APPLICATION OF ACTION RESEARCH IN THE TEACHING/LEARNING PROCESS FOR THE ACQUISITION AND DEVELOPMENT OF COMPETENCES: ATTITUDES OF STUDENTS - PROSPECTIVE TEACHERS

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Abstract. The profession of teacher requires a qualitative and special preparation for a specific activity. Therefore, the importance of professional and general competencies of relevant specialists working and intending to work in educational institutions is emerging.

The document "Common European Principles for Teacher Competencies and Qualifications" (2005) emphasizes the provision that all educators must be able to work effectively in three overlapping areas of activities: working with information, technology and knowledge, working with people (students, colleagues and other partners), working with society and in society at local, regional, national, European and global levels (Saulėnienė, Žydžiūnaitė, & Katiliūtė, 2006). In order to work successfully, the educator must have cognitive, functional, personal and ethical competencies.

In Lithuania, changes and updates of regulations, models and conception of the training and activity of teachers are regularly updated (2004; 2010; 2012; 2015; 2016; 2017; 2018). Teachers' competencies are summarized in the "Description of Professional Competencies of Teachers" (January 15, 2007); the description highlights common cultural, vocational pedagogical and general competences. In many Lithuanian higher education institutions that train qualified educators, since 2000 the method of improving the action research is used in the study process. This method of qualitative research is also highly appreciated and successfully used by different types of schools in the process of specialist education in many foreign countries. This method is also applicable to general education institutions. This method is described and analysed by Lewin (1948), Corey (1953), Grundy (1988), Callhoun (1994), McLaughlin (1997), Lanshear and Knobel (2004), Kemmis and McTaggart (2005), Creswell (2008), Mills and Ainassian (2009) and others.

The aim of this article is to analyse the teachers' opinion on the application of action research in the study process.

To achieve the goal, three objectives have been set:

- 1) to discuss the coherence between the European Qualifications Framework (2005) and the Competences of the Lithuanian teachers (2007);
- 2) to highlight the essence of the method of action research;

3) to examine how the students themselves – present and future educators – evaluate the method of action research that proves advantageous to acquire and develop competences. The research analysed 102 reports – final study projects on the improvement of the activity of educators prepared by the students – future educators – of one of Lithuanian higher education institutions from 2007 to 2017. The research was carried out in May 2018.

It has been established that in the process of the action research, the educators mostly improved these general competencies of — research activities, reflecting and learning to learn, communication and cooperation; these professional pedagogical competencies as the development of professional development, the use of information technology, recognition of understanding the pupil and his/her progress, motivating and supporting students, planning and improving the content of the subject, teaching/learning process management, assessment of student achievements and progress.

In all of the 102 projects submitted by the students, the application of this method in the study process at the higher education institution was positively evaluated.

It was emphasized that during this research not only the new knowledge was gained, but also the participants of the research, the learners, have themselves developed and improved, as well the researchers – students – future educators have improved.

Keywords: action research; competences; teachers' opinion; cognitive, functional, personal, ethical competences; general competences; professional pedagogical competences.

Introduction

A pedagogue's profession demands a creative and specialized preparation for a concrete activity. This highlights the importance of the professional and general competences of specialists of specific areas who teach or are going to teach at educational institutions.

The document "Common European Principles for Teacher Competences and Qualifications" (2005) emphasizes the notion that all pedagogues should be capable of effective work in three overlapping areas of activity — work with information, technologies, and knowledge, work with people (school `a children, colleagues, and other partners), and work with the society and within the society on the local, regional, national, European, and global levels (Saulėnienė, Žydžiūnaitė, & Katiliūtė, 2006). In order to act successfully, pedagogues need to have cognitive, functional, personal, and ethical competences.

In Lithuania, the generalized description of the pedagogues' competences is provided in the "Description of Teachers' Professional Competence", approved by the Order No. ISAK-54 of the Minister of Education and Sciences of the Republic of Lithuanian January 15, 2007. The description highlights the common cultural, professional, and general competences.

Since 2000, most Lithuanian higher education institutions that educate and train qualified pedagogues have been applying the action research technique. This qualitative research technique is valued and applied in numerous educational institutions of a number of foreign countries – especially in the education of future

pedagogues. In Lithuania, this technique is applied by practicing pedagogues for a better understanding and solution of education-related issues. Higher education students – prospective teachers apply this technique during their pedagogical practice.

The initiation of the action research in pedagogical activity could be dated back to the summer of 1999 when the A.P.P.L.E. (American Professional Partnership for Lithuanian Education) courses started. Additional seminars for teachers in general and higher education were organized in summer and winter of the year 2000. The courses were based on K. Lewin's (1946) concept of the integration of activity into the experimental research in social sciences. S.M. Corey (1953) was the first to successfully implement this concept in the field of education.

The action research technique improves the pedagogues' perception of the actual situation, understanding of the processes taking place in the community, and identification of the ways to improve the situation. This qualitative technique for activity improvement has been analyzed and described by S. Grundy (1988), E.F. Callhoun (1994), T.H. McLaughlin (1997), C.Lankshear & M.Knobel (2004), S. Kemmis, R. McTaggart (2005), G.E. Mills (2003), V. Koshy (2005), B. Dick (2006), E.T. Stringer (2007), J.W. Craswell (2008), and R.L. Gay, G.E. Mills, P. Airassian (2009).

In Lithuania, the action research technique in pedagogy has been analyzed by R. Baranauskienė (2003), N. Bankauskienė & G. Bankauskaitė–Sereikienė (2006; 2007; 2010; 2015; 2017), G. Bankauskaitė–Sereikienė & A. Augustinienė (2007), R. Kabašinskienė & E. Štuopytė (2007), J. Andreikienė & O. Visockienė (2007), N. Bankauskienė, R. Čiužas, & R. Trofimova (2010), N. Bankauskienė, V. Gužienė, & J. Šedienė (2012), R. Masaitytė-Apuokienė & N. Bankauskienė (2012), J. Ruškė (2012), V. Staskevičienė & N. Bankauskienė (2012), O. Visockienė & A. Puskunigienė (2012), N. Ambrasė (2012), N. Bankauskienė & R. Masaitytė (2018).

The object of the current study is the pedagogical action research technique. The study was conducted with the aim of analyzing the opinion of students – prospective teachers of various subjects about the application of action research in the teaching/learning process for the acquisition and development of competences.

To achieve this aim, the following objectives were set:

- To discuss the compatibility between the European Qualifications Network (2005) and the Description of Teachers' Professional Competence (2007);
- To reveal the essence of the action research technique;

 To clarify how current and prospective pedagogues evaluate the action research technique for the acquisition and development of various