitoring and correction) were accompanied by computer models.

On the basis of the analysis of the experimental verification, it is determined that the use of computer simulation elements in Physics lessons and in students' independent learning

provides: a high degree of students' independence in developing the information competence; availability of additional sources of information along with the textbook; informational saturation of the educational material, which is much higher than during the interview; a combination of different types of teaching material to attract more information perception agencies, which increases students' information competence.

Thus, the use of the information and communication technologies, including computer simulation in the educational process, contributes to the formation and development of the information competence for students as well as for educators.

Further research can be done in formation of students' informational competence while solving physics problems and performing laboratory work based on the use of computer simulation elements.

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ОБРАЗОВАТЕЛЬНЫЙ ПРОЕКТ «ПЕДАГОГИЧЕСКИЙ ИНСАЙТ» КАК ТЕХНОЛОГИЯ ЛИЧНОСТНО-ПРОФЕССИОНАЛЬНОГО РАЗВИТИЯ БУДУЩЕГО УЧИТЕЛЯ

Educational Project «Pedagogical Insight» as a Technology of the Future Teachers' Personal Professional Formation

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Abstract. *The article highlights the topicality of the problem of improving the future teachers' practical training in the process of their professional training in higher pedagogical educational institutions. The authors substantiate the necessity of applying the creative project «Pedagogical Insight: the 21st Century Educational Technologies» in order to secure the innovative component of the students' professional competence. The authors emphasize on the project activity practical aspects which are based on the use of the pedagogical experience best examples in order to overcome the established stereotypes and search for innovative approaches to educational activities, including participation of the finalists of the «National Teacher Prize Ukraine 2019». The project's goals, functions, structure, and stages of development have been defined. It has also been emphasized on the importance of the ongoing «Pedagogical Insight» project for the future teachers' personal and professional formation on the basis of the young teachers' pedagogical innovations presentation. Those young innovators have reached the pinnacles of pedagogical mastery having developed and implemented their own interpretation of the well-known educational technologies, such as: integrated learning, upturned learning, E-learning, interactive learning, development of emotional intelligence, and others. The effectiveness of the young innovator's approach to the*

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introduction of the practice oriented teaching of the higher pedagogical institutions' students on the basis of using the best examples of the «new generation» teachers' activity has been proved. This effectiveness manifested itself in formation a positive attitude towards their future pedagogical activity; enhancing their professional competence on the basis of mastering the newest pedagogical technologies; understanding the need for lifelong professional training. The article's aim is to demonstrate the degree of influence of the innovative educational technology «Pedagogical Insight» on the level of motivation of future teachers to personal and professional development. Research methods: studying the advanced pedagogical experience of the young innovative teachers, pedagogical experiment, surveying students and monitoring them in order to determine the degree of influence of participation in the «Pedagogical Insight» project on personal and professional decisions and the beliefs of future teachers regarding the need for constant professional and personal development. Research result: the motivating effect of the innovative technology «Pedagogical Insight» on the adoption by future teachers their ultimate decision on the need for continuous professional and personal development was confirmed.
Keywords: *E-learning, innovative technologies, interactive learning, personal professional development, practice oriented teaching, professional competency, professional formation of a future teacher, project activity, upturned learning.*

Введение
Introduction

Глобализационные процессы, которые происходят во всех сферах общественной жизни Украины, определённым образом влияют на требования к учителю нового поколения, к уровню его профессиональной подготовки и личностным качествам. Возможности академической мобильности студенческой молодежи на основе интеграции национальной системы профессиональной подготовки в европейскую образовательную среду актуализировали проблему личностно-профессионального развития будущих учителей. Как следствие, стратегическим заданием реформирования педагогического образования в Украине в условиях европейской интеграции признана ориентация университетской подготовки будущего учителя на его личностно-профессиональное развитие. Актуальность темы определяется также тем, что приоритетность профессионально-личностного развития будущего учителя в системе его профессиональной подготовки неуклонно усиливается, поскольку основной вектор евроинтеграционных реформ направлен на осознание и удовлетворение потребности обучаться на протяжении всей жизни, что является основой для самореализации личности учителя в профессиональной деятельности.

Академическая мобильность, как результат евроинтеграционных и глобализационных процессов, приводит к конкуренции на рынке образовательных услуг и в определённой мере является стимулом для

повышения уровня профессиональной компетентности выпускников педагогических университетов. Эти процессы требуют модернизации педагогического образования в направлении практико-ориентированного обучения на основе компетентностного подхода, ориентации на инновационную педагогическую деятельность, интеграцию науки и высшего образования.

Инновационные процессы в сфере профессиональной подготовки будущего учителя предусматривают, прежде всего, разработку и внедрение в сферу образования инновационных образовательных технологий, которые могут стать определённым резервом повышения конкурентоспособности отечественного образования в рейтинге лучших университетов мира. Расширение рынка образовательных услуг возможно посредством внедрение в образовательный процесс педагогических университетов проектных технологий, учитывая их огромный инновационный потенциал.

Цель статьи – продемонстрировать степень влияния инновационной образовательной технологии «Педагогический инсайт» на уровень мотивации будущих учителей к личностно-профессиональному развитию.

Методы исследования: изучение передового педагогического опыта молодых учителей-новаторов, педагогический эксперимент, анкетирование студентов и наблюдение за ними с целью определить степень влияния участия в проекте «Педагогический инсайт» на личностно-профессиональные решения и убеждения будущих учителей относительно необходимости постоянного профессионально-личностного развития.

Теоретические основы исследования
Theoretical substantiation of the problem

Активно развиваются теоретические и прикладные основы использования инновационных педагогических технологий в процессе подготовки будущих учителей. Теоретические основы названой проблемы достаточно представлены в отечественной и зарубежной научной литературе. Пути инновационного развития общества и формирования национальной интеллектуальной элиты на основе современных сетевых технологий в системе открытого образования предложил украинский ученый В. Быков (Bykov, 2009).

Инновационные тенденции развития современного образования на основе использования педагогических технологий с акцентом на их гуманистическую направленность обосновала и апробировала на практике украинский автор И. Дичковская (Dychkivska, 2012). Автор определила особенности и пути формирования готовности педагога к инновационной

педагогической деятельности в процессе использования современных педагогических технологий. Как свидетельствует изучение научной литературы, конкурентоспособность и социальную мобильность будущего учителя можно обеспечить посредством вовлечения студента в проектную профессионально направленную деятельность. Основы теории и практики проектной технологи представлены украинским исследователем А. Коберником (Kobernyk, 2012). Результативную составляющую проектной технологи ученые, как правило, связывают с личностно-профессиональным развитием будущих учителей. Творческое развитие будущих преподавателей исследовала С. Сысоева. Автор определила психолого-педагогические условия творческого развития магистрантов, а также роль интерактивных технологий в творческом развитии будущих педагогов (Sysoieva, 2001). Вопросы имплементации новейших научных достижений мирового уровня в процесс подготовки будущих учителей детально рассмотрены Коломиец А., Коломийцем Д. и Громовым Е. (Kolomiiets, Kolomiiets, & Gromov, 2017).

Методы исследования
Methods of the research

Организация и проведение научной работы включали использование таких методов педагогического исследования как анализ, синтез, обобщение (на этапе определения концептуальных подходов и основ исследования проблемы личностно-профессионального развития будущих учителей); анализ опыта использования педагогического проектирования в профессиональной подготовке будущих учителей; педагогический эксперимент, сущность которого заключалась в организации и вовлечении студентов в качестве субъектов образовательного процесса в творческий проект «Педагогический инсайт: образовательные технологии XXI века»; наблюдение и анализ результатов использования проектной технологии, а также ее влияния на профессионально-личностное становление студента педагогического университета.

Результаты и их обсуждение
Results and discussion

Глобализация и информатизация общества требуют подготовки учителя нового поколения, конкурентоспособного на мировом рынке образовательных услуг, владеющего инновационной компетентностью, способностями критического и творческого мышления, умениями диалогового педагогического взаимодействия и партнерских отношений в

образовательном процессе. Работодатели и потребители образовательных услуг констатируют определённый разрыв между требованиями рынка и уровнем подготовленности выпускников к осуществлению инновационной педагогической деятельности. Таким образом, возникает проблема формирования учителя нового типа, способного к продуцированию эффективных инновационно-направленных профессиональных идей, к переориентации мышления на осознание новых требований и возможностей профессиональной мобильности, мотивированного к профессионально-личностному развитию и самореализации.

Личностно-профессиональное развитие будущих учителей имеет свои особенности по сравнению с другими профессиями. Прежде всего, студенты педагогического университета, как недавние выпускники школы, не только знакомы с профессией учителя, но и реально были участниками образовательного процесса, в определённой мере овладели особенностями профессии стихийно, иногда односторонне, и не всего на лучших образцах. Речь идет о возможности внедрения устойчивых стереотипов в будущую профессиональную деятельность и необходимости преодоления сформированных установок в процессе профессиональной подготовки.

Поэтому было сделано предположение о необходимости поиска новых форм практико-ориентированного обучения будущих учителей, основанного на осмыслении инновационного педагогического опыта, формировании стремления усовершенствовать образовательный процесс с целью достижения наилучших результатов. Демонстрация лучших образцов педагогической деятельности создает положительный имидж профессии учителя, показывает путь достижения успеха, представляет возможности индивидуально-творческого похода к овладению будущей профессией. В наибольшей мере решению этой проблемы способствует технология проектной деятельности.

Проблема профессионального становления будущего учителя посредством использования технологии педагогического проектирования активно исследуется учеными и практиками высшего образования. Проведенный анализ научных подходов к решению данной проблемы дает возможность выделить некоторые важные для исследования положения, а именно: расширение рынка образовательных услуг возможно посредством внедрения в образовательный процесс проектной технологии, которая обладает наибольшим инновационным потенциалом, как для повышения качества профессиональной подготовки, так и для развития личностных качеств студентов (Akimova & Koval, 2019); важной особенностью использования проектной технологии обучения является обеспечение индивидуальной траектории развития и саморазвития субъектов образовательного процесса (Yermakov, 2003); проектное обучение

обеспечивает активно-творческий тип усвоения знаний студентов, особенно на основе интеграции учебной информации (Akimova, 2013); проектная технология способствует реализации практико-ориентированного подхода к обучению и формированию профессионально-педагогической компетентности (Khamska, 2019). Таким образом, проектная технология есть эффективным средством повышения качества профессиональной подготовки будущих учителей и формирования профессионально-педагогической компетентности. В то же время изучение педагогического опыта свидетельствует, что не все возможности проектной технологи использованы в образовательном пространстве педагогических университетов, в частности это касается личностно-профессионального развития будущих учителей.

Для этого в Винницком государственном педагогическом университете имени Михаила Коцюбинского был успешно реализован педагогический эксперимент по проверке эффективности использования творческого проекта «Педагогический инсайт: образовательные технологии XXI века» с целью стимуляции процесса личностно-профессионального развития будущего учителя. Особенностью нововведения стала ориентация будущих учителей на спонтанное педагогическое решение на основе проникновения в суть проблемы, открытие её новых аспектов, оригинальное проявление педагогического творчества на основе эвристического подхода к проектной технологии. Целью проекта стало личностно-профессиональное развитие студентов на основе использование практико-ориентированного обучения в ситуациях демонстрации инновационного педагогического опыта лучших учителей Украины, выпускников Винницкого государственного педагогического университета, финалистов национальной премии «Global Teacher Prize Ukraine» (2018, 2019), лауреатов Всеукраинских конкурсов «Учитель-новатор», «Учитель года» (2018, 2019), победителей областных и городских конкурсов педагогического мастерства (2018, 2019).

Основные задачи проекта:

- обеспечить студентам возможность овладения инновационными технологиями в процессе презентации фрагментов уроков на основе их участия в качестве субъектов педагогического взаимодействия;
- сформировать у студентов потребность в творческом подходе к профессиональной деятельности и установку на обучения на протяжении всей жизни;
- способствовать развитию мотивации профессионального и личностного самосовершенствования посредством таких

психологических механизмов развития как идентификация, эмоциональное ассоциирование, наследование на основе презентации образа успешного учителя современной школы;
- повысить интерес у будущих учителей к разрешению проблем современной школы на основе саморазвития творческого и дивергентного мышления, проявления оригинальности, продуцированию необычных идей в решении нестандартных педагогических ситуаций;
- способствовать развитию установки у будущих учителей на профессиональный успех и личную карьеру.

Проект «Педагогический инсайт: образовательные технологии XXI века» осуществлялся на протяжении учебного года, состоял из четырех ивентов, каждый из которых предполагал демонстрацию разных учебных технологий новыми участниками. Проектная работа в каждом ивенте предусматривала прохождение нескольких этапов (допроектный, проектирования, реализации, рефлексии), что придавало проекту системности, комплексности и целостности. В рамках каждого ивента были определены процедуры, обеспечивавшие содержательную, структурную, технологическую, организационную основу проектной деятельности.

Допроектный этап включал следующие процедуры: формулировка педагогической проблемы, определение цели и стратегии ее решения, обоснование критериев определения результатов на основе точно определённых инструментов диагностики. Этап проектирования включал моделирование проектной деятельности, её содержания, структуры, эффективных путей организации. Содержательно-технологический компонент проекта включал: фрагменты уроков с использованием современных образовательных технологий: предметно-языковое интегрированное обучение; «перевернутое обучение»; технология развития эмоционального интеллекта; мобильное обучение (M-learning), иммерсивная технология обучения, развивающее обучение.

Остановимся подробнее на этапе реализации – проведении участниками фрагментов уроков. Преимущества Интернет-технологий представил Владислав Качур, учитель иностранных языков Винницкой частной гимназии «Дельфин», победитель премии Global Teacher Prize Ukraine 2018 года, Лауреат Всеукраинского конкурса «Учитель года», победитель конкурсу «Учитель года», лауреат и призер Всеукраинского конкурса Microsoft «Учитель-новатор», лауреат конкурса молодых педагогов «Надежда». Особенностью презентации фрагмента урока В. Качура было то, что он обучал будущих учителей создавать контент для онлайн-доски, используя программу «Padlet», а также осуществлять

дидактическое взаимодействие с учениками на основе онлайн платформы «Class Dojo». Развивающий характер обучения во время проведения фрагмента урока поддерживался введением элементов дискуссии на тему «Учитель-человек, учитель-робот». Центральным моментом фрагмента урока стала групповая работа по созданию под руководством учителя мультфильма: 1-я группа – «Один день учителя-человека», 2-я группа – «Один день учителя-робота».

Технологию «перевернутого обучения» представил Олег Слушный, учитель информатики общеобразовательной школы №20 Винницкого городского совета, финалист премии «Global Teacher Prize Ukraine 2019», победитель городских конкурсов молодых педагогов: «Надежда», «Ярмарка профессиональных надежд», «Продуктивный педагог», «Классный руководитель года», номинант выставок «Инноватика в современном образовании» и «Современное заведение образования». Авторская интерпретация технологии «перевернутого обучения» включала организацию беседы на основе информации, полученной индивидуально дома, коллективный результат беседы был использован для практического решения учебных заданий. Студенты были включены в учебную деятельность при использовании обучающей игры «Бортовые журналы».

Участница проекта Анна Киналь, победительница городского конкурса «Учитель года 2009», призер областной программы «Развитие информационных, телекоммуникационных и инновационных технологий в учреждениях образования Винницкой области, 2015», выпускница программы Teaching Excellence and Achievement Program, выпускница проекта Международной программы обмена «Открытый мир», продемонстрировала участникам «Педагогического инсайта» интегрированный урок по методике «CLIL» на тему «Соль в нашей жизни», особенностью которого была интеграция учебных дисциплин, а именно, немецкого языка с украинским языком, украиноведением, биологией, анатомией, математикой, географией.

Участник Сергей Драганович Петрович, кандидат педагогических наук, учитель технологий и информатики в средней школе №16, финалист премии «Global Teacher Prize Ukraine 2019», продемонстрировал фрагмент интерактивного урока, поделился опытом создания «SMART»-кабинета физики для детей с проблемами слуха, впечатлениями от знакомства с системой школьного образования в Нидерландах, куда был недавно приглашен в рамках межгосударственной программы академического обмена, а также рассказал, как составить успешную заявку на участие в различных международных конкурсах педагогического мастерства.

Наблюдение за студентами, которые принимали участие в «Педагогическом инсайте», показали, что фрагменты уроков, проведённые

высококвалифицированными педагогами, вызывают у будущих учителей живой профессиональный интерес. По окончании данного мероприятия нами было проведёно анкетирование 453 студентов.

На вопрос «Каково было главное чувство, которое Вы испытывали во время участия в «Педагогическом инсайте?» студенты отвечали: «чёткое понимание того, что учителю необходимо постоянно совершенствоваться» (78%), «осознание того, что каждый учитель должен владеть особенными личностно-профессиональными качествами» (73%), «восхищение мастерством учителя» (62%), «гордость оттого, что в украинских школах трудятся такие креативные учителя» (58%), «осознание того, что уроки могут быть настолько интересными» (49%), «понимание того, что работа учителя требует огромных творческих усилий» (38%).

На вопрос «Какими личностно-профессиональными качествами должен владеть современный учитель, чтобы его уроки были интересными и эффективными?» были получены следующие ответы: «любовь к своей профессии» (71%), «любовь к ученикам» (62%), «широкий кругозор» (54%), «креативность» (47%), «инновационное мышление» (43%), «артистизм» (38%), «лидерские качества» (36%), «организаторские способности» (29%), «умение интегрировать знания из различных научных областей» (25%).

Следующим пунктом опросчика была просьба оценить по 5-бальной шкале степень влияния «Педагогического инсайта» на определённые личностно-профессиональные решения и убеждения самих студентов-участников. Среднеарифметические значения представлены в таблице 1.

Таблица 1. ***Степень влияния проекта «Педагогический инсайт» на отношение будущих учителей к своей профессии***
Table 1 ***Degree of influence of the project «Pedagogical insight» on the future teachers' attitude to their profession***

Суть принятого решения/убеждения	**Средний балл после прохождения практики**	**Средний балл после участия в проекте «Пед. инсайт»**
Дополнительно убедился в высокой социальной важности профессии учителя	1,8	2,9
Принял окончательное решение работать учителем в школе	3,1	3,7
Буду стараться проводить интересные содержательные уроки	2,2	2,8
Буду стараться использовать инновационные технологии обучения	2,4	3,4
Буду стараться принимать участие в конкурсах педагогического мастерства	1,6	2,5

Как видим, с точки зрения осознания будущими учителями необходимости постоянного развития своих личностно-профессиональных качеств, образовательный проект «Педагогический инсайт» является намного более эффективным мотивирующим фактором, чем педагогическая практика.

Выводы
Conclusions

Обычно во время прохождения традиционной педагогической практики, наблюдая за разными образцами педагогической деятельности (к сожалению, не всегда успешными), студенты педагогических вузов делают умозаключения относительно своей готовности/неготовности, желания/нежелания посвящать время и силы беспрерывному личностно-профессиональному развитию. Наши наблюдения показывают, что традиционная практика не всегда оказывает достаточное мотивирующее действие относительно выбора педагогической профессии. На примере образовательного проекта «Педагогический инсайт», который, среди прочего, предусматривает демонстрацию фрагментов уроков молодыми учителями-новаторами, чей профессионализм официально признан как на общегосударственном, так и международном уровне, демонстрируется высокая эффективность подобных образовательных технологий в деле мотивации будущих школьных учителей к беспрерывному личностно-профессиональному развитию (согласно результатам опроса студентов, принимавших участие в проекте). И хотя подобные проекты не могут полностью заменить традиционную педагогическую практику в школах, они дают студентам возможность вживую наблюдать лучшие образцы педагогического мастерства и личностно-профессиональных качеств успешного учителя. Мотивирующий эффект «Педагогического итсайта» дополнительно усиливается ещё и тем, что главными действующими лицами проекта являются вчерашние выпускники, практически сверстники.

Summary

The article is devoted to the matters of development the future teachers' personal and professional features via observation best examples of the «new generation» teachers' pedagogical activity. These «new generation» teachers are the TOP-10 finalists of the National Teacher Prize Ukraine 2019, who had presented their pedagogical mastery within the creative educational project «Pedagogical Insight: the 21st Century Educational Technologies». Our continuous observations show that during traditional pedagogical practices at schools the students of teacher-training institutions are being presented different samples of pedagogical activities. Unfortunately, those samples are not always successful and

are not always worth being followed by the students. Basing on the gained experience the students can make certain conclusions concerning their readiness/not-readiness and willingness/unwillingness to spend time and efforts for continuous personal and professional development. Long years of pedagogical and psychological research brought us to the conclusion that traditional school practice doesn't make sufficient motivating influence on the final decision as for future profession choice. The high efficiency of such educational technologies in motivating future school teachers to continuous personal and professional development is demonstrated by the example of the educational project «Pedagogical Insight», which, among other things, provides for demonstration short fragments of lessons by young innovative teachers, whose professionalism is officially recognized both at the national level and internationally. As one can see, from the viewpoint of the future teachers' awareness of the need to constantly develop their personal and professional qualities, the educational project «Pedagogical Insight» is a much more effective motivating factor than traditional pedagogical practice. And although such projects cannot completely replace traditional pedagogical practice in schools, they give students the opportunity to observe the best examples of pedagogical skills, personal and professional qualities of a successful teacher. The motivating effect of the «Pedagogical Insight» is further enhanced by the fact that the main protagonists of the project were yesterday's graduates of their alma mater – Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University, almost their coevals.

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DOCĒTĀJU DIGITĀLĀS KOMPETENCES ATTĪSTĪBAS UN NOVĒRTĒŠANAS TEORĒTISKIE UN PRAKTISKIE ASPEKTI MILITARIZĒTĀ IZGLĪTĪBAS IESTĀDĒ

Theoretical and Practical Aspects of Development and Evaluation of Educators' Digital Competence in a Militarised Educational Institution

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Abstract. *Educators' digital competence development, particularly in the context of development and implementation and of interactive e-learning content to enhance learners' cognitive processes continues to be one of the key priorities both in civil and military training contexts. The fast and continuous growth of digital technologies in enhancement of teaching and learning process, the ongoing urge to harness the potential of digital learning opportunities persistently trigger the need to update and continuously sustain professional competences of educators including their digital competence. In order to find the ways to enhance educators digital competence, determine the factors which influence the formation of digital competenceauthors of the article conduct research to summarize the theoretical foundations on the process digital competence formation and development, analyze the influencing factors of positive and negative influence on digital competence development in the context of militarized education institution.Based on research findings the authors discover that due to the lack of systematic digital competence development and appropriate evaluation mechanism the potential of digital learning is not fully used. Educators of militarised education institutions need to constantly update competence on development of interactive training materials, assessment of digital competence should be more reliable and rigorous. On the basis of the research the authors put forward suggestions on the ways to develop and evaluate educators' digital competence in militarised education institution.*
Keywords: *digital competence, teacher professional development, evaluation, militarised education institution.*

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Ievads
Introduction

Paralēli digitālo tehnoloģiju nemitīgajai attīstībai izglītības procesos, arvien vairāk tiek akcentēta docētāju digitālās kompetences pilnveides un tās jēgpilnas izmantošanas nepieciešamība izglītības jomā. Latvijas ilgtspējīgas attīstības stratēģija 2030.gadam (2008) izglītības informācijas tehnoloģijas kontekstā rosina pievērst uzmanību mācību saturam un mainīt tehnoloģiju kompetences vispārējo līmeni Latvijā gan studējošajiem, gan docētājiem. Informācijas tehnoloģiju vide piedāvā daudzveidīgu informāciju, docētājam jābūt kā palīgam, partnerim un ceļvedim zināšanu atlasē un mācību procesā (Andersone, 2010), jāmācās tehnoloģijas izmantot jēgpilni, jātransformē mācību vide, jāatbalsta digitālo kompetenču pilnveide (Daniela, 2019), docētājiem jāanalizē pieejamā digitālās izglītības vide, jāpaaugstina zināšanas un prasmes pirms lēmumu pieņemšanas didaktiskajos procesos (Žogla, 2019). Pāreja no tradicionālajām mācību metodēm prasa jaunas pieredzes apguvi ar digitālajām tehnoloģijām, līdz ar digitālās kompetences (turpmāk tekstā – DK) attīstību palielinās zināšanas, prasmes un pārliecība (Howard, Boettcher, Justice, & Schenk, 2010).

Digitālās kompetences attīstība ir aktuāla globāli, gan stratēģiskajos plānošanas dokumentos, gan zinātnisko pētījumu un starptautisku projektu kontekstā. Par to liecina gan Boloņas procesa Ministru sanāksmē Erevānā 2015. gada 15.maijā apstiprinātie standarti un vadlīnijas kvalitātes nodrošināšanai Eiropas augstākās izglītības telpā (2015), kuros aicina augstskolas un koledžas nodrošināt savu mācībspēku kompetenci, veidojot augstas kvalitātes studijas un veicinot studējošo zināšanu, kompetenču un prasmju iegūšanu, gan Apvienoto Nāciju Organizācijas izglītības attīstībai izstrādātais IKT kompetenču ietvars docētājiem (2018), kurā tiek ieteikti veidi, kā sākt profesionālo mūžizglītību DK pilnveides kontekstā, kā attīstīt savu DK un izmantot to arī savai profesionālajai pilnveidei iesaistīties pedagogu sadarbības tīklos un piekļūt resursiem, radīt zināšanas, ieviest jauninājumus, nodot labās prakses piemērus kolēģiem.

DK pilnveidi ES līmenī, kā vienu no prioritātēm izglītības un tehnoloģiju mijiedarbības kontekstā nosaka Eiropas Komisijas Digitālās izglītības rīcības plāns (2018), kurš ietver darbības tehnoloģiju izmantojuma un digitālo prasmju pilnveides izglītībā atbalstam, izvirzot trīs prioritātes un tiem pakārtotus pasākumus, kuri ES dalībvalstīm palīdzēs pārvarēt problēmas un izmantot iespējas, ko sniedz izglītība digitālā laikmetā:

1. Prioritāte - Uzlabot digitālās tehnoloģijas izmantojumu docēšanas un zinību apguves procesā;
2. Prioritāte - Attīstīt digitālās kompetences un prasmes;
3. Prioritāte - Uzlabot izglītību, pateicoties labākām datu analīzes un prognozēšanas metodēm.

Iekšlietu ministrijas (turpmāk – IeM) darbības stratēģijā 2017.–2019.gadam izvirzīta prioritāte paaugstināt IeM padotības iestāžu personāla motivāciju un darba pienākumu izpildes kvalitāti, pilnveidot kvalifikācijas paaugstināšanas un izglītības sistēmu, paplašināt informācijas un komunikācijas tehnoloģiju pielietošanu, pilnveidot metodisko vadību un mazināt birokrātiskās prasības, lai uzlabotu darba rezultātus un sabiedrībai sniedzamos pakalpojumus. (Iekšlietu ministrijas 2018. gada 25. jūnija rīkojums Nr. 1-12/1019, 2018). Arī Valsts robežsardzes darbības stratēģija 2017.-2019.gadam tika iezīmēta personāla kompetenču attīstība, lai personāls veiksmīgi tiktu galā ar nākotnes izaicinājumiem, kas ir nepārtraukts, uz cilvēku, ne funkciju orientēts process, jaunu risinājumu radīšanai, lai nodrošinātu efektīvu Valsts robežsardzes personāla profesionālo attīstību (Valsts robežsardzes darbības stratēģija, 2017). Līdz ar to, Valsts robežsardzes koledžai (turpmāk - VRK), kā vienai no militarizētām izglītības iestādēm, turpinot veicināt interaktīvu mācību līdzekļu izstrādi un e-studiju attīstību digitālo tehnoloģiju laikmetā ir svarīga docētāju DK pilnveide, objektīva un sistēmiska novērtēšana. Pētījuma mērķis ir izanalizēt militarizētas izglītības iestādes docētāju DK attīstības un vērtēšanas procesu un perspektīvas, izanalizējot zinātnisko literatūru un tiesisko regulējumu. Uz pētījuma pamata tiks izstrādāti priekšlikumi docētāju DK pilnveidei un tās novērtēšanai, lai radītu iespējas tālāk attīstīt e-studiju potenciālu un paaugstinātu mācību līdzekļu interaktivitāti.

Rakstā atspoguļotajā pētījumā ir izmantota monogrāfiskā un dokumentu analīzes metode, analītiskie spriedumi balstīti uz iepriekš veikto pētījumu bāzes, kā arī, izmantojot autoru personisko pedagoģisko pieredzi.

Docētāju digitālā kompetences attīstība militarizētā izglītības iestādē
Educators' digital competence development in militarized education institution

Pētījumu rezultāti liecina, ka DK definīcija ir nepārtrauktā attīstībā, gan politikas plānošanas dokumentos nav standartizētas DK definīcijas (Ilomäki, Kantosalo, & Lakkala, 2011), gan lielākā daļa digitālās kompetences novērtēšanas modeļu nepievērš lielu uzmanību didaktiskajai digitālajai kompetencei - definīcijas nav vispārēji standartizētas, tādējādi tiek ietekmēta digitālās kompetences vērtēšanas validitāte, ticamība un stingrība (Taddeo et al., 2016).

Eiropas kvalifikāciju ietvarstruktūrā (EKI) DK definē kā pierādītu spēju izmantot zināšanas, prasmes un personiskās vai metodiskās spējas darba un mācību situācijās un profesionālajā personīgajā attīstībā, savukārt ES Padomes ieteikumos par pamatkompetencēm mūžizglītībā (2018) DK apzīmēta, kā digitālo tehnoloģiju pārliecināta, kritiska un atbildīga izmantošana un darbošanās ar šīm tehnoloģijām mācību un darba vajadzībām, kura ietver informācijas un datu

izmantošanas pratību, komunikāciju un sadarbību, medijpratību, digitālā satura radīšanu (tostarp, programmēšanu), drošību (tostarp, digitālu labbūtību un ar kiberdrošību saistītas kompetences), ar intelektuālo īpašumu saistītus jautājumus, problēmu risināšanu un kritisko domāšanu, tehnoloģiju iespējas, ierobežojumus, ietekmi un riskus. DK ietver efektīvu digitālo tehnoloģiju izmantošanas organizēšanu dažādos mācību procesa posmos un vidēs (Redecker, 2017), tā saistīta ne tikai ar tehniskām prasmēm, bet arī darba un dzīves digitālās vides izziņas, sociālajiem un emocionālajiem aspektiem (Eshet-Alkalai, 2004).

Čižmešija, Diković, & Domović (2018) pētījumā akcentē nepieciešamību docētājiem apgūt un nepārtraukti uzlabot DK izglītības procesa plānošanā, lekciju vadīšanā, zināšanu novērtēšanā, kā arī saziņā un mijiedarbībā ar studējošajiem un kolēģiem. Pētnieki atzīst, ka ir būtiski vērst uzmanību tieši uz didaktisko digitālo kompetenci un definēt konkrētam mācību priekšmetam paredzēto DK (Ottestad, Kelentrić, & Guðmundsdótti, 2014). Docētājiem paralēli DK attīstīšanai jāapgūst jaunas pedagoģiskās prasmes, jāizprot jēdzieni un mijiedarbības veidi izmantojot digitālās tehnoloģijas pedagoģijas kontekstā (Craig, Cunningham, & Allen, 2010). L. Daniela, Z. Rubene, L. Goba, pētot citu valstu pieredzi DK kontekstā, secina, ka Latvijā izstrādātajiem mācību materiāliem ir vāja interaktivitāte, DK pilnveides trūkums noved pie tādu digitālo mācību līdzekļu izmantošana, kas neveicina mācību procesa attīstību, aicina pedagogiem organizēt tālākizglītības kursus DK pilnveidei un interaktīva mācību satura izstrādei (Daniela et al., 2018).

Saskaņā ar V. Purēna (2017) atziņām kompetence ir personības īpašība, kuru var attīstīt tikai pati personība, kompetence top tikai patstāvīgā mācību darbībā un tā veidojas tad, kad personība ir motivēta to veidot. Kopumā vērtējot e-studiju attīstības procesu var secināt, ka VRK docētāju lielākajai daļai ir nepieciešams attīstīt DK, jo izstrādāto mācību līdzekļu interaktivitātes pakāpe ir zema, e-studiju procesa attīstība militarizētā izglītības iestādē un docētāju DK attīstība ir lēna un nesistemātiski pilnveidota. Konservatīvas izglītības pieeja, tradicionālu mācību metožu pielietošana lekciju laikā, militārās tradīcijas un militārā hierarhija ierobežo inovāciju ieviešanu mācību procesā līdz ar to e-studiju tālāka attīstība ir ierobežota. G. Vardi secina, ka militārajā jomā jaunu inovāciju vai tradīciju ieviešanā ir liela pretestība un pretspēks, jo militārās organizācijas attīstās īpaši gausi un tikai uz kumulatīvu zināšanu pamata, kas organiski iestrādātas saskaņotā, spēcīgā un ļoti ierobežojošā prātā var panākt inovāciju attīstību (Williamson, Murray, Mansoor, & Vardi, 2019).

Pētnieki secina, ka paātrinātais tehnoloģisko pārmaiņu temps prasa militārām organizācijām pielāgoties, taču militārās kultūras mainīšana ir īpaši grūts uzdevums, kura veikšanai nepieciešami gadi, vai pat gadu desmiti. Pētnieki uzsver, ka viens no vissvarīgākajiem faktoriem, kas miera laikā ļauj mainīt

militāro kultūru, ir likt uzsvaru uz militāro organizāciju profesionālo izglītību (Williamson & Murray, 2019).

Pētot faktorus, kuri liek militarizētās izglītības iestāžu docētājiem attīstīt DK un veicināt e-studiju tālāku attīstību VRK, var minēt A. Šmites (2006) apgalvojumus, ka teoriju pārmaiņas izglītībā balstās uz pārmaiņām izglītības iestāžu vadītāju darbībā un tas palīdz sekmīgi risinātu aktuālas problēmas. A. Šmite akcentē, ka vadītājam jāizstrādā gan izglītības attīstības ilgtermiņa stratēģija, gan jāattīsta kompetence, jauna izpratne par menedžmentu, jauna metodoloģija meklējumdarbībā un jaunu tehnoloģiju ieviešanā, tāpat arī ir akcentējama kontroles nepieciešamība, lai konstatētu, vai izvirzītie mērķi ir sasniegti, tai pašā laikā kontrolei ir jāveicina esošo panākumu stabilitāte un attīstība, palīdzot iestādei pielāgoties ārējiem mainīgajiem apstākļiem, novērst un ierobežot kļūdu rašanos, stimulēt darbības mērķu sasniegšanai (Šmite, 2006).

VRK docētāju DK pilnveide atsevišķi netiek kontrolēta, uzskaitīta vai novērtēta, taču docētājiem ir pienākums, kas noteikts amata aprakstos, regulāri pilnveidot profesionālo kompetenci. Profesionālā pilnveide ir obligāta prasība katram VRK docētājam, atbilstoši MK noteikumiem, kuri nosaka, ka LR Augstskolu un koledžu akadēmiskais personāls līdz ievēlēšanas termiņa beigām (seši gadi - atbilstoši Augstskolu likumam, 1996) jāapgūst profesionālās pilnveides programma par inovācijām augstākās izglītības sistēmā, augstskolu didaktikā vai izglītības darba vadībā 160 akadēmisko stundu apjomā (tai skaitā vismaz 60 kontaktstundas), profesionālā pilnveide šo noteikumu izpratnē ietver atbilstošu starptautisko mobilitāti, kā arī dalību konferencēs un semināros(LR MK noteikumi Nr. 569). VRK docētāji DK ir pilnveidojuši RTA rīkotajos kursos "Inovācijas augstākās izglītības sistēmā" 2016.gadā, taču ņemot vērā tehnoloģiju straujo attīstību šādiem specializētiem DK pilnveides kursiem, semināriem vai konferencēm būtu jānotiek regulārāk, vismaz reizi gadā, iespējams centralizēti, piemēram IeM un NBS organizētos kursos. VRK docētāji regulāri piedalās Erasmus+ programmas mobilitātes, taču pārsvarā skar šauras specializācijas studiju kursu labās prakses apmaiņu, tāpēc VRK 2018.gadā iniciēja Erasmus+ projektu "Stratēģiskā partnerība robežsargu izglītības iestāžu e-mācību sistēmu uzlabošanai (Nr. 2018-1-LV01-KA202-047003)" ar mērķi uzlabot e-mācību sistēmas robežsargu izglītības iestādēs un pilnveidot docētāju DK, salīdzinot un apkopojot paraugpraksi e-mācību sistēmu plānošanā un īstenošanā docētāju DK pilnveidē Latvijas, Lietuvas, Somijas un Igaunijas robežsargu izglītības iestādēs.

Docētāju digitālās kompetences novērtēšana militarizētā izglītības iestādē
Educators' digital competence assessment in militarized education institution

VRK docētāji tiek vērtēti kā IeM amatpersonas, reizi divos gados, atbilstoši 2016. gada 20. decembra Ministru kabineta noteikumiem Nr.845 "Iekšlietu ministrijas sistēmas iestāžu un Ieslodzījuma vietu pārvaldes amatpersonu ar speciālajām dienesta pakāpēm darbības un tās rezultātu novērtēšanas kārtība". Šo noteikumu mērķis ir novērtēt docētāju darbību un tās rezultātus atbilstoši novērtēšanas kritērijiem, noteikt uz rezultātu sasniegšanu vērstus amatpersonas uzdevumus, noteikt docētāju mācību un attīstības vajadzības, noteikt docētāju profesionālās izaugsmes iespējas, identificēt nepieciešamās izmaiņas docētāju amata aprakstā, kā arī nodrošināt regulāru atgriezenisko saiti starp amatpersonu un amatpersonas tiešo vadītāju par amatpersonas darbību un tās rezultātiem (LR MK noteikumi Nr. 845) Šie noteikumi neparedz DK novērtēšanas kritērijus un rādītājus, līdz ar to, tiešajam priekšniekam nav iespējams objektīvi novērtēt docētāju DK, savukārt docētājam nav konkrētu uzstādījumu par to, kas tieši ir jāpilnveido, laiviņa DK veicinātu e-studiju procesa attīstību VRK.

Pētnieki secina, ka motivācijai pilnveidot digitālo kompetenci ir jānāk no pedagogiem, pamatojoties uz novērtējumu, kurš mudina augt un veicina pedagogu novērtēšanu, kurai jābūt objektīvai gan no ārējo ekspertu vērtējuma, gan arī kā pašvērtējums (Taddeo et al., 2016). Pašlaik DK pašvērtējumu katrs docētājs var iesniegt savā CV, kur DK kopš 2012.gada ir iekļauta un tiek iedalīta trijos līmeņos (pamatlīmenis, vidējais un augstākais līmenis informācijas apstrādes, komunikācijas, satura veidošanas, drošības un problēmrisināšanas jomās) (Digitālās prasmes - Pašnovērtējuma tabula, 2012). Tā kā šī pašvērtējuma tabula pēc lietotāju un darba devēju atsauksmēm lieto pārāk abstraktus terminus, kas nepalīdz lietotājiem un darba devējiem saprast un identificēt nepieciešamo DK līmeni līdz 2022.gadam pašvērtējuma tabulā tiks izstrādāti precīzāki DK apraksti CV (Sundara, 2019). Daudz konkrētāki DK līmeņi izveidoti Eiropas ietvarstruktūras kritērijos un pedagogu digitālās kompetences aprakstos (turpmāk - DigiComp) docētāju digitālās kompetences novērtēšanai, kur Christine Redecker un Yves Punie (2017) DK iedala sešos līmeņos (iesācēji, pētnieki, integratori, eksperti, līderi, pionieri), kuri pēc būtības arī ļoti abstrakti definē DK, ja ar to būtu paredzēts vērtēt VRK docētāju DK. Apjomīgā UNESCO ziņojumā informācijas statistikas institūta pētnieki (Law, Woo et al., 2018) secina, ka nav universāla DK vērtēšanas instrumenta, kurš derētu visiem mērķiem dažādos kontekstos un rosina izstrādāt DK indikatorus un vērtēšanas instrumentus konkrētam saturam un mērķim. VRK docētāju DK pilnveides kontekstā būtu vērtējama Profesionālās izglītības likuma 9. panta redakcija, kurā noteikts, ka LR ministriju kompetencē ir sadarbībā ar IZM, citām valsts institūcijām un pašvaldībām organizēt savā pārziņā esošo profesionālās izglītības iestāžu

pedagogu tālākizglītību. Tādējādi, lai attīstītu LR militarizēto izglītības iestāžu docētāju DK pilnveidi, vai izstrādātu militārās pedagoģijas nozarei saistošus kritērijus un rādītājus DK objektīvai novērtēšanai būtu lietderīgi izmantot Valsts izglītības satura centra (VISC) izstrādātos materiālus projektā "Profesionālās izglītības iestāžu efektīva pārvaldība un personāla kompetences pilnveide" (VISC, 2018). Balstoties uz VISC ieteikumiem būtu lietderīgi izvērtēt iespēju un izveidot docētāju DK turpmākās attīstības darba grupu IeM sistēmā, izvēloties pieredzējušu moderatoru un pieaicinot visu LR militarizēto izglītības iestāžu vadošos ekspertus ar praktisko pieredzi e-studiju plānošanā un īstenošanā, kuri kopā formulē sākotnējo DK pilnveides un novērtēšanas noteikumu variantu, definē kopīgu stratēģisku redzējumu DK pilnveidei, nosaka konkrētus atskaites termiņus vai laika periodu. Adaptējot VISC ieteikumus, darba grupa (balstoties uz esošo pieredzi, pētījumiem, nākotnes scenārijiem un prognozēm, izmantojot kvantitatīvās un kvalitatīvās prognozes, izmantojot nākotnes scenāriju metodi u.c. kombinācijas) varētu veikt šādas darbības docētāju DK pilnveidei:

1. E-studiju un izglītības tehnoloģiju attīstības tendenču, esošās situācijas teorētiskās un praktiskās pieredzes (vietējā/nacionālā/starptautiskā līmenī) izpēte un apkopošana.
2. Faktoru, kuri ietekmēs DK attīstību tuvākajā un tālākajā nākotnē (tendences, notikumi, likumi un lēmumi, cilvēkresursi, citas ieinteresētās puses, mainīgie parametri, virzošie spēki utt.)izpēte.
3. Būtisko faktoru raksturošana - visiem iesaistītajiem ir jābūt skaidrai katra faktora definīcijai, virzošajiem spēkiem un iespējamajām izpausmēm nākotnē, kā faktori varētu izpausties scenāriju termiņā – reāli izmērāmi rādītāji.
4. Faktoru savstarpējās ietekmes analīze - kā faktori ietekmē cits citu un kuri ir kritiskie faktori – tie, kuru izmaiņas šodien un tuvākajā nākotnē visvairāk ietekmēs situāciju vidējā termiņā vai ilgtermiņā.
5. Nākotnes scenāriju veidošana, kombinējot faktoru izpausmes - ņemot vērā kritisko faktoru iespējamās izpausmes, noteikt, kas notiks ar pārējiem faktoriem loģiskā secībā (veidot attīstības ķēdi), konstatēt notiekošās izmaiņas un notikumus, redzēt kā savstarpēji saistītu sistēmu (kā rīkoties, ja piepildīsies nevēlamais un virzīties uz vēlamo scenāriju?)
6. Izstrādātos DK pilnveides un novērtēšanas noteikumus apspriest lokālā līmenī ar visām ieinteresētajām pusēm (vadība, IT jomas, izglītības plānošanas, personālvadības jomas speciālisti).
7. Izstrādātā DK modeļa izvērtēšana, pilnveides un tālākās attīstības apspriešanas rīkošana ne retāk kā reizi gadā (VISC, 2018).

Secinājumi
Conclusions

Pēc pētījumā veiktās zinātniskās literatūras un saistošo dokumentu analīzes, var secināt, ka docētāju DK pilnveide ir aktuāla visās izglītības nozarēs, līdz ar to gan esošajiem docētājiem, gan to pēctečiem DK pilnveide kļūs par ikdienišķu nepieciešamību interaktīva mācību procesa nodrošināšanai.

Lai radītu iespējas tālāk attīstīt e-studiju potenciālu un paaugstinātu mācību līdzekļu interaktivitāti militarizētā izglītības iestādē, pēc DK attīstības un vērtēšanas procesu teorētiskajiem un praktiskajiem aspektiem raksta autori, balstoties uz zinātniskās literatūras analīzi piedāvā priekšlikumus militarizētas izglītības iestādes docētāju DK pilnveidei un novērtēšanai:

1. Ņemot vērā specifisko militarizētās izglītības vidi, gan militarizētās iestādes vadībai, gan padotajam personālam ir jāveido izpratne par DK attīstības aktualitāti un nepieciešamību mūsdienīga, jēgpilna un interaktīva mācību procesa nodrošināšanai, izmantojot e-studiju vides iespējas un potenciālu, organizējot un piedaloties DK pilnveides aktivitātēs.
2. Ņemot vērā daudzveidīgo interaktīvu mācību līdzekļu izstrādes un izmantošanas rīku pieejamību, DK pilnveidei ir jānotiek pēc iespējas biežāk (vismaz reizi gadā), piemēram, pirms mācību gada sākuma, organizējot militarizēto izglītības iestāžu metodisko semināru klātienes vai tālmācības kvalifikācijas pilnveides kursu veidā, kas paredz iespēju praktiski izmantot digitālos resursus, mijiedarboties ar citiem militarizēto izglītības iestāžu docētājiem attiecīgajā profilā, apspriest aktualitātes, pārņemt labās prakses piemērus digitālo mācību līdzekļu izstrādē un pielietošanā mācību procesos.
3. Lai spētu objektīvi novērtēt (vadība) un tālāk attīstītu (pašvērtējums) docētāju DK, ir nepieciešams izstrādāt un reglamentēt specializētus, tieši militarizētas izglītības iestādes docētājiem paredzētus DK novērtēšanas kritērijus un rādītājus, piemēram atsevišķas ekspertu darba grupas ietvaros, par pamatu ņemot Eiropas ietvarstruktūras kritērijus pedagogu DK novērtēšanai.
4. Veicināt starptautisku projektu realizāciju docētāju DK pilnveidei, balstoties uz stratēģiskas labās prakses pārneses pamata e-studiju potenciāla attīstības kontekstā.

Summary

The importance of educators' digital competence development both at civil and militarised training institutions continues to be one of priorities constantly emphasized in several education development researches, strategies and action plans at international and local

level frameworks and institutions (European Framework for the Digital Competence of Educators, Digital education action plan, Erasmus+ Collaboration projects, UNESCO researches and reports on teacher digital literacy and many other initiatives prepared by European Commission and Council of Europe). Although action plans and strategies highlight the need to develop educators' digital competence the research findings show rather slow development process of educators digital competence in militarised institutions due to hierarchical and traditional training approaches and mind-set in military organisations. The research performed highlights the necessity to constantly update and supervise educators' digital competence (at least once per year by organising multi-lateral educator professional development activities both in face to face and/or online settings). Furthermore, the existing educator digital competence evaluation mechanisms are not fit for military contexts to further develop e-learning systems, develop interactive and meaningful training content. The research performed concludes that tailor-made evaluation mechanisms of educators' digital competence should be developed as an outcome of strategic working group. The working group should consist of highly experienced educators and managers (practitioners in e-learning content development) from several militarized education institutions who would jointly summarize the existing situation, define digital competence development strategy, set quality assurance mechanism, that would foster digital competence development and accountability

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THE LEARNING AND EDUCATIONAL POTENTIAL OF DIGITAL TOOLS IN HUMANITIES AND SOCIAL SCIENCE

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Abstract. *The paper focuses onup-to-date cutting-edge digital technologies that may be used in teaching university students. The authors suggest distinguishing three types of digital tools, or engines: search tools, research tools and interactive ones. The didactic and research potential of these tools is analysed. The search potential of search engines and text corpora is compared, supported by practical templates which illustrate how the engines are employed to their best. The research potential is assessed on the practical example of semantic experimental research into the difference in the meanings of the words competence vs competency. The Google-supported experiment was elaborated and illustrated against traditional polls of native-speakers, the results of the two showed good concordane which testifies to the reliable validity of research engines for linguistic experiments. Special attention is paid to interactive engines which are used in the educational context, such as Mentimeter, or supporting an educational blog. The blog is treated as a powerful tool in promoting academic writing skills in students, their communication skills and a didactical tool used for sharing professionally relevant information among the students and professors. The blog elements are described..*
Keywords:*digital technologies, search engine, research engine.*

Introduction

Digital technologies are omnipresent in our daily life, they permeate all human activities and are especially welcome in the youth's lifestyle. Being a powerful source of communication and entertainment, they can serve as an equally powerful educational tool. The digital market offers a variety of search engines and research tools which the academics can choose from and recommend them to the student.

Application-wise, we will distinguish three types of instruments that can be used for teaching / learning purposes. These are:first, **search** tools – big-data bases (Google, Yandex and the like; national text corpora: BNC – British National

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Corpus (Davis, 2008-), COCA – Corpus of Contemporary American English (Davis, 2008-), NCRL - National Corpus of the Russian Language (2003-), etc.); second, **research** tools, such as Vaal-mini (Dymshits & Shalak, 1992-), SentiStrength (Thelwall, Buckley, & Paltoglou, 2012), Tropes (1994), Mentimeter (Warström, 2014-) etc.; and third, the systems that can be treated as **interactive** ones.Their educational potential will be considered.

In this context the prime responsibility of professors is to research into abundant available web resources, assess them application-wise, i.e. understand the possible formats of applying them and potential problems that can be researched into using these resources. After that we offer recommendations to the studentsand instruct them as to how the tools can be employed. In some cases search engines will suffice, while in other ones research tools can be quite promising. What is new is the experimental potential of Google-type engines for linguistic research in addition to interviewing and sometimes substituting interviewing native speakers. Such procedures are waiting for their detailed elaboration and verification.

Search tools

Search engines are the most popular: we can relyon them in teaching languages (getting materials for the classes, exams, textbooks) and – less often – use them for research purposes: obtaining empirical data and processing them in relation to the "formal" characteristics (co-occurrence analysis, frequency-analysis), which can serve as a solid basis for contentanalysis, as a starting point for semantic and cognitive analysis (Rakhilina, 2017). Relatively new systems – compared to text corpora – used for linguistic search purposes such as Google, Yandex and the like, when used for such purposes,are arranged in the similar way and may offer new research perspectives compared to thecorpora.

In dealing with these engines for linguistic purposes the researcher has to assess the correctness of the generated dataanddegree to which she/he can trust the obtained texts / statements, whether they are fully complying with the national language code, or not.

Web or Corpus?

The research potential of digital tools - still underestimated - for linguistic research, e.g. in cognitive studies for describing word meanings, has been emphasized in (Fischer, 2010, p. 44; Tummers, Heylen, & Geeraerts, 2005, p. 233).

Availability of two competing types of databases for linguistic research – text corpora vs web google-type engines –gave rise to debates which posed the

questions to follow: can web resources be treated as a full-fledge analogue of text corpora;what is the basic difference(s) between the two that can taken into consideration when choosing the best data base in solving research problems, and some otherissues (Gatto, 2014).

Researchers claim that web resources offer wider scopes, variety and greater volumes of data, admit their high availability and accessibility, together with "impartiality" of the texts which are more free from the authors styles and choices compared to text corpora – the above features make up for the deficiencies that can be traced in the google-type web systems (Mordovin, 2015). However, as relatively new resources, search engines require further investigations, e.g. due togrowing interest in them, lack of well-elaborated search procedures and detailed analysis of their full potential, assessment of the degree of trust in this data, their spontaneity and specificity.

One of the most widespread engines is Google – due to its high speed, simple operation, data capacity and easy functional information retrieval, although it is not free from some deficiencies such as high information noise (which can be easily removed using mathematical probability theory – see (Fisz,1963)), lossof some information, etc.

I.M. Petrova offers a comprehensive comparative analysis of the web vs text corpora research potential with reference to binomial noun phrases (Petrova, 2018). She analyzed the Google logistics and described the role of the search thesaurus (special dictionaries for information retrieval, a descriptor as a means of lexical control – e.g. detecting homonymy, synonymy), an internet flexiblesearch algorithm which relies on operators, symbols. This means help modifying the search criteria, as well as their combinations, which allows to enter complex queries. For example, operator "…" fixes the order of words in a phrase, or the keyword encoded as a direct request, or as incorrect entry. In the latter, the phrases are changeable – they admit other words, varying word forms, word order and punctuation marks. The more detailed the retrieval request, the better the resulting data.

I.M. Petrova concludes that web resources offer practically unlimited data, belonging to a great variety of stylistic genres; when preparing information for the web, it is processed by the system in terms of semantics, a wider search function allows the user to get more focused data to meet the more demanding needs.The text corpora are less flexible, the data are limited in some respects (Petrova, 2018).

It is clear that web resources are a promising tool calling for further developement as a search engine.

Both data bases can be used as research tools in experimental / empirical research.

Research engines

When employed as a research tool, Google, Yandex and others are actually used in experimental format, for semantic / cognitive purposes (Suleimanova & Petrova, 2018). It means that they can substitute native speakers of the language who are interviewed in the experiment and work as "interviewees". Let us demonstrate how it works using a pair of words *competence / competency*and exemplify how data bases can be used for semantic analysis (full comprehensive semantic analysis of these words can make the subject of a special research and is not offered within this paper). These words are actually treated as absolute synonyms, they are defined in the Longman dictionaryas:*competence* also *competency* 1. ability to do what is needed (the second meaning refers exclusively to court and is a legal term, the third is qualified as *lit or old use* – these two meanings are not analyzed here). In VisualThesaurus the words are also explained one through the other. What follows from the definitions is that the two words share the same meaning and there is no difference between the two,which can be challenged as linguists agree that there are no absolute synonyms in the language. If there were, we could expect that the words could be used interchangeably in all the contexts. Working on that presumption, we tried to substitute one for another in some contexts and discovered that they were not completely interchangeable, e.g. we can say *I admire his competence as a supplier* and cannot say**I admire his competency as a supplier*. (Here the informant said that *Being a supplier is a generic activity, and cannot be described as a specific skill*.) So we conclude that there is some difference, which has to be researched into.

Here we start working with the text corpora– first in quite a traditional, well-elaborated format, calculating their right and left distributions, as "the complete meaning of a word is always contextual, and no study of meaning apart from a complete context can be taken seriously" (Firth, 1935, p. 37). Moreover, the 'bottom up' method (J. Channel) is efficient when "researchers must have in front of them a large number of examples… the researcher cannot start by 'thinking of an example' and then look for citations of it. Hence observations … involved looking in detail – and individually – at most of the lexis of current English" (Channel, 2003, p. 41).

Corpus experiment

The research format began with searching BNC (British National Corpus) and COCA (Corpus of Contemporary American English) for utterances which contain words *competence* and *competency* and calculate their distribution characteristics.

The frequency analysis showed for *competence* in **BNC**1482 occurrences; in **COCA** – 7053 occurrences; *competency* – BNC only 58 occurrences and in COCA – 2110 cases. One might presume that, first, *competence* is more widespread in the American English (Am.E) than in the the British English (Br.E); second – *competency* is for some reason (which we hope to find) is quite successfully competing with *competence.* Still, *competency* is far less frequent (esp. in Br.E).

Corpora data can be substantially complemented by web data, i.e. Google Books Ngram viewer (Davis, 2011)shows that *competency*used to be more frequent since 1800 than *competence.* First digitally recorded mention of *competency* date back to 1800 (A Report of the Debate in the House of Commons of Ireland) and it was mainly used in court. It sheds some light on the difference between the two words – *competency* tends to refer to professional discourse, e.g. in the legal language. It used to denote financial background of a person and gradually started since the 19th century to develop a more general meaning. The formerly infrequent *competence* rapidly grew more frequent.

See the graphs below.

Figure 1 ***The dynamics of the use of the word "competency" years 1800-2000*** *(Davis, 2011)*

It shows that *competency*does not demonstrate significant fluctuations and remains within the statistical error.

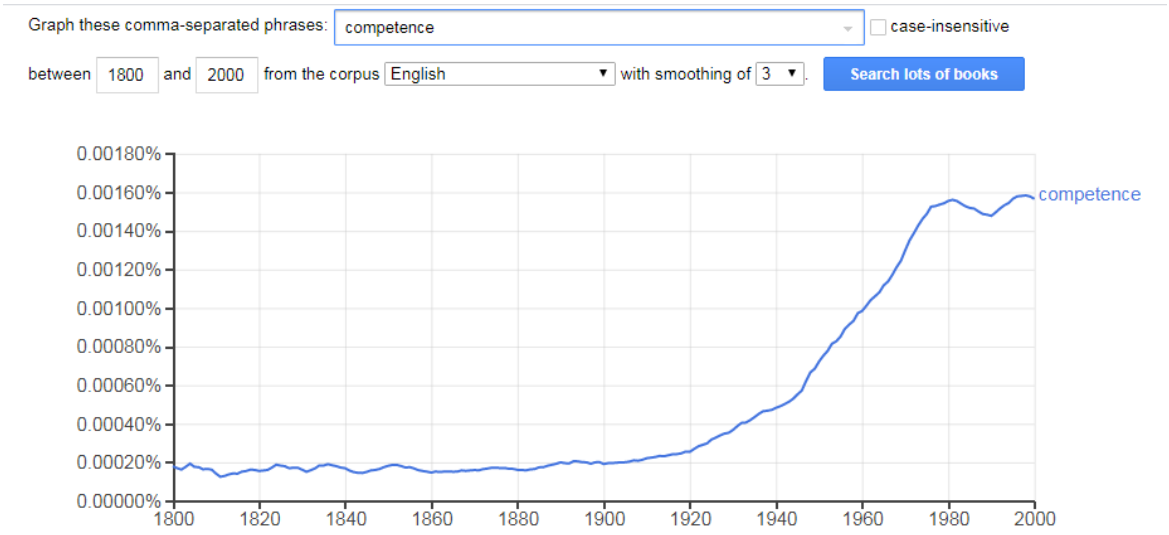

Figure 2 ***The dynamics of the use of the word "competence" years 1800-2000*** *(Davis, 2011)*

The graphs show the relative stability of *competency* as compared to *competence* which is gradually becoming more "active" since 1940.

In this way we found one more argument which supports our claim that the two words are not identical in their meaning.

Proceed to the next step -corpora analysis and calculate distributions of the two nouns

We found in COCA and BNC that *competence* can be preceded by a variety of adjectives, such as *special, professional,linguistic,social, basic, potential, communicative,* and some noun attributes:*vision / language/ teacher competence;* it isgoverned by such verbs as *limit,display, strengthen, lack, achieve (the) competence; competence* may be in some sphere*: in English / using environment / in moving / in personal mobility.*

*Competency*combines withtheattributes*teacher competency (test),* in stock phrases *competency based training methods / curriculum / testing;* can be governed by verbs*develop, enhance, assess, achieve,*etc.

What follows is thatboth words share some distribution features: they both can be modified by the adjectives *cultural competence / competency, teacher competence / competency*, be governed by the same verbs. And now we can exploit Google as a research engine and "ask" it if it is possible to use them interchangeably in all the contexts. We selected minimal word combinations, substituted the original word with its synonym and sent a request into Google which provided, first, statistics and a group of combinations which Google rejected and suggested using *competence* instead of *competency:potential competence of* (3 510 entries) while for*potential competency of* the system suggested using *potential competence*. See also recommended change of *degree of competency* for *degree of competence*, or *language competency* for *language*

competence; vice versa *team competence matrix* replacing for *team competency matrix.*

What follows from statistics is that *competence* nowadays is much more frequent, besides we were able to generate a hypothesis (which was later supported by an interview with a native speaker (Robin C., aged 73, degrees in Modern History and Psychology, Market Researcher and former EFL teacher, now retired)which runs as follows: judging by the usage and Google-based focused experiment where the speaker discussed the process of education, which can be measured, tested (it is naturally based on step-by-step mastering of different skills), *theteam competency matrix, competency based training* (720 000 entries, in contrast to *competence based training* – decimated to 74 600 entries), *competency levels* 303 000 (cf. *competence levels* 153 000), or *competency chart* 1 410 (cf. *competence chart* 415), *competency based* 6 270 000 (against *competence based* 1 030 000), *competency test* 559 000 vs *competence test* 104 000, *computer competency* 168 000 and *computer competence* 63 700 vs *competency* in 6 340 000, *competency model* 546 000 vs *competence model* 214 000,we presumed that *competency* refers to some skill which the protagonist can obtain and employ, while *competence*refers mostly to the general ability to act as required in the given context.

Not surprisingly, our interviewee (we referred to several informants and asked them to assess the correctness of the phrases in accordance with the well-elaborated procedures of the semantic experiment (Seliverstova & Suleimanova 1985), using 3 grade scale. Some of them assessed the phrases, others, like the abovementioned one, tried to offer their ideas which were analyzed and related to our hypothesis – see below) claims that the *word "competence" means having the ability to do something at an acceptable level. By extension it can have a legal meaning that it is an area over which a person or body, institution etc. can have the power or authority to act.* He suggests an utterance where both words are interchangeable *"We would expect a person coming to our house to service the central heating boiler to have* ***competence*** *in plumbing /"The company expects employees servicing central heating boilers to have* ***competency*** *in plumbing."*

The next explanationthe informant suggested is different*:*

"Many people dispute whether the decision to prevent Boris Johnson from proroguing Parliament lies within the ***competence*** *of the Supreme Court, because it was a matter that should have been decided within Parliament and should not, in theory, be a matter over which the Law has jurisdiction." The example above about Parliament is logically not possible if we use "competency" instead of "competence".* ***Competency*** *is limited to a specific skill or ability. So I don't think "competency" would make any sense in the Parliament example.*

Comparing the data we obtained from the database and the hypothesis we suggested, on the one hand, with the poll of the native speaker(s), on the other,

we see that healthy combination of traditional semantic experiment interviewing native speakersand research engines empower the researcher with a powerful time-consuming triangulation instrument if used in the experimental format (Suleimanova & Demchenko, 2018).

Then, other research engines, to mention such programs as,e.g.,Vaal-mini (determines the emotional charge of the text, works on Russian texts only), SentiStrength, Tropes, Google Scholar, Trello, Mendeley, Scrivener, Scanmaker empower the researcher with the mechanisms which are focused on specially designated tasks, e.g., determine the potential emotional impact on some target group, carry out linguistic expertise of the text (in practical purposes – in court, in analyzing potential terrorist threats, etc.). These tools are actively used by the linguists as they show quite reliable results. (We recommend these tools to the students and they, as "digitally born" millennials (Sheninger, 2014), and many of them already computer geeks, refer to them and successfully employ in their research. These programs are free and available in the internet, are easy to employ and are accompanied by clear instructions. One has to enter the program name and will immediately get an access. What the professor is expected to do here is give a student some guidelines and the program name which will direct the student towards the relevant tool.

Of special interest is Mentimeter as a psycholinguist's helping hand / as an instant poll results provider. It is a relatively new research tool which generates polls' returns immediately in 12 different graphic formats, e.g.

Figure 3 ***Mentimeter poll results presented in the form of a word cloud***

This word cloud was generated in the poll at the 54th Linguistics Colloquium (Moscow City University, September 2019). The picture with the results of the poll features the information about the number of participants (124) as well as the platform (Mentimeter). (After the poll is completed the results are sent by the system to the e-mail address of the author of Mentimeter presentation.)

And that makes it an indispensable tool for psycholinguistics where a researcher, instead of asking (often reluctant) respondents to kindly participate in a poll, can get immediate returns from willing and involved participants who actuallyenjoy, first,being polled via the phone (inclass), second, watching the resultimmediately dynamically featuring in a very attractive format on the screen, in the form of a constantly changing cloud. The process is started with the command *to take and switch on the phone*, then *go to* www.menti.com, then *enter the code 11 22 57 and vote*. Voting can be carried out in the digital or verbal form, e.g. a researcher– a psycholinguist, or a social scientist, a specialist in (cross) linguocultural studies–is studying associations with some concept that are generated in the consciousness of the interviewed. The latter is asked to punch in the word-associate(s) into the phone. As easy as that! The results are being displayed on the screen online with the polling process going on in the real time. Participants to the poll (usually young) are fascinated by the process, being immersed into it. Students admit that they enjoy this process both as researchers and as the interviewed. Third, this programoffers 12 (!) possible graphic representations which are automatically generated by the system, to add to the variety of the learning format. This tool's potential needs to be practically analyzed yet.

Interactive Engine

The third of the variety we are promoting here is even more recent (see Sheninger, 2014) and we would like to open a discussion on how we as teachers can benefit from it and demonstrate it on the practice introduced in Moscow City university.

It is running blogs, we practiced two independent ones – one for the students (actually monitored by a student) and one more for the teachers, with the educational message (see https://edublogs.org/?join-invite-code=7190279-65). We argue that such blogs differ from those run on one's personal experience, on what the bloggers saw and did. Educational blogs are meant to promote educational purposes and to disseminate professional knowledge; the blogs help students master relevant skills which they acquire both while actively contributing to the blog content and to downloading the experience and expertise from the previous learners.

The student and professor blogs are mirroring each other to some extent as they share some materials. They comprise the following parts: *Academic Chances, Academic Faces, Academic Tips, Academic Sharing, Academic Events, Academic Classroom English* and some others.

What we had in mind when we started the project was the idea to boost students' and teachers'creativity and motivation engaging them in contributing to the contents, in addition to providing them all with the relevant information concerning learning.

For instance, 2nd year students were asked (within the General Linguistics course where they were discussing research methods and techniques, in view of the term research paper) to reflect upon the digital methods they will use in their research, in the form of an essay (500 words). The essays were sent to the blog, and the students will have a chance to read their peers' essays, moreover, next year students will be in a better position as regards their progress as they will be able to relate the information to their own research without teachers' instructions. It means that the students are actually teaching each other, and learning from each other. In fact, first-year students are already using this blog element (in Moscow City University students majoring in translation studies are assigned research problems in their first year which are to be presented in the form of a term paper). The students share their experience in the form of essays – e.g., undergraduates write about their educational trajectory, about what motivates them in their studies and career aspirations. These essays are in great demand with the first-years and sophomores who are developing their professional identity through them.

The point is that the blog implies regular feedback and the practice of contributing there is gaining momentum – students find facts and figures which are relevant for their professional growth, and this practice of sharing knowledge boosts their professional self-esteem. It makes students more sensitive and responsive to the information around. Besides, developing academic writing skills is professionally relevant for prospective translators.

The blog can be also helpful in many other respects: e.g. *Academic chances* features fresh information on forthcoming academic events (conferences, publications), both for teachers and students, for example, the most recent information was on upcoming in April, 2020 "International Science and Practice Related Conference "Relevant Issues of Variontology, Communication and Cognitive Linguistics". Despite the call for papers, the blog features the registration form for this conference and the form to fill in submitting author's details, which is very convenient. *Academic faces* provides information about teachers' publications – it can be used both by students, colleagues, and third parties who decide on the chair as a collective opponent for the thesis, etc. When students embark on the research career they have a happy chance to get a comprehensive picture of the faculty / chair members' research interests, of what

is being done by their professors and immediately feel involved and "at home". Besides, they feel free to participate, to contribute to the common cause. For example,this category features tips and guidelines on writing Web of Science- and Scopus-indexed papers. *Academic Tips* deal with (random) new and promising research vistas and cutting-edge research (web) tools,description of the British National Corpus, COCA, Google Ngram Books, tips on Mentimeter usage and guidelines on empiric base description. *Academic sharing* offers synopses of the professors' achievements which briefs on three keyinnovative results of their papers. One can find there information on Web of Science publications, papers, monographs and other relevant publications. Web*Academic events* focuses on the educationally-relevant forthcoming events in the local and global educational environments, meant for both the professors and students. This year Moscow City University celebrates its 25th anniversary, so as a part of celebrations and as a part of International Translator's Day, students of MCU presented their posters focusing on various types and aspects of University activities (international cooperation being among them). *Academic classroom English* is devoted to phrases, words and communication strategies which lead to the best perception. For instance, instead of saying *I am not ready* the students are encouraged to say *I'd rather wait before I commit myself*, which might as well be relevant when they are qualified and move up their career ladders. The question *Who is missing today*? at the beginning of the lesson sounds tolerant and up to the time. The best answer that might follow is at least *P. is missing*, with a still better phrase *P. sends his / her apologies* which might save colleagues' reputation when used at work and at the same time produce a favourable impression on the potential stockholder.

Academic malpractices treats translation mistakes which both professors and students observe around, it helps boost professional sensitivity to the wrong practices and finally avoid and prevent them. Moreover, here researchers can find relevant guidelines on avoiding common mistakes in academic writing (*следуетотметить* instead of *стоитотметить*).

Conclusion

In the digital era, against the background of abundant web resources, we have to choose the ones which exactly meet the requirements we set and we must be able to assess their potential and efficiency for solving the problems we are facing in the educational practice. We argue that, application-wise, three types of instruments that can be used for teaching / learning purposes must be distinguished. These are **search** tools – big-data bases (Google, Yandex and the like; national text corpora: BNC, COCA, National Corpus of the Russian Language, etc.); **research** tools, such as Vaal-mini, SentiStrength, Tropes,

Mentimeter, etc.; and **interactive systems**.

The search tools represented by big-data engines such as text corpora and databases of the Google type are used to service traditional purposes – they provide unlimited text information, more abundant and well classified in Google as a rapidly developing engine and similar data bases as well as text corpora.

Using research tools still needs elaboration and assessing their potential for (student) research, especially for experimental linguistic research, where it is necessary to combine this potential with traditional polls of the native speakers.

Interactive tools are powerful motivators for the students and contribute to a variety of professionally relevant skills, such as academic writing, research skills, professional communication formats, when students get involved into profession, its challenges and prospects as early as possible through communicating with the peers and professors.

Distinguishing three types of digital tools, or engines: search tools, research tools and interactive ones and analyzing their didactic and research potential, supported by practical illustration of how the engines are employed to their best let the authors demonstrate that digital technologies being a powerful communication and entertainment resource in addition may serve as an equally powerful education tool. The (student) researcher can try and combine the tools, taking into account their deficiencies and advantages, understanding their pros and cons. The digital market offers a variety of search and research engines which the academics are to choose from and to recommend them to the student.

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E-STUDIJU TEHNOLOĢIJAS JAUNIEŠU DROŠĪBAS VEICINĀŠANĀ

E-learning Technologies in Promoting Youth Safety

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Abstract. *In today's changing environment, with different risks and threats, there is a need to find new ways to educate young people about existing security threats, both physical and virtual. To facilitate this, it is necessary to regularly improve the knowledge of various members of the society on various safety issues. By timely educating members of the society about the various possible unsafe situations and risks, its members will be prepared for an unsafe situation and will know what to do, thus avoiding unnecessary chaos and panic. In addition, it should be understood that today's new opportunities for e-learning and its processes, are reasons to revise the pedagogical process as such, as e-learning platforms can achieve a more personal effect rather than make the learner feel like one small and unimportant part in the audience. Although there may be a loss of personal contact between the teacher and the learner, but the interaction in the large audience is minimal as well. For this purpose, analysis and evaluation of documents, scientific, pedagogical and psychological literature was carried out, as well conclusions were summarized on the possible impact of e-learning technologies on the promotion of youth safety.*
Keywords: *e-studies, e-learning, safety, youth, pedagogical process.*

Ievads
Introduction

Mūsdienu mainīgajā vidē, pastāvot dažādiem riskiem un draudiem, ir nepieciešams atrast jaunus veidus, kā jauniešus izglītot par pastāvošajiem drošības draudiem, kā fiziskajiem, tā arī virtuālajiem. Lai veicinātu jauniešu informētību un izglītotību, ir nepieciešams regulāri un mērķtiecīgi uzlabot ikviena sabiedrības locekļa zināšanas par dažādiem drošības jautājumiem. Savlaicīgi izglītojot cilvēkus par dažādām potenciālajām situācijām un riskiem saistībā ar drošības jautājumiem, indivīdi būs zinošāki un informētāki par adekvātu uzvedību sarežģītās situācijās un izpratīs, kā atbilstoši situācijas kontekstam rīkoties, tādējādi novēršot vai mazinot nevajadzīgo haosu un paniku riska situācijās.

Papildus ir jāsaprot, ka mūsdienu jaunās informatīvi komunikatīvās iespējas

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saistībā ar e-studiju un e-mācību procesiem ir iemesls pārskatīt pedagoģisko procesu kā tādu, jo ar e-studiju platformu palīdzību ir iespējams panākt personīgāku efektu, nevis likt audzēknim justies kā vienai mazai un nesvarīgai daļai lielā auditorijā. Kaut gan, iespējams, ka informatīvi komunikatīvajā izglītošanas pieejā, iesaistot mācību procesā e-studiju tehnoloģijas, varētu mazināties personīgais kontakts starp pedagogu un audzēkni, taču bieži vien arī lielajā auditorijā tradicionālajā lekcijā pedagoģiskā mijiedarbība kļūst minimāla.

Raksta mērķis ir izpētīt un aktualizēt e-studiju tehnoloģiju iespējamo pielietojumu jauniešu drošības veicināšanā.

Pētījumā tika veikta dokumentu, zinātniskās, pedagoģiskās un psiholoģiskās literatūras un starptautisko pētījuma datu analīze un novērtēšana, kā arī apkopoti secinājumi par e-studiju tehnoloģiju iespējamo ietekmi jauniešu drošības izjūtas veicināšanā.

Drošība un tās izjūta
Safety and its sense

A. Maslova (Maslow, 1943) izstrādātā psiholoģijas teorija norāda uz to, ka viena no personas būtiskākajām pamatvajadzībām ir nepieciešamība pēc drošības, ko varētu raksturot kā vēlmi izvairīties no fiziskām sāpēm un vēlmi justies droši.

Ē. Holnagels (Hollnagel, 2014) ir norādījis, ka viena no drošības izpratnēm ir kā „brīvība no nepieņemama riska", kas nozīmē: sistēma ir droša, ja nenotiek nekas neparedzēts. Tieši tādēļ liela nozīme ir profilaksei sabiedrības izglītošanā. Savlaicīgi izglītojot sabiedrības locekļus par dažādām iespējamām situācijām un riskiem saistībā ar drošību, tās locekļi būs gatavi kādai nedrošai situācijai un zinās, kā rīkoties, tādējādi neradot nevajadzīgu haosu un paniku. Sabiedrības izglītošana notiek arī pašai sabiedrībai bieži vien, to neapzinoties. A. Peina, A. Mendelsona un J. Dudaja (Pine, Mendelsohn, & Dudai, 2014) pētījums pierāda, ka cilvēku izvēles var tikt ietekmētas zemapziņas līmenī, pašiem cilvēkiem to neapzinoties, kā arī to, ka šī zemapziņas ietekme darbojas ilgtermiņā. Tādējādi, aplūkojot dažādu informāciju, cilvēki neapzinoties to patur zemapziņā līdz brīdim, kad tā būs nepieciešama. Līdz ar to ir nepieciešams sabiedrībai regulāri atgādināt par dažādiem jautājumiem, kā rīkoties nedrošās un bīstamās situācijās, jo nepieciešamības gadījumā, konkrētajai apdraudētajai personai zemapziņā jau atradīsies nepieciešamais risinājums, lai mazinātu konkrētā gadījuma bīstamību. Tieši tādēļ ir jāmeklē jauni risinājumi, kā izglītojot sasniegt pēc iespējas lielāku sabiedrības locekļu grupu un informēt drošības jautājumos, pašai sabiedrībai to īpaši neapzinoties.

Ekonomiskās Sadarbības un Attīstības organizācijas (The Organisation for Economic Co-operation and Development - OECD) 2015.gada pētījumā par OECD dalībvalstu iedzīvotāju labizjūtu (OECD, 2015), secināts, ka 2010.gadā

vidēji 4 procenti OECD dalībvalstu iedzīvotāju ir piedzīvojuši uzbrukumu, savukārt, 2014.gadā vidēji 68 procenti OECD dalībvalstu iedzīvotāji ir norādījuši, ka jūtas droši pārvietojoties vienatnē nakts laikā. Eiropas Komisijas (European Commission, 2016) pētījumā par uz dzimumu balstītu vardarbību 2016.gadā, konstatēts, ka vidēji 24 procenti aptaujāto respondentu pazīst kādu savā ģimenes vai draugu lokā, kurš cieš no vardarbības ģimenē. Apskatītie dati liecina, ka pastāv dažādas vardarbības izpausmes pasaules iedzīvotāju vidū. Lai arī OECD statistikas dati liecina, ka no vardarbības cieš 4 procenti dalībvalstu iedzīvotāji, tomēr pārvietojoties nakts laikā vienatnē, droši jūtas tikai divas trešdaļas no aptaujātajiem respondentiem. Taču, lai cilvēki dzīvotu harmonizētā līdzsvarā ar sevi un būtu apmierināti un gandarīti par savu dzīvi, drošības izjūta ir viena no būtiskākajām sociālajām pamatvajadzībām. D.J. Hils (Hill, 2003) norāda, ka, uzlabojot cilvēku izpratni par personas drošības izjūtu, pastāv mazākas iespējas kļūt par upuri. Laikus novērtējot iespējamos riskus, esot modram nedrošās un haotiskās vietās, pievēršot uzmanību apkārtnei, pārvietojoties ar pārliecību, apgūstot pašaizsardzību, kliedzot pēc palīdzības, nepadarot iespējamo zādzību vienkāršu, izvairoties no ieradumiem un ierastās kārtības un apdrošinoties, ir iespējams veicināt katra sabiedrības indivīda drošības izjūtu.

Jauniešu sasniedzamība
Reaching youth

Latvijas Republikas "Jaunatnes likums" (Jaunatnes likums, 2008) nosaka, ka jaunieši ir personas vecumā no 13 līdz 25 gadiem. Savukārt, Eiropas Savienībā (European Commission, 2011) tiek uzskatīts, ka jaunieši ir personas vecumā no 15 līdz 29 gadiem. Aplūkojot Eurostat datus (Eurostat, 2019a), ir jāsecina, ka diemžēl mēdz atšķirties izpratne par jauniešu vecumu atkarībā no datu iegūšanas tēmas. Piemēram, aplūkojot Eiropas Savienības iedzīvotājus pēc vecuma grupām, tiek izdalītas personas no 15-24 gadiem un no 25-49 gadiem, savukārt apskatot bērnu un jauniešu populācijas datus, tiek izdalīti bērni vecumā no 0-14 gadiem un jaunieši no 15-29 gadiem. Taču, apskatot datus par jauniešu interneta lietošanas paradumiem, tiek izdalītas vēl dažādākas vecuma grupas – 16-19 gadiem, 16-24 gadiem, 16-29 gadiem, 20-24 gadiem un 25-29 gadiem. Līdz ar to nav iespējams precīzi definēt personas vecumu, kurā tā tiek uzskatīta par jaunieti.

2018. gadā Eiropas Savienības 28 valstīs jaunieši vecumā no 15 līdz 29 gadiem ir 17 procenti no visiem Eiropas Savienības iedzīvotājiem (Eurostat, 2018). Tas nozīmē, ka Eiropā jaunieši sastāda vienu sesto daļu no iedzīvotājiem, taču vēl ir arī bērni, kuri kļūs par jauniešiem agrāk vai vēlāk. Līdz ar to, jauniešu īpatsvars Eiropas Savienībā ir visnotaļ nozīmīga daļa no kopējā

iedzīvotāju skaita, kurai ir vērts pievērst uzmanību.

Akcentējot jauniešu nozīmi sabiedrībā un valsts attieksmi pret jaunieti, Latvijas Republikā ir izdots "Jaunatnes likums", kurā tiek noteikti pamatuzdevumi darbā ar jaunatni:

1. atbalstīt un veicināt jauniešu iniciatīvas, radot labvēlīgus apstākļus viņu intelektuālajai un radošajai attīstībai;
2. nodrošināt jauniešiem iespēju iegūt dzīvei nepieciešamās prasmes, zināšanas un kompetences neformālās izglītības ceļā;
3. nodrošināt jauniešiem iespēju lietderīgi izmantot brīvo laiku;
4. nodrošināt jauniešiem viņu attīstības vajadzībām atbilstošas informācijas pieejamību (Jaunatnes likums, 2008).

Tas nozīmē, ka Latvijas valsts uzskata, ka ir svarīgi nodrošināt jauniešiem vidi un apstākļus, lai tie varētu veiksmīgi pilnveidoties, papildus to darot arī ar neformālās izglītības palīdzību. Tādējādi tiek noteikts, ka paralēli klasiskai izglītībai mācību iestādēs, ir jāpilnveido jauniešu iespējas izglītoties, izmantojot arī dažādas neformālās izglītības sniegtās iespējas.

Ārpus Latvijas robežām, plašākā kontekstā Eiropas Komisija, izstrādājot jauniešu stratēģiju (2019.-2027.gadam) (European Commission, 2019), fokusējas uz trīs galvenajām rīcībām:

1. Iesaistīšana – veicināt jauniešu līdzdalību pilsoniskajā un demokrātiskajā dzīvē.
2. Savienošana – vienot jauniešus visā Eiropas Savienībā un ārpus tās robežām, lai veicinātu brīvprātīgu iesaistīšanos, mācību mobilitāti, solidaritāti un starpkultūru izpratni.
3. Iespējas došana – atbalstīt jauniešu iespēju palielināšanos caur kvalitāti, inovācijām un jaunatnes darba atzīšanu (European Commission, 2019).

Tādējādi Eiropas Komisijai ir vēlme aplūkot jauniešus Eiropas Savienības robežās un ārpus tām kā vienotu grupu, nevis izcelt katras valsts jauniešus atsevišķi. Papildus tiek izteikta vēlme veicināt jauniešu iespējas izmantot jaunas un inovatīvas metodes.

Eiropas Savienības rezolūcijā (Eiropas Savienības Oficiālais Vēstnesis, 2018) par Eiropas Savienības Jauniešu stratēģiju 2019.-2027.gadam tiek norādīts, ka jauniešiem ir jānodrošina droša vide, lai viņi varētu attīstīt savu pašapziņu, kā arī izglītoties neformālā gaisotnē. Līdz ar to, līdzīgi kā Latvijas Republikas Jaunatnes likums, tā arī Eiropas Savienības jauniešu stratēģija norāda uz nepieciešamību pēc jauniešiem drošas vides, un arī tiek akcentēta jauniešu izglītošana, izmantojot neformālo izglītību, gaisotni. Tādējādi var secināt, ka darbā ar jauniešiem, izglītojot viņus, ir nepieciešams izmantot neformālās mācību metodes, kā arī ir jāveicina droša un neformāla vide jauniešu attīstībai.

Pievēršot uzmanību neformālai videi, tiek uzsvērts, ka ir nepieciešams izglītot jauniešus viņu ierastajā vidē, kura tad varētu tikt arī uzskatīta par neformālās izglītības vidi. Pēc Eurostat (Eurostat, 2019b) datiem, internetu Eiropas Savienības dalībvalstīs, katru dienu 2018.gadā lietojuši 95% jaunieši vecumā no 16 līdz 29 gadiem. Tas nozīmē, lai sasniegtu jauniešus un sniegtu viņiem papildus zināšanas par dažādiem jautājumiem, ir nepieciešams izmantot internetu un tā sniegtās iespējas. Viena no produktīvākajām iespējām jauniešu sasniegšanai internetā ir, izmantojot e-studijas vai tām līdzvērtīgas metodes, pievēršot uzmanību tieši uz iespējamajiem nestandarta risinājumiem. 2018.gada 17.janvāra Eiropas Komisijas (Eiropas Komisija, 2018) paziņojumā Eiropas Parlamentam, Padomei, Eiropas Ekonomikas un sociālo lietu komitejai un Reģionu komitejai par Digitālās izglītības rīcības plānu tika noteiktas 3 rīcības prioritātes:

1. labāka digitālo tehnoloģiju izmantošana mācīšanas un mācīšanās mērķiem;
2. attiecīgo digitālo kompetenču un prasmju attīstīšana digitālās pārveides īstenošanai;
3. izglītības uzlabošana ar labākas datu analīzes un prognožu starpniecību (Eiropas Komisija, 2018).

Tādējādi Eiropas Komisija ir atzinusi, ka ir nepieciešams, izmantot digitālās tehnoloģijas, tai skaitā internetu, lai sniegtu jauniešiem mācīšanās iespējas tieši, izmantojot modernās tehnoloģijas.

Apvienoto Nāciju Organizācijas Ģenerālā asambleja (United Nations, 2019) 2015.gadā izvirza 17 globālos Ilgtspējīgas attīstības mērķus, kuros 16. mērķis ir "Veicināt miermīlīgu un iekļaujošu sabiedrību ilgtspējīgai attīstībai, nodrošināt taisnīgas tiesas pieejamību visiem un izveidot efektīvas, atbildīgas un iekļaujošas institūcijas visos līmeņos". Šī mērķa viens no uzdevumiem ir "Izbeigt visu veidu vardarbīgu izturēšanos pret bērniem, viņu izmantošanu, tirdzniecību un spīdzināšanu". Līdz ar to, globālā mērogā ir noteikts, ka ir jāizbeidz dažāda veida vardarbība pret bērniem. Viens no potenciālajiem risinājumiem - izglītot bērnus un jauniešus par dažādiem vardarbības veidiem un, galvenokārt, kā no tiem izvairīties, kā arī to, kā rīkoties, ja ir iestājies, kāds no šiem vardarbības veidiem.

Latvijas un Eiropas nostājā jaunatnes jautājumos tiek akcentēta arī drošības un drošas vides nepieciešamība jauniešiem. Drošība ir "stāvoklis, situācija, kad nedraud briesmas" (Oxford University Press, 2019). Līdz ar to, lai justos droši, apkārtnei ir jārada drošības izjūta, kā arī pašam indivīdam ir jāapzinās dažādi faktori, kuri ietekmē drošību, lai spētu tos attiecīgi pielāgot, tādējādi radot drošības izjūtu. Tā kā jaunatnei ir būtiska nozīme valstu turpmākajā attīstībā, ir nepieciešams panākt to, lai jaunieši apzinās dažādus drošības riskus un spēj tos novērst vai mazināt, tādējādi radot drošu vidi sev un apkārtējiem.

Latvijas Republikas Kultūras ministrijas iniciētajā pētījumā (Latvijas Universitātes Sociālo zinātņu fakultāte, 2017) par 9 līdz 16 gadus vecu bērnu un pusaudžu medijpratību Latvijā, tiek secināts, ka izglītības procesā nekavējoties nepieciešams pievērst uzmanību jautājumiem, kas saistīti ar drošību internetā. Tā kā bērni un jaunieši pavada daudz nekontrolēta laika internetā, tad izglītošanu par drošību internetā un arī cita veida drošības jautājumiem ir nepieciešams veikt arī tieši internetā.

E-studijas jauniešu izglītošanā
E-learning in youth education

Lai spētu raksturot e-studiju modeli, ir nepieciešams apskatīt definīcijas, kuras apraksta e-studijas un to izglītojošo procesu:

- E-studijas - mācības, kas notiek izmantojot elektroniskos saziņas līdzekļus, parasti internetu (Lexico, 2019).
- E-studijas tiek definētas kā mācības, kuras tiek piedāvātas apgūt ar digitālajām ierīcēm, kā datoru vai mobilās iekārtas, kas ir paredzētas, lai atbalstītu mācīšanos (Clark & Mayer, 2008).
- E-studijas – dažādu tehnoloģiju instrumentu, piemēram, tīmeklī balstītas, izplatītas vai iespējamas, lietošana izglītības nolūkos (Nichols, 2003).
- Informācijas un komunikāciju tehnoloģiju (IKT) izmantošana, lai atbalstītu izglītošanās mijiedarbību ar saturu, mācīšanās aktivitātēm, rīkiem un citiem cilvēkiem audzēkņa zināšanu un prasmju attīstīšanai (Rossiter, 2002).
- Visas elektroniski atbalstītās izglītošanās un izglītošanas formas, kuru procesa raksturs un mērķis ietekmē zināšanu paaugstināšanu, ar akcentu uz individuālo pieredzes praksi un audzēkņa zināšanām (Tavangarian, Leypold, Nölting, Röser, & Voigt, 2004).

Visās iepriekš raksturotajās e-studiju definīcijās galvenais akcents tiek likts uz tehnoloģiju un digitālo ierīču izmantošanu un, protams, uz pašu izglītošanās procesu. Dažās no definīcijām atsevišķi minēts arī internets, ar kura palīdzību iespējams izglītoties. Definīcijās atšķiras uzskaitītais instrumentu kopums un akcenti, lai izceltu e-studiju specifiskās īpašības.

D.Bouds un G.Feleti (Boud & Feletti, 1997) norāda, ka, veidojot e-studiju kursu, ir nepieciešams izveidot skaidru konceptu karti par mācību satura tēmu un struktūru, paredzēt audzēkņiem nepieciešamos līdzekļus, lai tie varētu secīgi apgūt materiālu, kā arī noteikt veidu, kā pārbaudīt, vai audzēkņi un pats e-studiju kurss sasniedz izvirzītos mērķus, to, kas paredzēts. Tas nozīmē, ka, izveidojot e-studiju kursu, svarīgi ir visi procesi jau sākumā, izveidojot un izplānojot precīzu un plašu darbības stratēģiju (didaktisku aprakstu) un konceptu

karti. Pats e-studiju kursa veidošanas process būs vieglāks, it sevišķi, ja pie tā strādā komanda, kā arī pēc tam visa kursa novērtēšana un iespējamo kļūdu labošana būs sekmīgāka. Taču, ja e-studiju kurss tiek veidots bez strukturēta un saprotama pamata, tad jau pats kursa veidošanas process var būt neizdevies un, protams, arī pats kurss un iegūtās audzēkņu zināšanas būs neapmierinošas.

S.De Freita (De Freitas, 2006) apgalvo, ka mūsdienu mācību un mūžmācīšanās procesā simulācijas ir atbilstošas izglītības kontekstam, lai atbalstītu specifiskās mācību vajadzības, īpaši profesionālajā izglītībā. Simulācijas un pēdējā laikā arī spēles, tiek izmantotas arvien biežāk, lai apgūtu konkrētu darbību scenārijus un pilnveidotu prasmes jau savlaicīgi uzsākot profesionālo karjeru. Autori secina, ka ar simulāciju palīdzību profesionālajā izglītībā un nestandarta jautājumos ir iespējams apgūt specifiskās, nepieciešamās zināšanas savlaicīgi, līdz ar to nonākot reālajā vidē, būs nepieciešams mazāks laiks, lai pielāgotos nepieciešamajām situācijām.

Uz e-studiju metodes pozitīvajiem faktoriem, salīdzinot to ar tradicionālo izglītības metodi, norādījuši arī W. Admirāls un D. Lokhorsta (Admiraal & Lockhorst, 2009), skaidrojot, ka e-studijas kļuvušas par populāru neformālās izglītības metodi, jo tai ir daudz priekšrocību – nav nepieciešamas telpas, ir ievērojama transporta izmaksu samazināšana, tiek nodrošināta savlaicīga piekļuve informācijai un ir lielāka elastība darba vietā, risinot audzēkņu vajadzības. Tādējādi ir iespējams padarīt kā formālo, tā arī neformālo izglītību pieejamāku sabiedrībai, neatkarīgi no tās atrašanās vietas. Papildus arī samazinot dažādas izmaksas kā mācību organizētājiem, tā arī cilvēkiem, kas izglītojas.

E-studijas noteikti paver daudzveidīgas iespējas to izmantošanā, jo tās sniedz plašāku iespējamo metožu pielietojumu. E-studiju sākuma stadijā ir jāizšķir dažādie e-studiju veidi, vai tās būs ierastajam izglītības procesam pielāgotās metodes, vai arī šie veidi būs pielāgoti izglītošanās procesam, kuram klasiskajā izglītības sistēmā līdzvērtīgu procesu būs grūti piemeklēt.

E-studiju metode ir efektīva arī tādēļ, ka izglītošanās process var notikt ne tikai ar datora, bet arī ar viedtālruņa un citu moderno tehnoloģiju palīdzību. A. Rozena (Rosen, 2009) skaidro, ka e-studiju mērķis ir izglītot tad, kad audzēkņi tam ir gatavi, ar ierīcēm, ko viņi izmanto. Ļoti svarīgi ir izveidot izglītojošo saturu tā, lai tas darbotos uz visām iekārtām: interneta pārlūkiem, operētājsistēmām, veicinot jaunās informācijas apgūšanas pieejamību plašai interesentu grupai. Tas gan nenozīmē, ka e-studijas ir iespējams izveidot pilnīgi visām iekārtām, taču e-studiju veidotājiem ir jāņem vērā ļoti populāras ierīces iespējas – viedtālruņa. Noteikti ir būtiski apzināties mūsdienu tehnoloģiju sniegtās iespējas. Ja ir vēlme e-studiju saturu piedāvāt jauniešiem, tad ir nepieciešams izmantot arī tās tehnoloģijas, kuras jaunieši izmanto ikdienā. Pievēršoties ne tikai ierīcēm, bet tieši arī dažādām platformām, programmām un

aplikācijām, kuras mūsdienu jaunieši uzskata par daļu no savas ikdienas rutīnas. Tādēļ ir nepieciešams noskaidrot konkrētās e-studiju mērķgrupas nianses ne tikai informācijā, ko tā vēlas apgūt, bet arī par rīkiem un kanāliem, kuros tie ir sastopami. Apgalvojumu apstiprina arī M. Romero, L. Gvardijas, M. Guiterta un A. Sangaras (Romero, Guardia, Guitert, & Sangra, 2014) secinājums, ka mūsdienās pedagogam ir jāattīstās arī citā lomā, kļūstot par mācīšanās veicinātāju, nevis kādam, kurš nodod informāciju. Pedagogam ir jākļūst par satura ģenerētāju un IKT lietošanas veicinātāju, it īpaši sociālajos tīklos un Web 2.0 rīkos. Iepriekš minēto autoru viedoklis pauž arī atziņu, ka mūsdienu pedagogam ir nepieciešama prasme iekļaut mūsdienu tehnoloģijas izglītošanās procesā kā pašam, tā arī nododot šīs zināšanas audzēkņiem. A. Okada, C. Rabelo un G. Fereira (Okada, Rabello, & Ferreira, 2014) norāda arī uz to, ka mācību platformas ir mainījušās uz sociālajiem tīkliem un personalizētu vidi ar vairākām interaktīvām saskarnēm, piemēram: sociālie mediji, blogi, wiki, RSS barotnes, tiešsaistes konferences, kartēšanas rīki, mācību analītikas un mobilās aplikācijas. Tas nozīmē, ka zināšanu konstruēšanas procesu var organizēt ārpus ierastās mācību vides. Mūsdienās pat ierastās e-studiju platformas ir nepietiekošs instruments e-studiju mācību procesā. Tajā ir jāiesaista mūsdienu tehnoloģijas un kanāli. Kā atzīmē A. Jusofs (Yusoff, 2010), tad datortehnoloģiju izmantošana izglītības procesā sniedz iespēju: mijiedarboties, nodrošinot mācīšanos darot un eksperimentējot, risināt problēmas, pārbaudīt hipotēzes, pilnveidot prasmes un izaicināt tās, attīstīt radošo domāšanu un lēmuma pieņemšanas spējas, padziļināti mācīties, pielāgoties audzēkņa līmenim, mācīties kolektīvi un sadarbojoties, kā arī sociālajā tīklošanā gūt jaunu pieredzi. Mūsdienās datortehnoloģijas sniedz plašas iespējas kā sociālajā saskarsmē, tā arī mācīšanās procesā un pat zinātniskajā darbībā. Galvenais ir gribēt un prast izmantot šīs mūsdienu tehnoloģiju sniegtās iespējas ikdienas darbā.

Ekonomiskās Sadarbības un Attīstības organizācija (OECD, 2016) ziņojumā ir norādījusi, ka inovācijas izglītībā ir jaunu izglītības instrumentu, metožu, tehnoloģiju un struktūru izveide un ieviešana. Lai gan inovācijas nav pētījumi, tās bieži balstās uz pētījumiem un zināšanu attīstību un pastāv mainīgos procesos un pieredzēs, lai uzlabotu sniegtā pakalpojuma kvalitāti un produktivitāti. Tieši tādēļ ir nepieciešams rast jaunas pedagoģiskās pieejas dažādiem izglītojošiem pasākumiem un programmām. Ir nepieciešams sniegt jauniešiem jaunas un mūsdienīgas pieejas izglītojošas informācijas piekļuvei, meklējot iespējamos risinājumus jauniešu pašizglītošanā drošības jautājumos, viņiem pašiem to pat pilnībā neapzinoties.

Noslēgums
Conclusions

Pamatojoties uz zinātniskās literatūras avotos un normatīvajos dokumentos aktualizēto atziņu analītisko pārskatu, publikācijas noslēgumā var secināt, ka ikvienas personas drošības un pašizjūtas jautājumi ir sociāli nozīmīgi un būtiski katra sabiedrības indivīda attīstības un pilnveidošanās procesā.

Tā kā jauniešu īpatsvars Eiropas Savienībā sastāda gandrīz vienu piekto daļu no tās iedzīvotājiem, kā arī jāņem vērā bērni, kuri būs topošie jaunieši, ir svarīgi pievērsties tieši jauniešu izglītošanai par drošības jautājumiem. Jaunieši ir sabiedrības nākotne un būtiska topošā paaudze, uz kuru balstīsies Eiropas Savienība, tādēļ tieši pedagoģiski izglītojošā uzmanība ir jāpievērš jauniešu mērķauditorijai, viņu izglītošanas un pašizglītošanās iespēju pilnvērtīgai un produktīvai īstenošanai e-vidē, aktualizējot drošības jautājumu daudzveidīgos kontekstus un potenciālās darbības stratēģijas riska situācijās.

Izmantojot e-studiju tehnoloģijas jauniešu drošības veicināšanā, pedagoģiskajā procesā liela vērība jāpievērš tehnoloģijām, kuras jauniešiem kļuvušas jau par neatņemamu ikdienas sastāvdaļu, kā arī dažādiem sociāliem tīkliem un aplikācijām. Jāņem vērā to, ka izglītojošajam pedagoģiskajam procesam virtuālajā vidē ir jābūt uzmanību piesaistošam un savā ziņā iesaistošam, kā arī ir nepieciešama inovatīvu instrumentāriju izstrāde, kas veicina jauniešu izziņas aktivitāti un intelektuālo pilnveidošanos gan personības izaugsmes, gan drošības jautājumu izpratnes kontekstā.

Summary

The aim of this paper is to make a theoretical study to explore the potential use of e-learning technologies in order to enhance youth safety.

Based on the analytical overview of the findings of scientific literature sources and normative documents, it can be concluded that the issues of safety and self-esteem of each person are socially significant and important in the process of development and improvement of each individual in society.

As the proportion of young people in the European Union is close to one fifth of its population and it is important to take into account children who will become part of the youth, it is important to focus specifically on educating young people about safety issues. Young people are the future of the society and an important future generation on which the European Union will be built. Because of that, the pedagogical educational focus has to be aimed on the youth audience and full and productive realization of their educational and self-educational possibility in e-environment, by updating the diverse context of safety issues and potential strategies for action in risk situations.

When using e-learning technologies to promote youth safety, the pedagogical process should focus on technologies that have become an integral part of everyday life for young people, as well as various social networks and applications. It should be borne in mind that the educational pedagogical process in the virtual environment must be eye-catching and in

some way engaging, as well as the development of innovative tools that promote cognitive activity and intellectual development of young people in the context of both personal development and safety awareness.

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CONTEMPORARY NEEDS OF MEDIA LEARNING MATERIALS FOR FUTURE Z-ENGINEERS

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Abstract. *Modern students are digital natives: from an early age, they are used the Internet, social networks and mobile systems. Due to the specific brain structure of Generation Z students, the use of traditional teaching tools makes the learning process not effective. Also, an insufficient number of lecture hours in curricula requires from students more independent work. This article presents the experience of creating interactive teaching materials designed to study and master the skills of graphical engineering subjects. Educators of technical universities from five countries took part in the development of the material. These interactive teaching tools are created with the aim of improving the quality of engineering education, the rapid and effective presentation of educational material, which will contribute to the understanding of difficult topics.*
Keywords: *DIAD-tools, Engineering Graphics, Generation Z, interactive teaching tools.*

Introduction

The modern era is a period of highly developed information technology. New technologies are changing all areas of our lives, including education. The current generation of students is actively using innovative Internet technologies. Generation Z from an early age actively uses computers, camcorders, mobile phones and other tools of the digital era. Contemporary students first began to play computer games, and only then began to learn to read and write, or these processes occurred in parallel. Due to the huge amount of interaction with the digital environment, thinking processes and information processing process of modern students takes place in a different way in comparison with their predecessors. They need to receive information quickly. They love the parallel process and multitasking. They prefer graphics and video rather than printed text and the learning process by way of the game.

The rapid development of information technology and the search for new educational methods of generation Z have contributed to research in the field of educational technology. Educational computer games are being developed that consider the specific aspects of teaching engineering graphics and contribute to

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the development of spatial abilities (Jurane, 2013). The article (Branoff & Dobelis, 2012) considers a method for measuring literacy in the field of engineering graphics using modern 3D parametric modelling CAD software. Using spatial comprehension and interpretation skills of the assembly drawing, students had to model as many individual parts as possible over a limited period.

Studies show that video can be an effective teaching tool (Weinberg & Thomas, 2018). A review of the studies revealed several advantages, including an increase in students' interest in learning, academic performance on tests, and an improvement in the perception of educational material (Kay, 2012). Video material is an important pedagogical tool in the process of education of the 21st century and there are more and more studies in which the best methods are identified to make the learning process using video more successful (Guo, Kim, & Rubin, 2014), (Kim et al., 2014).

The article describes educational specific needs of Generation Z students and the results of the project "Development of Interactive and Animated Drawing Teaching Tools" DIAD-tools. In the development of the project, the specific needs of students in modern teaching materials were taken into account. The aim of the project is to create learning tools for teaching engineering graphical subjects for modern students of vocational schools, colleges and universities. These interactive teaching tools will enable to better master the teaching materials and increase future z-engineers motivation to study as well as help students memorize the information and put it into practice. As training tools, video materials on certain topics of engineering graphics and descriptive geometry were created.

Needs of Generation Z

Generation Z is the first generation born in the world of global technology. They grew up in the world of the global Internet, smartphones and videos, gaming devices and social networks. The use of modern technologies (such as GPS, Bluetooth, etc.), which have traditionally been used only in professional fields, is natural for them. Electronic technology has supplanted spatial performance. Therefore, students often have difficulties with abstract concepts (Cilliers, 2017). Students rely on online resources rather than notes, and they expect an entertaining component from lectures. Enrolling at universities, they expect to get into an environment like the virtual world. The generation does not memorize information well but knows for sure where it can be quickly found and is always ready to consult in social networks. This indicates the need for rapid information receiving, visual forms of training. The "brain of generation" is adapted to complex visual images, which makes visual forms of learning particularly effective. However, Generation Z has clip thinking and is not ready to perceive new information for a long time. This should be considered when developing

training videos. It should also in mind that a representative of this generation was born and raised in a stable time. At first, his parents decided everything for him, now he expects the same from teachers. Therefore, students have difficulties with independent work. The goal of the generation training is to move from traditional teaching methods to a learning strategy designed for Z-students.

DIAD-tools
Description of the project

The DIAD-tools project brought together members of eight organizations from five European countries - Latvia, Lithuania, Poland, Slovakia and Estonia. The duration of this project is thirty months, the start of the project is October 2017. The target group of the project included the following categories of people: students of vocational schools, teachers of vocational education, students of higher schools and colleges, lecturers of higher schools and colleges, as well as scientists and specialists in the field of Technical Graphics, Descriptive Geometry, Engineering Computer Graphics, Civil Engineering, Mechanical Engineering.

The partners of the DIAD-tools project were picked in accordance with their work experience, competencies, skills necessary for the implementation of the project. The following organizations participated in the project: Public Institution Vilnius Builders Training Centre - project applicant, coordinator; Slovak University of Technology in Bratislava - the creation of educational materials; Ida-Virumaa Vocational Education Centre - dissemination and evaluation of activities; Vytautas Magnus University. Agriculture Academy - analysis of methodological materials and creation of educational materials, Lithuanian Society of Engineering Graphics and Geometry - monitoring of progress, quality and achievement of project activities; Riga Technical University - creation of educational materials; Panevėžio kolegija / University of Applied Sciences - preparing a methodology for testing educational materials of a project, processing test results and developing recommendations for improving educational materials; Silesian University of Technology - the creation of teaching materials.

The goal of the project is the creation of interactive and animated teaching tools for studying certain topics of engineering graphics and descriptive geometry. Developed teaching tools have to motivate students to learn and facilitate comprehension of teaching materials. Project participants had the opportunity to share their experience in the field of teaching. When developing training materials, the symbols and drawing elements were in accordance with ISO international standards. Universities experts from four countries of the European Union working on the creation of teaching materials developed four chapters of interactive teaching tools:

1. Execution of drawings. Geometric drawing.
2. Basics of projection drawing. Views. Sections. Sectional views.
3. Joints of parts. Working drawings of parts.
4. Construction drawings.

Materials were created in accordance with the following steps:

1. analysis and description of the content of topics (English version);
2. collecting information, structuring content and creating materials (English version);
3. Posting a trial version of materials on the project website (English version);
4. translation of the textual content of educational materials from English into Lithuanian, Estonian, Latvian, Polish, Slovak;
5. posting translated teaching materials on the project website and preparing for testing;
6. testing a trial version of training materials in partner countries;
7. processing of test results and development of recommendations for improving educational materials;
8. Improving materials, creating the final version and publishing the improved version of the project training materials on the project website.

Needs Analysis Study

At the stage of developing the content of educational materials, the Needs Analysis Study was conducted. The survey was organized in five countries participating in the project. The purpose of this survey was to study the methodology of teaching graphic subjects in the countries of the project partners, the relevance of the chapters of educational materials, the standards used, the difficulties encountered in learning and teaching graphical subjects, the labor market requirements for the level of training of graduates of vocational schools and higher educational institutions. Three questionnaires were prepared for the following target groups:

1. educators, teachers, scientists;
2. students and
3. employers, representatives of the labor market. 56 completed questionnaires were received from employers, 149 from teachers and 349 from students.

To identify the content of the chapters of training materials, in the questionnaire the questions about the topics of technical graphics that are the most difficult for teaching and studying were included. This part of survey was presented by following questions: “What problems of shaping drawings seem

more difficult to understanding?", "Which geometrical construction themes seem more difficult to understanding?", "Which projection drawing tasks seem more difficult?", "What seem more difficult in machine drawing creation?", "Which problems seem more difficult in constructional drawing?" Comparing the answers of the first two target groups, it was found that the opinions of students and teachers on this issue coincide. Both teachers and students called the dimensioning in the shaping section the most difficult task for understanding students (38,3% - teachers, 24,4% - students), the complicated themes in the mastering of the projection drawing are the creation of cuts (33,2% and 32,6% respectively) and the identification of objects from an orthogonal projection drawing (30,6% and 26,0%). For students, the creation of a section (21,3% and 30,7% respectively) is also most often mentioned as the more difficult task of this section. In the field of mechanical engineering drawing the topic of assembly drawings (40,2% and 32,7%) is mentioned as causing problems. In the construction drawing section, teachers and students identify drawing in cross section (39,5% and 34,5%) as the most difficult task for students.

Answering the question, what difficulties arise in the process of teaching the subject, educators called the main problems are the lack of pre-knowledge (36%) and interest in studying the subject (24,8%) among students, as well as many students in the class (14%) (Figure 1).

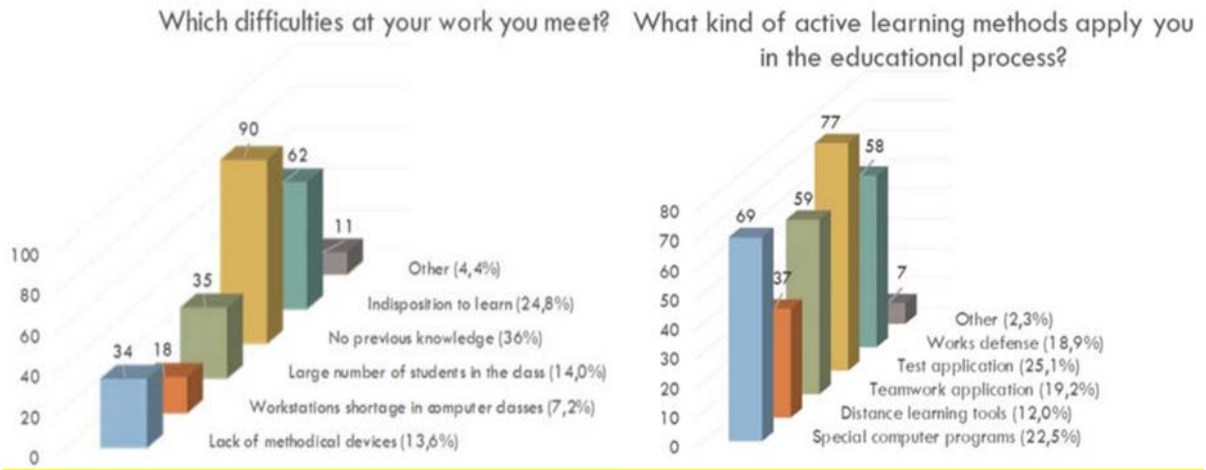

Figure 1 ***teachers answers on the questions "Which difficulties at your work do you meet?" and "What kind of active learning methods do you apply in education process?"***

This confirms the relevance of the project and the need to create video training materials since for Generations Z the visual form of training is the most effective and able to motivate and promote students' interest in the study. Special computer programs (22,5%), applying tests (25,1%) and teamwork (19,2%) were named as the methods and tools used in the educational process by the largest

number of educators (Figure 1). This may indicate a lack of training videos in engineering graphical subjects.

Students in their responses noted the importance of engineering graphics in their future careers, and as the main difficulties arising in the study of the subject indicated the lack of prior knowledge and skills needed to create a drawing (Figure2). This indicates the lack of effectiveness of teaching methods of the new generation and the need to create entertaining and interactive teaching tools considering the needs of Generation Z students. Students also expressed a wish to pay more attention to the students, who have never drawn. This need can be met by using video because the student has the opportunity to choose the average rate of information and repetition of training material until sections of the material being learned.

The opinions of teachers and students also coincided on the need to study technical drawing in schools. The results of the survey showed that most teachers and students (78% of teachers and 63% of students) suppose that this subject should be compulsory in educational institutions.

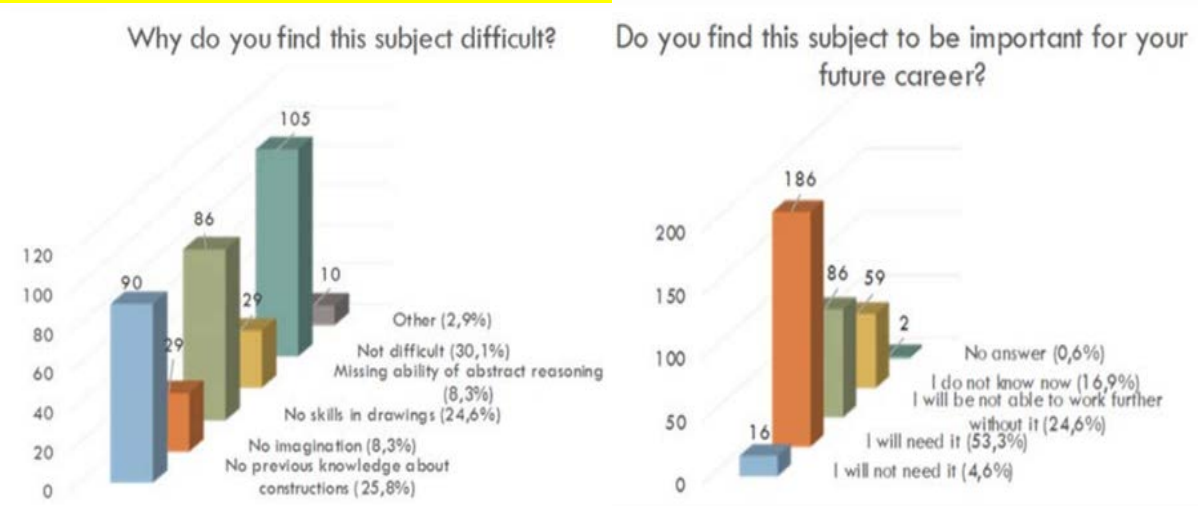

Figure 2 ***students answers on the questions "Why do you find this subject difficult?" and "Do you find this subject to be important for your future career?"***

The average skill level of graduates of vocational schools was evaluated by employers. Knowledge of standards and technical documentation, identification of objects in an orthogonal projection drawing, and understanding of an assembly drawing were rated below average (Figure 3).

According to labour market representatives, graduates of vocational and high schools should have more practical skills, the ability to personalize (configure) CAD systems and be able to use Building Information Modelling software. Graduates also need to have basic knowledge in the field of production technology, tolerances and fit, roughness, machine design, which is necessary for

the correct design and reading of the list of machine parts. Freehand sketching is a desirable skill in the job market.

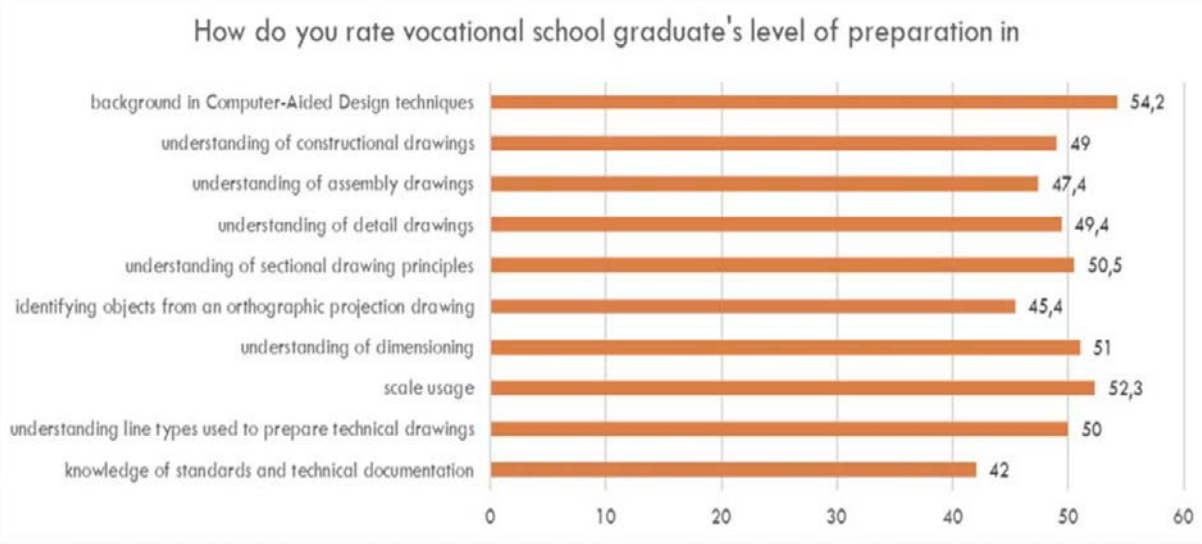

Figure 3 ***the average level of qualification of vocational school graduates***

Interactive and animated drawing teaching tools

Researchers and teaching staff of the Computer Aided Engineering Graphics Department of RTU were responsible for the creation of the third part of training materials “Joints of parts. Working drawings of parts”. In the progress of the project, five training videos were developed. The duration of one teaching material is from 6 to 9 minutes.

The created interactive video materials followed the principles of the cognitive theory of multimedia learning in order to briefly and clearly provide students with information on the topic (Figure4). The cognitive theory of multimedia learning (Meyer & Moreno, 2005) argues that learning is more effective when words and images are combined to summarize information. This theory defines basic principles of multimedia design:

1. Explanation with words and pictures is better than just words;
2. It is necessary to present words and pictures at the same time, and not separately;
3. To facilitate the processing of visual information for students, it is necessary to limit the visual text to keywords or resumes and present the words as auditory narratives;
4. The principles 1, 2, and 3 work better when students have only limited prior knowledge of content or limited spatial abilities and use only the keywords and essential images to present a coherent summary of information.

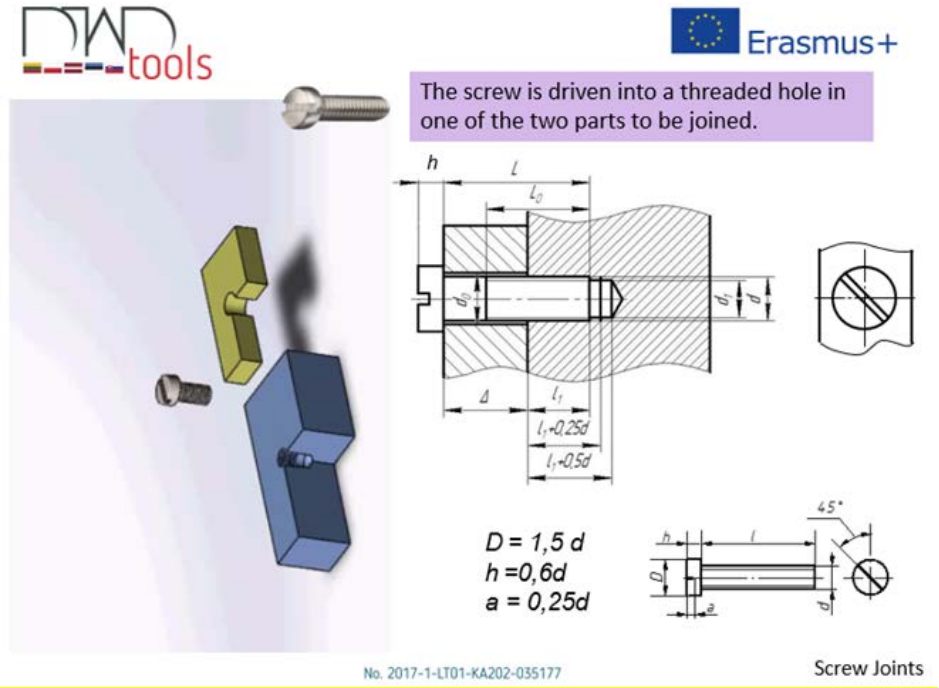

Figure 4 ***Example of the training video "Threaded Fastenings"***

Created video materials can be a component of a learning strategy designed for Z-students and can be used as an additional educational tool to classroom lectures. Educators could demonstrate these learning materials, complementing the topics of their curriculum. Using the created video facilitates the work of the educator, makes it possible to use other teaching methods in the classroom to strengthen or improve learning through other activities. This educational resource is especially necessary when there are a large number of students in the classroom when it is very difficult for the teacher to devote time to each student.

Developed interactive and animated drawing teaching tools consider the characteristics of students. Students will be able to independently study the educational material at a convenient time and at the chosen pace, to study interactive materials as often as they want, until they fully understand it. Watching videos, they may spend more time interacting with content than when attending a lecture. For questions asked to the student in the video material, there is no need to give a quick answer, as it would in a live lecture. Since the interaction between the student and the video takes place in the student's free time, it is possible to ponder the information, check other sources, and then answer the question.

The developed video material can be used in any form of online education (flipped, blended, and fully online) (McGuire & McGuire, 2015) and for independent study of educational material. In the flipped classroom, the teacher uses the video for extra-curricular activities, but the time in the classroom - to interact with students and solve problems (Bergman & Sams, 2012).

Conclusions

- The use of video materials is one of the methods of transmitting information using the visual perception of students.
- When developing a video, it is important to keep time limits, so that students stay focused on the training materials.
- Students can receive information quickly and briefly. Students manage to discuss materials and communicate, which allows them to study in a social environment.
- The video courses allow students to watch learning materials at a convenient time and place using smartphones, which allows them to preserve mobility and independence.
- The educational videos have a minimum of text, which allows students to use the videos for independent work and allows lecturers to use them during lectures with additional explanations, comments and remarks.

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TRANSFORMATĪVĀ DIGITĀLĀ MĀCĪŠANĀS AUGSTĀKĀS IZGLĪTĪBAS KONTEKSTĀ: TRADICIONĀLĀS UN TRANSFORMATĪVĀS KONCEPCIJAS SALĪDZINĀJUMS

Transformative Digital Learning in the Context of Higher Education: Comparison of Traditional and Transformative Concepts

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Abstract. *The topicality of the research problem is connected with transformative digital learning (TDL) in the context of higher education. The presence of technology in educational processes leads to a significant restructuring of the learning environment, promoting deep, strategic and personalized learning in lecturer-student collaborative teams, incorporating effective technology learning methods and learning to be based on new experiences and values creation.*
This article will review the issue of learning process in higher educational institutions focusing on traditional and transformative learning concepts. It is the preliminary result of on going applied research of RTA Research Institute for Regional Studies (RIRS).
The aim of this article is to determine the necessity of learning process transformation in higher educational institutions analyzing proposals of experts from Latvian higher educational institutions and define the perspectives of TDL in the context of higher education. The research is based on two-part survey conducted for Latvian experts: 1) comparison of traditional and transformative learning concepts; 2) proposals for TDL perspectives and implementation. The results showed the necessity of learning process transformation, indicating the perspectives and its implementation problems.
Keywords: *higher education, learning process transformation, traditional learning, transformative digital learning.*

Ievads
Introduction

Mūsdienu sabiedrības visās dzīves jomās, tajā skaitā izglītībā un zinātnē, tiek meklēti un testēti modeļi, kas ir piemērojami realitātei un laika izaicinājumiem. Attīstoties zināšanām, personāla kvalifikācija un kompetence iegūst izšķirošo nozīmi valsts sociāli ekonomiskās attīstības tempa palielināšanā un iedzīvotāju dzīves kvalitātes uzlabošanā. Tas izskaidro uzmanību, kas tiek pievērsta izglītības

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ieguldījuma palielināšanai valsts modernizācijas stratēģisko uzdevumu risināšanā (Makarova, 2016).

Studiju process augstākajās izglītības iestādēs pēdējā laikā ir piedzīvojis nopietnas izmaiņas, kas saistītas ar Boloņas procesu, kas veicina sadarbību starp 48 Eiropas valstīm augstākās izglītības jomā, vienotas Eiropas izglītības telpas un diplomu sistēmas izveidi, studiju procesa digitalizāciju, lai atvieglot studentu un personāla mobilitāti un padarīt augstāko izglītību pieejamāku, pievilcīgāku un konkurētspējīgāku (EC, 1999).

Pastāvīgā pedagoģijas objekta un priekšmeta paplašināšana noved pie pakāpeniskas didaktikas kā pedagoģiskās disciplīnas studiju lauka paplašināšanas. Ja tradicionāli pedagoģiskā realitāte tika uzskatīta par pedagoģijas objektu, tad šodien, paplašinoties pedagoģijas kā sociāli humānās zinātnes zinātniskajam statusam, tās izpētes objekts ir sociālā un pedagoģiskā realitāte. Šajā sakarā didaktiku var uzskatīt par "zināšanu sistēmu par noteikta veida realitāti – mācību procesu". Didaktika ir vienojošais jēdziens, kas aptver mācīšanas un mācīšanās savstarpējās nepieciešamības, atkarības un nosacītības attiecības divu un vairāku cilvēku mērķtiecīgā mijiedarbībā (Žogla, 2001).

Turklāt šis termins plašākā izpratnē nozīmē ne tikai īpaši organizētu mācību procesu, kas tiek veikts sociālajās izglītības institūcijās, bet mācīšanos visās iespējamajās šī procesa izpausmēs. Mūsdienu didaktikā pētījumu objekts ir reāli mācību procesi, lai varētu atklāt sakarības starp dažādiem mācīšanās aspektiem un mācību procesa strukturālo un materiālo elementu būtiskās īpašības (Makarova, 2016).

M.A. Bautista, M.E. Cipagauta (Bautista & Cipagauta, 2019) norāda, ka izglītības jauninājumi ir saistīti ar didaktiskajām un metodiskajām stratēģijām, tie tiek iekļauti izglītības procesos un ir svarīgi, lai meklētu un izstrādātu izmaiņas, reaģētu uz jaunās paaudzes vajadzībām vietējā un globālā aspektā, pielāgojoties tām. Tas nozīmē resursu, mācīšanās, docētāja un studenta lomu transformāciju un informācijas un komunikācijas tehnoloģiju aktīvu pielietojumu.

ASV Valsts izglītības tehnoloģiju vadītāju asociācija (SETDA, 2001) uzsver, ka būtiska mācīšanās sastāvdaļa ir digitālo lietojumprogrammu, rīku un resursu izmantošana, lai studenti varētu veidot saturu, sadarboties ar ekspertiem un vienaudžiem, kā arī piedalīties dažādās simulācijās. Personalizētā pieredze nodrošina studentcentrētu pieeju, kas dod iespēju studentiem pārņemt kontroli pār savu mācīšanos, kā pamatā ir elastīgums un izvēle. Svarīgi izglītībā veikt "revolucionāras pārmaiņas, nevis evolucionāras nianses" un ir jāizmanto tehnoloģijas, lai visiem studentiem nodrošinātu saistošu un spēcīgu mācību pieredzi.

Pētījuma problēmas saistās ar transformatīvo digitālo mācīšanos (TDM) augstākās izglītības kontekstā. Tehnoloģiju klātbūtne izglītības procesos rada ievērojamu mācību vides pārstrukturēšanos, sekmējot dziļu, stratēģisku un

personalizētu mācīšanos, kā arī docētāju un studentu sadarbību, iekļaujot efektīvas mācību un mācīšanās metodes, par pamatu ņemot jaunu pieredzi un vērtību radīšanu.

Šajā rakstā apskatīts studiju process Latvijas augstākās izglītības iestādēs, koncentrējot uzmanību tradicionālajām un transformatīvajām mācību koncepcijām. Tas ir provizorisks RTA Reģionālistikas zinātniskā institūta (REGI) pētījuma rezultāts FLPP programmā.

Raksta mērķis ir noteikt studiju procesa augstākās izglītības iestādēs transformācijas nepieciešamību, analizējot Latvijas augstākās izglītības iestāžu ekspertu priekšlikumus, un definēt TDM perspektīvas augstākās izglītības kontekstā.

Transformatīvā digitālā mācīšanās (TDM)
Transformative digital learning (TDL)

G. Vaitbijs (Whitby, 2017) uzskata, ka transformācija ir pārveidošana, kaut kā būtiskāko īpašību, veida vai formas izmaiņas. Tas ir ļoti apjomīgs, konceptuāls atspoguļojums, ko plaši izmanto dažādās zinātnēs. Jēdziens "transformācija" zinātniskajās teorijās vairāk nekā citi atbilst izmaiņu būtības un specifikas atklāšanai.

Savukārt, runājot par izglītības teorijām, K. Robinsons (Robinson, 2019) norāda, ka didaktiskie jautājumi paliek nemainīgi, bet, attīstoties sabiedrībai un izglītībai, atbildes uz tiem mainās. Tādējādi, izmantojot "transformācijas" jēdzienu, pētnieki (Bazana, McLaren, & Kabungaidze, 2018, Jackson, Toarniczky, Matolay, & Gáspár, 2019) spēj identificēt un izsekot teorijas izmaiņām dažādos sociokulturālos apstākļos. Tajā pašā laikā tiek saglabāta mainīgo pamatelementu "galvenā nozīme", "loģiskais ekvivalents". Pēc N. Makarovas (Makarova, 2016) pārveidošana ietver nepārtrauktību, teorijai raksturīgo elementu savstarpēju iespiešanos dažādos tās attīstības posmos, kas pilnībā saskan ar idejām par zinātnisko racionalitāti un iekšējo vienotību: katrs jauns pasaules attēls tiek veidots kā iepriekšējā pārveidojums, un starp tiem pastāv nepārtrauktība.

Digitālā transformācija izglītībā ir neizbēgams pārmaiņu process, kas pieprasa mainīt saturu, metodes, studiju procesa organizatoriskās formas digitālajā izglītības vidē un ir vērsts uz valsts sociālekonomiskās attīstības problēmu risināšanu ceturtās industriālās revolūcijas (Industrija 4.0) (Osburg, 2015; Schmidt & Cohen, 2017) un digitālās ekonomikas attīstības kontekstā (Richardson, 2020). Izglītības digitālās transformācijas būtība ir katra studenta nepieciešamo izglītības rezultātu sasniegšana, personalizējot izglītības procesu, kura pamatā ir IKT pieaugošā potenciāla izmantošana, ieskaitot mākslīgā intelekta metodes, virtuālās realitātes rīkus; digitālās izglītības vides attīstība;

publiskās platjoslas piekļuves Internetam nodrošināšana, darbs ar lielu datu apjomu (Uvarov, Van, Kan et al., 2019).

Pēc I. Žoglas, I. Prudnikovas un O. Mikhailenko (Žogla, Prudnikova, & Mykhailenko, 2019), izmantojot digitālās lietojumprogrammas, rīkus, instrumentus un resursus, studenti var izveidot saturu, sadarboties ar ekspertiem un vienaudžiem, kā arī piedalīties simulācijās. Personalizētā un individualizētā pieeja nozīmē, ka mācīšanās centrā ir students, un tas ļauj viņam elastīgi pārņemt kontroli pār savu mācīšanos un veikt nepieciešamo izvēli.

Tomēr, kā norāda I. Logvinovs (Logvinov, 2003), klasiskie didaktiskie jautājumi paliek nemainīgi: Ko mācīt? (saturs); Kā mācīt? (metodes, pieejas, organizācijas formas); Kāpēc mācīt? (mērķi); Kam mācīt? (prasības studentiem – mācīšanas subjekts). Tomēr tie jāpapildina, jo mūsdienu pasaulē notiekošās pārmaiņas – dzīves tempa paātrināšanās, jaunu profesiju un nodarbinātības veidu parādīšanās un drīza izzušana – rada jautājumus par izglītības rezultātiem un kā tos izmērīt. Šos jautājumus var formulēt šādi: Kādas ir izglītības stratēģijas?; Kādi ir izglītības rezultāti?; Kā izmērīt izglītības rezultātu?; Kādas kompetences tiek veidotas?; Kādam jābūt mācību procesam, lai veidotos kompetences?; Kāda ir nelineārā mācību procesa arhitektūra?; Kas māca?; Kas mācās? utt. Galvenie didaktiskie modeļi ir bagātināti arī didaktikas attīstību. Klasisko didaktisko likumu specifika raksturo mācīšanas, mācīšanās un izglītības satura likumsakarības (Pakshina & Gostyaeva, 2010).

Pētījuma metodoloģija
Research methodology

Pašreizējā pētījuma pamatā ir neeksperimentālais jaukta pētījuma dizains, kas saistīts ar kvantitatīvo un kvalitatīvo datu analīzi par TDM. Aptauja tika veikta FLPP projekta „Transformatīvās digitālās mācīšanās ieviešana pedagoģijas zinātnes doktora programmā Latvijā" lzp-2018/2-0180 ietvaros 2019. gada decembrī. Aptaujā „Studiju process augstākās izglītības iestādēs" piedalījās desmit eksperti no Latvijas augstākās izglītības iestādēm: Latvijas Universitātes, Rēzeknes Tehnoloģiju akadēmijas, Daugavpils Universitātes, Liepājas Universitātes un Latvijas Sporta pedagoģiskās akadēmijas. Pētījumā piedalījās 8 docētāji un 2 studenti – doktoranti. Respondenti pārstāv šādas zinātņu jomas: pedagoģija – 7 respondenti; ekonomika – 1 respondents; vides zinātne – 1 respondents un datorzinātnes – 1 respondents. Respondentu vecums ir no 24 līdz 70 gadiem.

Aptaujas pirmajā daļā tika veikts tradicionālās un transformatīvās mācību koncepcijas salīdzinājums, bet otrajā daļā sniegti priekšlikumi par TDM perspektīvām un ieviešanu. Kvantitatīvo datu analīzei tika pielietota secinošā statistika, bet kvalitatīvo datu analīzei – aprakstošā statistika. Rezultāti norāda uz

mācību procesa transformācijas nepieciešamību, atklāj perspektīvas un to ieviešanas problēmas.

Augstāko izglītību reglamentē Augstskolu likums un MK noteikumi par valsts akadēmiskās izglītības standartu. Saskaņā ar likumu **augstākā izglītība** ir izglītības pakāpe, kurā pēc vidējās izglītības iegūšanas notiek zinātnē vai mākslā, vai arī zinātnē un mākslā pamatota personības attīstība izraudzītajā akadēmisko vai profesionālo, vai akadēmisko un profesionālo studiju novirzienā, kā arī sagatavošanās zinātniskai vai profesionālai darbībai (Augstkolu likums, 1995). Ar Augstskolu likumu ir noteikts, ka katrai augstskolai ir tiesības patstāvīgi izvēlēties studiju programmu saturu un formas.

O. Zadorina (Zadorina, 2012) norāda, ka studiju process ir intelektuāla, radoša darbība, kas tiek veikta augstākās izglītības iestādē (zinātniskā institūcijā), izmantojot noteiktu zinātnisko, metodisko un pedagoģisko pasākumu kopumu. Šajā procesā tiek nodotas zināšanas, prasmes un dažādas kompetences, kas tiek asimilētas, papildinātas un izmantotas, kā arī notiek harmoniska studējošā personības attīstība.

Pamatojoties uz didaktikas teorijām (Pakshina & Gostyaeva, 2010; Makarova, 2016), par mācīšanās / mācīšanas organizēšanu, tika izstrādāta anketa par studiju procesu augstākās izglītības iestādēs. Anketas pirmajā daļa tika piedāvāti vienpadsmit apgalvojumi, piemēram, sistemātiskā, pasīva darbošanās, kas virzīta uz atmiņas attīstību, vai radoša, aktīva darbošanās, kas virzīta uz domāšanas attīstību; docētāja loma – mācīt un audzināt vai sadarboties un moderēt; studiju procesa pamats ir šablonveida vai individuālā mācīšanās u.c.

Anketas A apgalvojumi atbilst tradicionālajai jeb klasiskajai pieejai, bet B apgalvojumi – transformatīvajai pieeja. Tas aptaujā netika atzīmēts, lai neietekmētu pētījuma rezultātus.

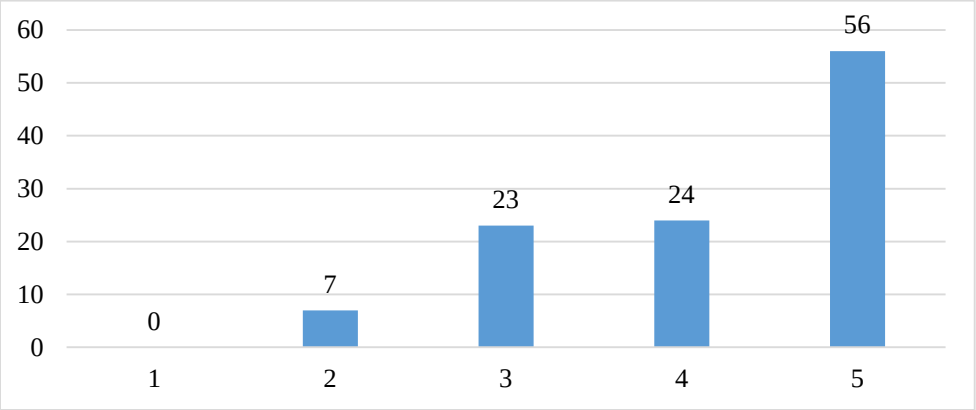
Savukārt anketas otrajā daļā tika piedāvāti seši atvērtie jautājumi par TDM ieviešanu, piemēram, Kā, Jūsuprāt, TDM palīdz studentiem iegūt zināšanas?; Vai TDM, balstoties mācību pieredzē, nevis satura "nodošanā", ir efektīva? u.c.

Pētījuma rezultāti
Results

Anketas pirmajā daļā, atbildot uz vienpadsmit apgalvojumiem, respondentiem tika piedāvāts izvēlēties vienu atbildi katrā rindā, vērtējot apgalvojumu A vai B no 2 līdz 0. Atbilde 0 nozīmē, ka respondents vienādi piekrīt gan A, gan B apgalvojumam.

Ticamība un derīgums tika pārbaudīts ar Kronbaha alfas koeficientu, α = ,787. Tas nozīmē labu ticamību un iekšējo raksturlielumu saskaņotību.

Dati tika kodēti pēc Likerta skalas 1–5, kur 1 vairāk atbilst apgalvojumam A, bet 5 – apgalvojumam B. iegūtie dati ir atspoguļoti 1. attēlā.



1. attēls. ***Tradicionālās un transformatīvās pieejas datu apkopojums***
Figure 1 ***Data analyses of Traditional and Transformative Approaches***

Iegūtie dati liecina, ka respondentu vairākums piekrita apgalvojumam B, kas atbilst transformatīvajai pieejai, atspoguļojot šādus studiju procesa aspektus augstākās izglītības iestādēs: tā ir radoša, aktīva darbošanās, kas virzīta uz domāšanas attīstību; dziļa, stratēģiska, personalizēta mācīšanās, kur docētāja loma ir sadarboties, moderēt; studiju procesa pamats ir individuālā mācīšanās, kas spēj virzīt studentus informācijas meklēšanai un tās izmantošanai, kā arī uz personību un pieredzes veidošanu orientēts studiju process, kurā svarīga ir tehnoloģizācija; jāprot iemācīt mācīties patstāvīgi, mācīšanās jāpārnes uz reālo dzīvi un studiju procesā svarīgi izstrādāt individuālu mācīšanās stilu.

Analizējot anketas otro daļu, sākumā tika izvērtēta atbilde uz jautājumu par respondentu sasaisti ar TDM. 5 respondenti jeb 50% par to ir dzirdējuši, bet nav praktiski lietojuši, bet 5 respondenti jeb 50% ir praktiskie TDM lietotāji.

Piedāvātie atvērtie jautājumi ir izveidoti ar kvalitatīvās datu ieguves metodes palīdzību. Kvalitatīvās analīzes mērķis ir noteikt stāstījuma nozīmi, iedziļinoties tā saturā. Šī iemesla dēļ analīze ir balstīta saturā un tika veikta, piemērojot kontentanalīzes procesu. Kvalitatīvā kodēšana ietver vairākas identifikācijas: satura vienību, kategoriju, jēdzienu (Kroplijs & Raščevska, 2004).

Sākumā datu kodēšanai tika piemērota apkopošana, neatbilstoša materiāla norobežošana un izdalīšana no teksta, tad noskaidrošana, teksta pārformulēšana, lai tā nozīme būtu skaidra, tad tika piemērota kontentanalīze, kā rezultātā tika izdalītas satura vienības katram respondentam. Pēc desmit ekspertu anketas analīzes tika noskaidrota kategoriju un jēdzienu kopa, kas atspoguļota 1.tabulā.

1.tabula. ***Anketā identificētās satura, vienības, kategorijas un jēdzieni***
Table 1 ***Content, Unit, Categories and Concepts, identified in the Questionnaire***

Satura vienības (specifisks, konkrēts)	**Kategorija** (vispārīgāks, abstraktāks un izteikts zinātniskā valodā)	**Jēdziens** (zinātnisks, attiecināms uz teoriju)
Jautājums Nr. 1 – Kā, Jūsuprāt, TDM palīdz studentiem iegūt zināšanas?		
Mācīšanās notiek pieņemamā vidē, ir iespēja izvēlēties laiku, vietu, kvalitāti	Mācību procesa individualizācija	**Mācību vides digitalizācija** **Mācību procesa individualizācija**
Informācijas apguve notiek ātrāk, plašāk un produktīvāk, to viegli strukturēt un integrēt, klasificēt, analizēt un sistematizēt	Informācijas un komunikācijas tehnoloģiju kompetence	
Neierobežoti resursi, tālmācības īstenošana	Mācību resursi, mācības e-vidē	
Svarīgi apgūt informācijas atlases un kritiskās izvērtēšanas iemaņas	Informācijas un komunikācijas tehnoloģiju kompetence	
Jautājums Nr. 2 – Vai TDM, balstoties mācību pieredzē, nevis satura "nodošanā", ir efektīva?		
Jaunu zināšanu un prasmju attīstības īstenošana, balstoties uz iepriekšējo pieredzi un tālāko pētniecisko vai praktisko darbību	Zināšanu transformācija	**Zināšanu transformācija** **Mācību procesa individualizācija** **Mācību resursu digitalizācija** **Pieredzes transformācija**
Tiek nodrošināta individuālā pieeja mācīšanās procesā, bet svarīgi, lai students pats prastu pašvadīt mācīšanos un izdarīt izvēli	Mācību procesa individualizācija, patstāvīgas mācīšanās prasmes	
Pastāv iespēja radoši strādāt un komunicēt gan ar studentiem, gan ar docētājiem, gan Latvijas un ārvalstu pētniekiem un praktiķiem, kā arī, attīstot digitālās tehnoloģijas un tehnoloģijās balstītus mācību resursus, veidojas efektīva mācību pieredze starp docētājiem un studentiem	Komunikācijas prasmes attīstība, mācību resursu digitalizācija, pieredzes transformācija	
Satura nodošana nav transformatīva, bet teorijai jābūt cieši saistītai ar praktiskajiem darbiem	Sasaiste starp teoriju un praksi	
Jautājums Nr. 3 – Kādā veidā, Jūsuprāt, digitālā mācību (mācīšanās / mācīšana) vide ietekmē studentu un docētāju savstarpējo mijiedarbību?		
Digitālā vide pastiprina šo mijiedarbību, veicina kopdarbību, ja notiek tūlītēja viedokļu apmaiņa, jēgpilna sadarbība	Studentu – docētāju mijiedarbība	**Komunikatīvā kompetence** **IKT kompetence**
Svarīgi, ja abi studiju procesa partneri, tas ir, gan students, gan docētājs, ir kompetenti IT jomā	Informācijas un komunikācijas tehnoloģiju kompetence	
Digitālā mācību vide ļauj pārvarēt attālumu, samazināt laiku, efektīvi izmantot multimodētās iespējas, tas notiek caur aktīvu mijiedarbību digitālā vidē – studijas tiešsaistē,	Komunikācija digitālajā mācību vidē	

diskusijas studiju forumos, vērtējamo darbu digitālā izpilde vai iesniegšana, vērtēšana		
Digitālā komunikācija jāsabalansē ar komunikāciju klātienē, lai attīstītu arī sociālās prasmes	Komunikatīvā kompetence	
Jautājums Nr. 4 – Kādas, Jūsuprāt, ir sarežģītākās problēmas, kas saistītas ar TDM ieviešanu?		
IKT darbības traucējumi, ieskaitot interneta savienojumu, kā arī studentu un docētāju kompetenču līmenis IKT jomā	IKT, IKT kompetence	**IKT kompetence**
Daži būtiskākie ierobežojumi ir informācijas kritiskā izvērtēšana un verbālā komunikācija ar kritisko argumentāciju, kā arī iepriekšējās mācīšanās pieredze, bailes kļūdīties	IKT kompetence	
Jautājums Nr. 5 – Kādas, Jūsuprāt, ir TDM galvenās nākotnes perspektīvas?		
TDM nozīmīgums nākotnē pieaugs	TDM	**Izglītības digitalizācija** **Mācīšanās / mācīšanas digitalizācija**
Informācijas uztveres un nodošanas transformācija	Informatīvā kompetence	
Līdzgaitnieku platformu izveide (gan Latvijas, gan starptautiskajā līmenī)	Izglītības digitalizācija	
Iespēja mācīties attālināti, mācību materiālu pieejamība; paplašinātās mācīšanās iespējas, mācīties visur un vienmēr, apgūstot arvien jaunas iespējas	Mācīšanās / mācīšanas digitalizācija	
E-studijas attīstīsies, bet tās ir jāsabalansē ar praktisko darbību	Sasaiste starp teoriju un praksi	
Jautājums Nr. 6 – Vai, Jūsuprāt, mūsdienu izglītības saturs, metodes, mācību procesa organizācijas formas atbilst mūsdienu digitalizētās ekonomikas apstākļiem? Kādām pārmaiņām jānotiek augstākajā izglītībā?		
Mūsdienu izglītības saturā, metodēs, mācību procesa organizācijās formās pastāv neatbilstība digitalizētās ekonomikas apstākļiem	Didaktikas transformācija	**Didaktikas transformācija** **Augstākās izglītības iestādes digitalizācija** **IKT kompetence**
TDM ieviešanai daļai procesa jānotiek uzņēmumos ar noteiktu, sagatavotu uzdevumu, nepieciešami speciālisti, kuri spēj iekļauties un nodot zināšanas par TDM	Digitalizācijas stratēģija un tās realizācija	
Pārmaiņām augstākajā izglītībā jāskar šādi aspekti: izglītības iestādes digitalizācija; atbilstošu speciālistu piesaiste; mācību materiālu digitalizācija; digitālās kompetences attīstība un pilnveide gan studentiem, gan docētājiem	Augstākās izglītības iestādes digitalizācija, IKT kompetence	

Pamatojoties uz izdalītajiem jēdzieniem, radās ierosinājums – pirms TDM ieviešanas svarīgi turpināt pētījumus par šādiem aspektiem: augstākās izglītības digitalizācija, mācību procesa individualizācija un IKT kompetence.

Secinājumi
Conclusions

Pētījuma rezultāti liecina, ka kopumā studenti un docētāji saredz studiju procesa transformācijas nepieciešamību. TDM ir efektīva, ja zināšanu un prasmju attīstība notiek, balstoties uz iepriekšējo pieredzi, pastāv cieša teorijas saistība ar praktisko darbību un iespēja nodrošināt individuālu pieeju mācīšanās procesā. Savukārt digitālā mācību vide pozitīvi ietekmē studentu un docētāju savstarpējo mijiedarbību, pastiprina to, ļauj pārvarēt attālumu, samazina laiku, stimulē tūlītēju viedokļu apmaiņu. Tomēr ir svarīgi to sabalansēt ar komunikāciju klātienē. TDM nākotnē būs arvien nozīmīgāka un kļūs par neatņemamu mācīšanās sastāvdaļu.

Pētījuma rezultātā tika noteiktas problēmas, kas varētu būt saistītas ar TDM ieviešanu: nepietiekams kompetences līmenis IKT jomā, tāpēc ir svarīgi to attīstīt un pilnveidot gan studentiem, gan docētajiem; nestabils tehniskais nodrošinājums, jānovērš traucējumi gan saistībā ar tehnikas darbu, gan interneta savienojumu; resursu un didaktisko prasmju nepietiekamība; informācijas kritiskā izvērtēšana un verbālā komunikācija ar kritisko argumentāciju.

Var secināt, ka digitalizācijas procesi ir attīstības stadijā, tomēr transformācija notiek palēnām. Process ir jāpaātrina, mainot saturu, metodes, organizācijas formas, attieksmi, apgūstot jaunas zināšanas un prasmes IKT jomā, piesaistot nepieciešamos speciālistus. Šeit ir svarīga arī saikne ar darba devējiem un uzņēmumiem, ko varētu iesaistīt studiju procesa transformēšanā, izpildot noteiktus, iepriekš sagatavotus uzdevumus un īstenojot mācību stratēģiju.

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Summary

The results of the research show that in general students and lecturers see the necessity of study process transformation. TDM is effective when the development of knowledge and skills is based on previous experience, as well as important theories are closely linked to practical work and are able to provide an individual approach to the learning process. In its turn, the digital learning environment positively influences the interaction between students and lecturers, reinforces it, allows them to overcome distance, reduces time, stimulates an immediate exchange of opinions, but it is important to balance it with face-to-face communication. TDM will play an increasingly important role in the future and become an integral part of learning.

As a result of the research, the following problems were identified for the implementation of TDL: the level of ICT competence, it is important to develop and improve it as for students as lecturers; technical support to avoid interruptions in both technical work and the Internet connection; lack of resources and didactic skills; critical evaluation of information and verbal communication with critical reasoning.

We can conclude that digitalization processes are beginning to evolve, but the transformation is gradual and must be accelerated by changing content, methods, organizational forms, knowledge, skills and attitudes in the ICT field, attracting the necessary professionals and making links with employers and enterprises involved in the study process transformation by conducting defined, dedicated tasks and strategy.

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PEDAGOĢIJAS AKTUĀLĀS PROBLĒMAS: KĀ TĀS MAINĀS DIGITĀLO TEHNOLOĢIJU VIDĒ

Topical Problems of Pedagogy: How these change in digital environments

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Abstract. *Digital technologies have brought about crucial educational changes that gained inexperienced scope. The article attends theoretical sources and introduces analysis of the most crucial changes in the science of pedagogy that might help explorers focus on the topical problems of pedagogy. Researchers have written extensively about the paradigm change in education in the digital era and have long understood that meaningful activities define effective educator and student decisions. Alongside with these, the characteristics of the problems of pedagogical science have obtained new appearances and require new investigation: the changes introduced by digital technologies have gained rapid global-wide dimensions and challenge adequate analysis; students and even experienced researchers find it difficult to distinguish between significant problems and their appearances in mobile environments; competencies' approach in education also delivers new unknowns while the quality of graduates do not demonstrate the appropriate capability at their work places; holistic approach to the learner balanced development in the digital environment is seldom addressed. The article synthesizes the most common pedagogical problems triggered by the difusion of digital technologies in educational environment with the aim to highlight these and therefore shape or refine the scientific method of reaserch in pedagogy.*
Keywords: *pedagogical science, object of research, problem, digital technologies, transformations.*

Ievads
Introduction

Globālā viedo sistēmu ieviešana pārkārto kā ražošanu, tā izglītību un citus sociālus procesus, automatizējot sarežģītus praktiskus un izziņas uzdevumus. Šīs pārmaiņas ievieš jaunus cilvēka un digitālās tehnoloģijas (DT) mijiedarbības veidus, kurus jau bērni daļēji apgūst neorganizētā veidā. Savukārt skolām un universitātēm ir jāpalīdz skolēniem/studentiem integrēti apgūt profesiju un tehnoloģijas. Lieki būtu atgādināt, ka, atbildot uz tehnoloģiju attīstību un līdz ar to vēl nepieredzēti ātri un plaši mainīgo vidi, ir nepieciešams atbilstīgi sagatavots pedagoģisks

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piedāvājums, kurā izmaiņu ātruma faktors ir nozīmīgāks par plašumu, bet individuālajai attīstībai efektīvākas kļūst komandas diskusijas kopēji veicamā darbībā. DT klātbūtne visur un vienmēr piesaka būtiskas problēmas pedagoģijas pētījumiem, teorijai un praksei.

Digitālo rīku un to produktu izmantošana ir radījusi divu miljardu visu laiku lielāko globāla mēroga digitālo paaudzi (Claveria, 2019); šie jaunieši dzīvo ātras darbības digitālajā vidē, brīvi rīkojas ar mobīlām ierīcēm, paši būtiski ietekmē sociālas norises (Levin, 2019). Paaudžu līdzās pastāvēšana ienes sabiedrībā kā jaunus sociālās attīstības resursus, tā arī spriedzi starp paaudzēm *(*Alain, 2014). Tie ir šodienas skolēni un studenti, kuru brīvības un jēgpilnas darbošanās vajadzība maina studiju saturu, dizainu un skolotāju/docētāju pedagoģisko sagatavotību.

Ir daudz publikāciju, kuras radikālu transformāciju DT vidē aicina mainīt mācīšanās un mācīšanas akcentus; īpaši nepieciešami kļūst fundamentāli pētījumi par pedagoģijas zinātnes priekšmeta izvērstu definīciju. Neraugoties uz to, ka paplašinās patstāvīgas mācīšanās iespējas, mainās jauniešu attieksme, bet sagatavotība darba dzīvei bieži uzrāda kļūmes; pedagoģiju joprojām bieži reducē līdz praksei, definējot sašaurināti kā mācīšanu un metodes, ierobežojot tehnoloģiju funkcijas izglītībā un atstājot ēnā iespēju attiecīgi attīstīt pedagoģijas zinātni (Beethem & Sharpe, 2013, 3-5). Cilvēka attīstības kā dabisko dotumu atraisīšanas koncepcija arī prasa detalizētu skaidrojumu DT vidē. Ir nepietiekami diferencētas kategorijas: pedagoģijas zinātne, prakse un studiju priekšmets. Arī Ekonomiskās Sadarbības un Attīstības Organizācija (OECD, 2009) sašaurina ieteikumus, atgādinot, ka novecojuši mācīšanas modeļi globālajās izglītības sistēmās ir šķērslis efektīvai izglītības ieguvei (pētnieki uz šiem respektējamiem ieteikumiem atsaucas, taču nav korekti tos vienādot ar teoriju).

Plaši un dziļi izmainītajā sociālajā vidē tā pedagoģijas izpratība, kura bija atbilstīga iepriekšējos gadsimtos, DT laikmetā nevar efektīvi izpildīt savas funkcijas; tādēļ ir jāprecizē pedagoģijas zinātnes priekšmets un mērķi, lai attiecīgi pilnveidotu praksi un izvairītos no fragmentāras dažādu teoriju un metodiku mozaīkas. Mūsdienu mainīgais diskurss maina tādu jēdzienu saturu, kā *izglītība, kompetence, mācīšanās,* kas prasa atbilstīgas inovācijas mācību/studiju procesā. DT izmaina pašus šī procesa subjektus, demokratizē mācības, komunikāciju, sadarbību, savstarējās attiecības un akcentē tikumisko vērtību klātbūtni izglītībā (Bleyone et al., 2017).

Formālajai izglītībai pievienojas neformālās iespējas ar atvērtām robežām, piesakot jaunus akcentus pedagoģijas likumsakarību saturam. Neformālā izglītība papildina, bet nevar pilnībā aizstāt formālo: jo sarežģītāka ir cilvēka dzīves vide, jo nozīmīgāka kļūst palīdzība jaunajai paaudzei iespējami ātri un efektīvi socializēties, kas nozīmē skolotāju/docētāju profesionālās kompetences atbilstību šīm izmaiņām.

Pētījuma metodoloģija un mērķis: uz teorētiskās analīzes pamata apzināt būtiskākās pedagoģijas zinātnes problēmas un piedāvāt tās diskusijai.

Vai pedagoģija ir novecojusi kategorija?
Is pedagogy an outdated category?

Jā un nē; minēšu tikai dažas problēmas un argumentus. DT izplatība un ietekme uz domāšanu ir aktivizējusi neirozinātnes, to atklājumus izmanto neiropedagoģija, bet būtiskas problēmas nav atrisinātas: kā sagatavot skolēnus, studentus, docētājus pārvaldīt individuālo un grupveida/komandu mācību izziņu tehnoloģiju vidē, kuras iespējas un prasības izglītībai vēl nav zināmas pat tuvākajam laikam - jau līdz 2025. gadam viss un visur būs digitāli savienots un gatavs reaģēt uz cilvēku vēlmēm, sasaistot vairāk, nekā tikai cilvēkus un lietas (Thomson Reuters, 2014). Pēdējā desmitgadē zinātnieki konceptualizēja studentu un biznesa profesionāļu DT prasmi (Blayone et al., 2019), apzināja to kontekstā ar mērāmiem ekonomiskiem, sociāliem un kultūras sasniegumiem (Scheerder, van Deursen, & van Dijk, 2017). Tomēr līdz šim pētnieki vadījās pēc modeļa, kurā cilvēki ir pasīvu digitālo ierīču lietotāji (Grudin, 2017), t.i., datori varot darīt tikai to, ko cilvēki viņiem liek. Šis priekšstats patlaban sašaurina cilvēka un DT mijiedarbības amplitūdu un programmētas mācīšanās iespējas, kuras ļauj izmantot jaunus adaptīvus cilvēka un datora partnerības veidus (Richert, 2018). Tas ir aicinājums apzināt DT ne tikai pedagoģiska līdzekļa, bet arī partnera kategorijā; DT automatizē sarežģītus praktiskus un izziņas uzdevumus, aizstājot domāšanas operācijas un piesakot cilvēka spējas attīstību deleģēt daļu intelektuāla darba tehnikai, bet saglabāt atbildību par tās radīto rezultātu.

Skolēni/studenti ir gatavi plaši izmantot DT iespējas: tūlītēju mobilitāti, ātru informācijas sameklēšanu, personalizētu sakaru nodibināšanu un pārslēgšanu (Klopfer and Squire (2008), taču šīs ierīces un pielikumi vēl ir maz izmantoti mācību procesā, pat aizliegti, ja tām trūkst teorētiski apzinātas pedagoģiskas apgādes. Šīs neatrisinātās problēmas DT vidē ievieš fragmentārismu praksē un studijās. Lai gan ir atzīts uzdevums attīstīt kritiski radošas domāšanas spēju, tā izpildes integrēšana kompetenču pieejā uz skolēna/studenta mācīšanos orientētā procesā vēl ir fragmentāra, bieži neidentificēta un neizprasta; komunicēšana mobilajā vidē automātiski nerada izglītojošu komandas diskusiju un daudzveidīgas darbošanās pieredzi.

Bērni un jaunieši uzrāda citādu domāšanas veidu skolā, augstskolā, darba vietās, demonstrējot būtiskas komunikācijas, sadarbības un attiecību pazīmes: izteiktu brīvības apziņu patiesības meklējumos, ticību dialoga efektivitātei konfliktu risināšanā, augstu individuālās izpausmes vērtējumu un izvairīšanos no etiķetēm, vēlmi patstāvīgi pieņemt lēmumus jēgpilnai darbībai (Francis & Hoefel, 2018). Šīs īpašības ir vienlaicīgi izaicinājums un iespējas, kas pedagoģijas

zinātnei jāapzina teorētiski un jārealizē metodiski: viņus nevajag censties iekļaut, bet gan radīt līdzdarbošanās vidi; neierobežot ar programmas rāmjiem, bet izmantot prioritātes tehnoloģiju prasmē; neuzspiest pareizos viedokļus un vērtības, bet palīdzēt tās veidot pašiem, uz DT pieteikto informācijas izplatības paātrinājumu atbildēt ar kooperēšanos un komandu darbu, izmantojot sinerģijas prioritātes – tā ir centrālā pedagoģiskā procesa dizaina transformēšanas problēma, kas prasa skolotāja/docētāja filosofiski pedagoģisku redzējumu un neļauj vienkāršot pedagoģisku palīdzību.

Atšķirīgās pedagoģiskās perspektīvās DT tiek aplūkota attiecīgi: kā līdzeklis, produkts, process, resurss, zināšanu forma (Mitcham & Schatzberg, 2009). Mainīgajā sociālajā vidē ir mainījies arī cilvēku brīvības, pašcieņas, līdztiesības un labklājības apliecinājuma veids (Oosterlaken, 2015). Etniski nacionālās kultūras pārmantošana maina satura akcentus, formas, vērtēšanas kritērijus, prasa toleranci un prasmi aizstāvēt vērtības, savstarpējas cieņas apliecinājumus un sadarbošanos - DT funkcionēšana aktualizē individuālās kultūras attīstību, kas būtu efektīva multikultūru vidē.

Iepriekšējos gadsimtos pastāvējusī pedagoģijas koncepcija saglabā savu vēsturisko nozīmi un likumskarības, bet ir nepietiekama kā DT laikmeta izglītības ieguves zinātne un prakse, kad cilvēks un dators funkcionē līdz partnerībai izmainītā mijiedarbībā. Pedagoģija ir transformēšanās sākumposmā, lai mērķtiecīgi piedāvātu izglītojošu palīdzību pretenciozai jaunatnei, kurai DT lietošanas pieredze bieži vien ir spēcīgāk attīstīta, nekā daudziem docētājiem. Šī daudzšķautnainā realitāte piesaka atbilstīgas pedagoģijas teorijas un prakses piedāvājumu; 'jauna pedagoģija' ir vajadzīga, bet šis jēdziens ir nekonkrēts un pieļauj eklektisku pieeju, līdz ar to izrādīsies maldinošs – mūsdienu pedagoģiju apzīmē pazīmes, kuras ietveramas izvērstā definīcijā; šī transformācija ievada būtisku pedagoģijas zinātnes izpētes problēmu.

Patstāvīga, pašvadīta, autonoma mācīšanās, lietojot digitālos līdzekļus, ir nozīmīgi paplašinājusi iespējas, taču DT pieejamība automātiski nav kļuvusi par viedo mācību un/vai zinātniskās izziņas, mērķtiecīgas mācīšanās sadarbības, diskusijas, sinerģijas rosinātāju; jauna informācija ne vienmēr tūdaļ pāraug zināšanās un izpratībā, lai vadītu tālāku mācīšanos; arī prasmes apguve vēl nav uzskatāma par pilnvērtīgu izglītību, ko automātiski varētu apliecināt oficiāli atzīstams dokuments (darba tirgus prasa kā prasmi, tā dokumentu). Cilvēks, mēdz virtuozi lietot DT kādai izraudzītai vajadzībai vai interesei; tas savukārt palīdz attīstīt attiecīgu iemaņu, lai sekmīgi pabeigtu spēli, iegūtu jaunu informāciju, vai apgūtu izraudzīto 'MOOC' programmu, kas ir visnotaļ nozīmīgs sasniegums. Taču tas vēl nenozīmē cilvēka socializēšanās kvalitāti vai vispusīgu un harmonisku attīstību. Tādēļ patstāvīga DT lietošana kvalitatīvas izglītības ieguves kontekstā veido pedagoģijai pētāmu problēmu. Arī tālmācībai ir pedagoģiski korekti un mērķtiecīgi jāsagatavo materiāli.

Kāda pedagoģijas attīstības kvalitāte ļauj apņemties risināt tik plašas un dziļas problēmas? Latvijas pedagoģiju raksturo kā spēcīgu, vēsturiski izstrādātu multidisciplināru intelektuālu tradīciju - zinātni, kurai ir līdzība ar Vācijas pedagoģijas tieksmi integrēt teoriju un praksi; zināt, kas tas ir, vienotībā ar kāpēc tas ir tā; mācoties darot nezaudēt, bet akcentēt zināšanu spēku problēmu risināšanā; saprast būtību un identificēt to praksē. Tai ir sava sistematizēta filosofiski vispārināta teorija un studiju disciplīnās nostiprināta stingra, bet inovācijām atvērta normatīva nostāja ar skaidrāku, nekā Izglītības zinātnēm, pozīciju (Furlong & Whitty, 2017, 17, 39). Tas ir ne tikai pagodinošs atzinums, bet arī zinātniskos pētījumos un praksē pārbaudīts stabils pamats aktuālu izglītības ieguves problēmu efektīvai risināšanai DT vidē, ko vada to pedagoģiski teorētiska apzināšana, identificēšana un inovāciju ieviešana praksē, kā arī dinamiska studiju disciplīna. Starp pedagoģijas zinātnes būtiskām problēmām mainīgā vidē ir atsevišķu pētījumu savstarpēja integrēšana un nosacīti pabeigta, praksē nostiprināta inovācijas ieviešana līdz vēlamā efekta sasniegšanai kognitīvā, emocionālā un sociālā komponenta saskaņotībā; to vada skolotāji/docētāji.

Docētāju pedagoģiski profesionālās pilnveidošanās problēmu risinājumu DT vidē ietekmē vismaz trīs būtiskas atbilstīgas sagatavotības pazīmes:

- Attīstīta spēja nepārtraukti izmantot mainīgās vides iespējas, lai izmantotu pedagoģisko kompetenci jaunu zināšanu radīšanai (Nussbaum, 2011) – būtiska kompetences funkcija, ko mēdz ierobežot formālā izglītības procesā.
- Sistemātiska pētīšana/reflektēšana, lai piedāvātu skolēniem/studentiem pētniecisku pedagoģisko procesu.
- Skolotāju un docētāju sagatavotība zinātnes nozarē/priekšmetā ir joprojām nozīmīga, ir jādemonstrē šīs sagatavotības prioritāte, rosinot izziņas uzdevumus un problēmas skolēnu/studentu kritiskai, radošai domāšanai un risināšanai kopā ar skolotāju/docētāju; izglītības ieguves institūcijā šī prioritāte pakārtojas docētāja pedagoģiskās kompetences kvalitātei, kas ir nosacījums un faktors, lai studenta digitālā prasme transformētos izglītības kvalitātē.

Docētāja pedagoģiskās spējas būtību var ilustrēt ar tulkotāja kompetenci: gudra vēstījuma saturs nekorekta vai uztveres īpatnībām neatbilstīga tulkojuma dēļ izkropļos dialogu un radīs nevēlamas sekas.

Praktiskas problēmas rodas, ja nav identificēts teorētiskais pamats jeb filosofiska pieeja pedagoģijas būtības apzināšanai, eklektiski lietojot pedagoģijas definīcijas, līdz ar to arī vērtēšanas kritērijus, bet problēmas vieda atrisināšana tiek aizstāta ar fragmentāriem ieteikumiem. Pedagoģijas teorija ir orientēta ne tikai uz prakses pilnveidošanu, ieviešot jauninājumus. Lai to izdarītu efektīvi, pedagoģijas zinātne kritiski analizē pati savu teoriju un meklē pamatojumu inovācijai kā teo-

rijā, tā praksē, pilnveidojot attiecīgos studiju kursus. Aicinājums pastiprināt skolēnu/studentu iespējas attīstīt kritiski radošo domāšanu noveda pie kritiskās pieejas dominēšanas pār fenomenoloģisko jēgas veidošanu apziņā (Steinberg & Kincheloe, 2012), pavājinājās socializēšanās komponents. Mēdz būt arī citādas nelīdzsvarotības izpausmes, kas rada ne tikai praktiskas, bet arī zinātniskas problēmas. Šeit ilustrēšanai izmantots viens precedents - pētnieki iesaka ievērot šādas prasības, izmantojot kritiskās teorijas: pozitīvisma racionalitātes ierobežošanu; pētnieka vai praktiķa kultivēto vērtību apzināšanu (piemēram, sociālā taisnīguma un demokrātijas) un identificēšanu praksē; profesionālās pieejas un kultūras apzināšanu, kas veido viņa domāšanu; ieteikumus lēmējinstitūcijām apzinātas saiknes ar praksi uzturēšanai, lai uzlabotu sabiedrības sociālo taisnīgumu un demokrātisko potenciālu (ibid). Šis ieteikums nepalīdzēs pamatot visu problēmu atrisināšanu, bet tas aicina atzīt sistematizētas pedagoģiskās pieejas nozīmīgumu.

Pedagoģija: zinātne, prakse, augstskolas disciplīna
Pedagogy: science, practice, tertiary discipline

Pirmkārt, šo triju kategoriju attīstība norāda uz pedagoģijas kā patstāvīgas zinātnes attīstību. Otrkārt, triju kategoriju identificēšana nodrošina to vienotību un savstarpēju bagātināšanos, kas ir labs priekšnoteikums DT transformēšanai par pedagoģijas kategoriju ar attiecīgām funkcijām visā pedagoģiskajā sistēmā, katrā komponentā – no DT kā līdzekļa uz partnerību ar DT. Pedagoģijas zinātnes problēmas nav iespējams identificēt un pilnveidot studijas, neapzinot mainīgo pedagoģisko praksi.

Pedagoģijas vienādošana ar mācīšanu ir viena pieeja, kas atpazīs viena veida, galvenokārt praktiskas problēmas, attiecīgi tās risinās un piedāvās ieteikumus, kā mācīt, DT ilustrēs metodes, bet skolēna/studenta individualitāte paliek ārpus uzmanības. Praktisko prasmi var apgūt profesionālā skolā, kas kādreiz arī izpildīja šo misiju. Docētājam pietika ar izglītību studiju priekšmetam atbilstīgā zinātnes nozarē. Taču pēdējās desmitgadēs DT un cilvēku mobilitātes ietekmē ir sarežģījusies kultūrvide; literatūrā aizvien biežāk pedagoģijas būtību aplūko no atšķirīgām filosofiskām un kultūru pozīcijām (Waring & Evans, 2015, 26-27): pedagoģija ir zinātne, amats un māksla (Pollard, 2010, 5); tā nav tikai mācīšanas metodika (Tubbs, 2012, 34), pedagoģija ietver vismaz divus mācīšanās aspektus, proti, skolēna un arī skolotāja mācīšanos, kas vērš uzmanību uz mācīšanas izglītojoši audzinošo būtību, un to nevar ierobežot tikai ar mācīšanas prasmi kā tehnisku parādību (Loughran, 2010, 36-37).

Gordona nākotnes izglītības vērtēšanas komisija ASV kultūrvidē, pedagoģiju nosauca par dinamisku centrālo mehānismu, kas funkcionē izglītības jomā, kritiski integrē mācīšanu, mācīšanos un novērtēšanu. Šīs parādības ietver kā objektīvā, tā subjektīvā kategorijas, tātad arī vērtības un attieksmi (The Gordon

Commission..., 2011, 3). Starp rindām lasām pedagoģijas teorijas, prakses un studiju disciplīnas klātbūtni, kas būtībā atver visu pedagoģijas lauku mērķtiecīgai DT izmantošanai.

Zināšanām, kā vienam no izglītības ieguves mērķiem, ir epistemoloģiska un sociāla dimensija, kura veido to ieguves un novērtēšanas intelektuālo tradīciju noteiktā kultūrvidē. Dažādu izglītības tradīciju savstarpēja apmaiņa akcentē divas nozīmīgas problēmas pedagoģijas pētījumiem vietējā un globālā kontekstā:

(a) vai un kā atšķirīgas intelektuālās tradīcijas un teorijas kombinējas kopā un

(b) teorētisko pieeju ieviešana, kad eklektiski veidotu studiju disciplīnu diskurss ievērojami atšķiras no vērojamā praksē (Furlong & Whitty, 2017, 13-57). Atbildes uz šiem izpētes jautājumiem, iespējams, apliecinās DT vienojošo funkciju. Savukārt DT formāla klātbūtne neveicinās skolotāja/docētāja kompetences viengabalainību, sarežģīs zinātņu nozares/studiju priekšmeta transformēšanu par pedagoģisku kategoriju. Bez stingra konceptuāla pamata izraudzītā pieeja mēdz reducēties, kā dēļ process tiek vienkāršots līdz amatiera, nevis skolotāja/docētāja meistara vai eksperta līmenim; kompetence tiek aplūkota kā 'gala rezultāts' (formālās izglītības iespēju ierobežota izpratība), un tās attīstība apstājas. Dažādu intelektuālu tradīciju savstarpēja bagātināšanās būs efektīva, uz noteiktiem pedagoģijas teorijas pamatiem apzinot un integrējot atziņas studiju dizainā.

Latvijā pedagoģijas zinātne attīstās, kā 'lietājamā filosofija', tā izstrādā zinātnisko metodi pētījumos balstītas teorijas attīstībai (Hessens, 1929). Pateicoties pedagoģijas saitēm ar filosofiju, to nevar sašaurināt līdz metodēm, jo pedagoģija meklē fundamentālu pamatojumu skolotāja/docētāja darbībai un līdz ar to iegūst akadēmisko komponentu (Depaepe, 2002, 363). Pedagoģijas efektivitātes meklējumi ir pastāvīgs process; pēdējās desmitgades laikā interesi par pedagoģijas būtību izrādīja projekti un žurnāli, piemēram, IGI publikācijas (Daniela, L. (Ed.), 2019); 2014 -2017. gadā Oksfordas un Londonas Universitāšu kopējs projekts apvienoja pētniekus no septiņām atšķirīgām pasaules valstīm un kultūrām; publicēta pedagoģijas zinātnes definīcija (Žogla, 2017, 112). Pedagoģija kā zinātne, prakse un studiju disciplīna Izglītības zinātņu kontekstā aplūkota vairākās publikācijās (Žogla, 2018a, 2018b, 2019), ar kurām kontekstā ir šis raksts. Skolotāja profesionālās identitātes pētījumi (A. Šteinbergas redakcijā, 2019) ir vēl viens aspekts sistematizētai DT ienākšanai pedagoģijā.

Pedagoģijas kā 'lietājamās filosofijas' teoriju praksē pamato pedagoģiskā procesa iekšējās dinamiskās sakarības, veidojot skolēna/studenta sasniegumiem labvēlīgu vidi; šī vide balstās uz pastāvīgām pedagoģiskām likumsakarībām, ir izteikti mainīga parādība un problēmu avots kā pētniekiem, tā praktiķiem. DT

vidē šīs problēmas īpaši aktualizējas, ietekmējot abus pedagoģiskā procesa subjektus, viņu attiecības un attieksmi, iekšējās un ārējās vides vienotību, procesa dizainu – visu, ko izmaina DT, paplašinot un paātrinot zināšanu apguvi, mācīšanās un praktiskās darbības know-how, pašnovērtēšanas un novērtēšanas procedūras, informācijas un vērtību apmaiņu u.c. Nozīmīgu problēmu veido procesa iekšējās struktūras saglabāšana, ieviešot inovācijas, kuras akcentē kādu no komponentiem. Būtisku pārmaiņu gadījumā, piemēram, kompetenču pieejas ieviešana, izglītības un pedagoģisko paradigmu maiņa pedagoģiskā procesa efektivitātei prasa fundamentālus pētījumus. Nelieli projekti ļauj pilnveidot kādu atsevišķu komponentu, bet visa procesa efektīva attīstība mēdz sastapties ar jaunām problēmām, piemēram, docētāju/skolotāju sagatavotību.

DT daudzveidīgā ietekme sasniedz pedagoģijas zinātnes un procesa būtību un funkcijas, līdz ar to arī mērķu izpratību. Parasti pedagoģijai tika pievienotas DT līdzekļa izpratnē, kas uzlabo mācīšanu un mācīšanos; tā, kā savulaik uzlabojumu piedāvāja drukātā grāmata, vēlāk interaktīvā tāfele. DT ne tikai uzlabo mācīšanos, bet arī uzņemas daļu domāšanas operāciju. Tā vairs nav vienkāršota mācīšanas un mācīšanās uzlabošana; tehnoloģijas liek pārskatīt skolotāja/docētāja darbību, vērtības, uzskatus, pieņēmumus par izglītību un pedagoģiju kopumā (Benade, 2015, 43). Pedagoģijas zinātnei teorētiski jāinterpretē minētā parādība, jāsagatavo prakse un jāpapildina studiju disciplīna, lai realizētu teorijas un prakses vienotību.

DT ienākšana ir radījusi šaubas par skolu/augstskolu sniegto jeb iemācīto disciplināro zināšanu derīgumu, piesakot viedokļu problēmu: DT sāk aizstāt tradicionālās klases/auditorijas, maina izglītības pieejamību un mērķtiecību. Šie viedokļi rada sava veida izziņas uzdevumu, kā savietot programmu prasības (tās, neuzticoties universitātēm, garajā akreditēšanas procesā joprojām mēdz novecot vēl pirms ieviešanas) ar studentu individuālajām interesēm, kuras arī ne vienmēr mērķtiecīgi sagatavo darba tirgum (arī mainīgs faktors). Veidot izglītības institūcijas ar mūsdienīgu atvērtu mācību vidi, kur dominē hiperteksts, nepiespiestība un mobilo DT piedāvāts tūlītējs savienojums ar jebko, mērķtiecīga palīdzība jēgpilnām mācībām ir 21. gs. realitāte. Pētniekiem, praktiķiem un vadībai tā izvirza fundamentālu problēmu - galveno pedagoģisko vērtību, uzskatu un profesionāli pedagoģiakās filosofijas transformēšanu, lai atbildētu uz jautājumu, vai un kur studentam un docētājam ir vieta pilnveidoties un uzplaukt kā cilvēkam ārpus ekonomisko prasību robežām (Beetham & Sharpe, 2013).

Kā studenta, tā docētāja mobīlo autonomas mācīšanās iespēju paplašināšanās mēdz neapzināti aktualizēt iespēju nostiprināties individuālisma īpašībām, kas atvērtajā pasaulē parasti konfliktē ar sabiedrībā atzītām vērtībām. Pedagoģijai tas ir aicinājums paplašināt komunicēšanu un diskusijas par neformālā veidā individuāli iegūtajām zināšanām, prasmi, atziņām, kas ir laba iespēja sasniegt formālajā izglītībā bieži izpaliekošo kompetences kvalitāti, proti, izmantot jaunu zināšanu,

ideju, problēmu identificēšanai un radīšanai. Tas ir vēl viens apliecinājums tam, ka bez DT kā pedagoģiskas kategorijas identificēšanas izglītības efektivitāte mazināsies.

Pedagoģijas zinātnes izpētes priekšmets
Research object of pedagogy

Galvenais izpētes priekšmets pedagoģijas zinātnē ir mērķtiecīgu dinamisko sakaru nodibināšanas likumības un to uzturēšanas principi starp skolēnu/studentu, skolotāju/docētāju un darbības saturu savstarpējai vērtību apmaiņai, kas prasa apzināt abu pedagoģiskā procesa subjektu gatavību efektīvai sadarbībai, komunicēšanai, savstarpējām attiecībām DT piesātinātā izglītības ieguves iekšējā un ārējā vidē. Pedagoģijas zinātnes priekšmeta izpēte ir fundamentāla, tā veido kodolu teorijai un pamatu praktisko audzinošo, izglītojošo attīstošo mērķu sasniegšanai to vienotībā.

Viedās pedagoģijas teorija attīsta likumsakarības un vispārējos principus DT vidē (Daniela, 2019), piemēram, viedās didaktikas principus (Žogla, 2019, 71-94). Pašas par sevi DT neuzturēs pedagoģiskās likumsakarības un neveidos pamatu praktiskai izglītojošās, attīstošās, audzinošās vērtības interiorizēšanai; to efektivitāte var būt fragmentāra vai neitrāla, bet normatīvā procesā pat traucējoša, ja DT funkcijas nebūs transformētas pedagoģiskā kategorijā. Arī pedagoģija būs aizkavējusies novecojušā iepriekšējo gadsimtu paradigmā – DT ir realitāte, ko nav iespējams ignorēt. Pēc Gutenberga grāmatu pavairošanas šī ir radikāli atšķirīga revolūcija izglītībā.

Ar minēto transformēšanu ir saistīta nākamā problēma, kas liek precizēt pedagoģijas izpētes priekšmetu: ātrums, ar kādu DT ienāk apritē, kā arī daļēja cilvēka domāšanas aizstāšana, piesakot nepieciešamību nekavēties ar DT pedagoģiskās efektivitātes apzināšanu un viedās pedagoģijas veidošanu. Taču komercijas nolūkos liela daļa digitalizētās literatūras un pakalpojumu ir bloķēta pieejai un uztur nevienlīdzību kā pētniekiem, tā praktiķiem (Daniela, 2019, 15-19); tas jau ir profesionāļu tiesību (Gilabert, 2014), cilvēka attīstības izpratības (Coeckelberg, 2010) un izglītības ilgtspējības jautājums (Ponce et al., 2017). Izglītības sasniegumu izmantošana pati par sevi jau klasificē cilvēkus, izceļot efektīvas izglītības prioritātes, bet finansiāli ierobežojumi diskriminē arī valstu un kultūru attīstību. Šie pieejamības ierobežojumi paplašina plaisu ne tikai starp skolēnu/studentu un skolotāju/docētāju kompetenci tehnoloģiju lietošanā, bet arī starp DT lietošanas instrumentālo līmeni (pēc parauga) un iespēju plaši izmantot izglītības efektivitātei, vispusīgai un harmoniskai attīstībai.

Pedagoģijas zinātnes izpētes priekšmetu ietekmē arī citi apstākļi. Piemēram, sociālo mediju eksplozija neierasti ātri dibina sakarus starp cilvēkiem un izplata ārpus formālās izglītības ieguves lauka aktivizējušos viedokļu veidotāju ietekmi,

viegli pārspējot DT izglītojošās iespējas un akcentējot galvenokārt merkantīlās intereses. Šauru interešu vadītas tehnoloģijas darbojas kā universālas informācijas un aizraujošu aktivitāšu piegādes un pat zināšanu bibliotēkas. Tādēļ pedagoģijas zinātnei atvērtajā pasaulē ir būtiski jāpastiprina atjaunota teorija skolotāja/docētāja profesionāli pedagoģiskās filosofijas apzināšanai un operatīvai lemtspējai, nepārtrauktai dialoga uzturēšanai starp izmaiņām sociālajā vidē un pedagoģisko procesu, vērtībām un DT izglītojošām funkcijām, kas praksē būtu labvēlīgas arī skolēna/studenta patstāvīgai spriestspējai, izsvērtiem lēmumiem un socializēšanās sasniegumiem. Norises sociālajā vidē piesaka izmaiņas cilvēku attieksmē pret zināšanām un to ieguvi, taču nerunā par to, kādās formās šīs izmaiņas veicina mūsdienīgu izglītību un kā pedagoģijai uz to iespējami efektīvi jāatbild (Betham & Sharpe, 2013, 3). Resursu pieejamība vēl nenozīmē pieejamību izglītībai un vēl mazāk tās ieguvei – tā ir pedagoģijas zinātnes problēma.

Pati izglītības joma daudzu gadu garumā cenšas realizēt skolēncentrētu pieeju, kas atgādina lozungu; tagad tai pievienojās kompetenču pieeja. Te būs grūti diferencēt, kur situāciju nosaka pedagoģiskas kļūdas, kur – pietrūkst DT videi atbilstīgas teorētiski metodiskas apgādes. Taču, kamēr DT nav skolotāja/docētāja/pētnieka pedagoģiski profesionālās filosofijas struktūrā, kas operatīvi un mērķtiecīgi ļauj pieņemt lēmumus, minētās idejas paliks vien lozunga līmenī. Skolotājam/docētājam ir jāapzinās savs sociālais nozīmīgums, darbības mērķtiecība un pašiem drosmīgi jāiestājas par izglītības efektivitāti ar atbilstīgu piedāvājumu (Laughran & Russel, 2017).

Pedagoģiskā procesa mērķi un dizains
Aims and design of pedagogical process

Pedagoģiskais process tiek plānots un organizēts, lai atvēlētajā laikā palīdzētu skolēniem/studentiem integrēti sasniegt vēlamos izglītojošos, attīstošos, audzinošos, kopumā socializēšanās mērķus un efektīvi mērķtiecīgā darbībā pārvērstu tos standartā/programmā paredzētas kvalitātes individuāli personiskā sasniegumā. Process ir nemitīgā attīstībā, lai uzturētu pedagoģijas teorijā definētās iekšējās dinamiskās sakarības, kas tad arī palīdz ilgtermiņā un operatīvi uzturēt skolēna/studenta vajadzībām un programmas prasībām atbilstīgu skolotāja/ docētāja palīdzību. Pedagoģijas zinātnes priekšmets un mērķi nav jāvienādo ar praktiskā pedagoģiskā procesa mērķiem – šīs prasības ignorēšana rada vairākas pakārtotas problēmas praktiskiem pētījumiem, kuras nav jāsajauc ar pedagoģiskām kļūdām un to labošanu. Atkarībā galvenokārt no sociālās vides akcenti mainās: pedagoģija pazīst laiku, kad centrā tika izvirzītas kolektīva vērtības, kad individuālā attīstība;

DT ietekmē pastiprinās individuālisma izpausmes, kas liek akcentēt jauniešu socializēšanos, paātrināt individuālo attīstību komandu darbā, iegūstot tolerantas sadarbošanās un komunicēšanas pieredzi.

Nepārtraukti praktiskie pētījumi ir nepieciešami operatīvai pedagoģiskā procesa dizaina modificēšanai atbilstīgi skolēna/studenta, skolotāja/docētāja mainīgajām vajadzībām, satura modifikācijām standartos un programmās definēto mērķu sasniegšanai, īpaši spēcīgā DT vidē: nekas šajā procesā pats par sevi neienāk – zināšanas un atziņas, viedokļus un vērtējumus tajā ienes skolēni/studenti, skolotāji/docētāji un satura avoti. Taču nav pamata uzskatīt skolēnus/studentus par aktīviem mācību/studiju procesa dalībniekiem tikai tāpēc, ka viņi veikli lieto tehnoloģijas un mobilos rīkus vai epizodiski dalās ar savām zināšanām. Piemēram, normatīvā procesā skolotāji bieži vien aizliedz stundā lietot mobilo tehniku tāpēc, ka to neizmanto mācību mērķiem, vai arī nesaskata šādu iespēju. Tādējādi skolēnu gatavība un vēlme to darīt netiek realizēta - viņiem ir vajadzīga palīdzība kļūt par organizēta procesa dizaina veidotājiem un mērķtiecīgi izmantot pieejamās tehnoloģijas sadarbībai, sinerģijas radīšanai un jēgpilnai izmantošanai.

Mācību procesa dizaina izvēle ir jaunu veidu meklējumi, kā kopā ar skolēniem/studentiem uzbūvēt procesu, lai skolotājs/docētājs varētu paust savu pedagoģiskā piedāvājuma filosofiju, apmainīties domām ar skolēniem/studentiem, lai viņi jēgpilni izraudzītos savu mācīšanās variantu. Procesa dizains savieno teoriju un praksi. Tas ietver gan principiālu pieeju, gan kontekstos modificējamu praksi. Iespējams, ka *dizaina* būtība atļauj lielāku mobilitāti un skolēnu/studentu līdzdalību tā veidošanā, nekā *procesa uzbūve*. Turklāt dizains ir augsti novērtēts faktors digitalizētajā ekonomikā; tam ir arvien lielāka nozīme produktīva darba disciplīnas, darbinieku operatīvu un ilglaicīgu sakaru uzturēšanā. Mūsdienīgai ražošanas attīstībai nepietiek ar tehnoloģiski instrumentālu pieeju; ir vajadzīga līdzsvarotība un integrētība ar cilvēku brīvībām, ar spēju humāni tās izmantot un nostiprināt (Barbieri et al., 2018; Russel, 2019). Lai gan kodols ir spējā un vēlmē izglītības ieguvi DT vidē padarīt efektīvu.

Attieksme kļūst īpaši aktuāla, jo darba un studiju vides dinamiku pastiprina aizvien jaunas tehnoloģijas un izteikti adaptīvas sistēmas (Fischer & Pöhler, 2018). Savukārt attieksmes maiņai, šajā gadījumā pret DT, ir vajadzīgs laiks.

Secinājumi
Conclusions

Būtiskas problēmas pedagoģijai rada ne tikai digitālo tehnoloģiju ātra izplatība; tehnoloģijas jau daļēji aizstāj domāšanu, veic noteiktas darbības cilvēka vietā, radot jautājumu, kā sagatavot skolēnus, studentus, docētājus individuālas

un kolektīvās mācību izziņas vadīšanai tehnoloģiju vidē, kuras jaunas iespējas un prasības izglītībai vēl nav zināmas pat tuvākajam laikam.

Pēdējā desmitgadē zinātnieki apzināja biznesa profesionāļu DT prasmi kontekstā ar mērāmiem ekonomiskiem, sociāliem un kultūras sasniegumiem, vadoties pēc modeļa, kurā cilvēki ir pasīvu digitālo ierīču lietotāji. Šis priekšstats sašaurina cilvēka un DT mijiedarbības amplitūdu, programmētas mācīšanās iespējas, kuras ļauj izmantot adaptīvus datora izmantošanas veidus. Tas ir izaicinājums apzināt DT ne tikai pedagoģiska līdzekļa, bet arī sava veida partnera kategorijā, attīstot cilvēka spēju deleģēt daļu intelektuāla darba tehnikai, bet saglabāt atbildību par tās radīto rezultātu.

Jauniešu gatavību lietot mobilās ierīces vēl maz izmanto mācību procesā, jo trūkst teorētiski apzinātas didaktiskas apgādes. Kritiski radošās domāšanas spēju attīstības integrēšana kompetenču pieejā uz skolēna/studenta mācīšanos orientētā procesā DT vidē vēl ir fragmentāra, bieži neidentificēta un neizprasta. Bērni un jaunieši uzrāda domāšanas veidu, kas akcentē izteiktu brīvības apziņu patiesības meklējumos, augstu individuālās izpausmes vērtējumu un izvairīšanos no etiķetēm, vēlmi patstāvīgi pieņemt lēmumus jēgpilnai darbībai; šīs īpašības ir vienlaicīgi izaicinājums un iespējas, kas pedagoģijas zinātnei jāapzina teorētiski un jāizstrādā metodiski - tā ir būtiska pedagoģiskā procesa dizaina transformēšanas problēma, kas prasa skolotāja/docētāja skaidru filosofiski pedagoģisku redzējumu.

Patstāvīgas mācīšanās iespējas paplašinās, taču pieejamība automātiski nekļūs par viedo mācību un/vai zinātnisko izziņu, kas komandas diskusijās radīs sinerģiju; jauna informācija ne vienmēr tūdaļ pāraug zināšanās un izpratnē, lai vadītu tālāku mācīšanos – ir vajadzīga atbilstīga pedagoģiska palīdzība, jo sarežģītāka vide, jo nozīmīgāka kļūst pedagoģiskā palīdzība.

Starp pedagoģijas zinātnes būtiskām problēmām mainīgā vidē ir atsevišķu pētījumu savstarpēja integrēšana un nosacīti pabeigta, praksē nostiprināta inovācijas ieviešana līdz vēlamā efekta sasniegšanai kognitīvā, emocionālā un sociālā komponenta saskaņotībā, lai atbildētu uz jautājumu, vai studentam un docētājam ir vieta, kur pilnveidoties un uzplaukt kā cilvēkam ārpus ekonomisko prasību robežām.

Summary

The rapid and deep diffusion of digital technologies and their influence on teaching/learning create major problems for pedagogy. Moreover, technology is already partially replacing thinking and human-specific activities, raising the question of how to prepare learners, teachers, and educators to manage individual and collective learning in a technology-enhanced environment that challenge yet unknown consequences. Over the last decade, researchers have conceptualized the skills of business professionals in the context of measurable economic, social, and cultural achievements. However, researchers have followed a model in which people are users of passive digital devices; this notion narrows the amplitude of human-computer interaction and programmed learning opportunities that allow for new adaptive forms of human-computer

partnership - this is a call to identify DT not only as a pedagogical tool, but also as a partner that applies for the human ability to delegate part of intellectual work to technique and remain responsible for the result it produces.

Learners are keen on using mobile devices, but little use is made of these in the institutionalized learning due to a lack of theoretically recognized pedagogical provision. Integrating the development of critically creative thinking abilities into a competency approach in a learner learning process is still fragmented, often unidentified and misunderstood.

Young people and even children in the digital era exhibit a mindset that among other qualities emphasizes a strong sense of freedom and willingness to undertake meaningful activities independently. These qualities are at the same time a challenge and an opportunity for pedagogical science to identify theoretically appropriate methodical provision; the learners will: accept a collaborative environment to involve themselves instead of being included; use priorities in their technology skills instead of being limited to program frames; accept situations when there is a possibility to follow meaningful aims and values instead of imposing these - this is a central problem of transforming the design of the pedagogical process, which requires a clear philosophical pedagogical vision of the teacher / educator and prevents pedagogy from being limited and equated with teaching or methods.

Lifelong learning through digital tools has significantly expanded opportunities, but accessibility has not automatically become a driver for smart learning and / or scientific inquiry in collaboration to create synergy; new information does not always immediately grow into knowledge and understanding to guide further learning – an appropriate pedagogical assistance is needed to make this process less time and energy-consuming.

Pedagogical science is about creating dynamic links between learner, teacher/educator, and the subject-matter to create a sustainable theoretical background for the pedagogical process; in a changing environment this will achieve in meeting the learner and educator expectations if research becomes well-structured and in the coherence of the cognitive, emotional and social components.

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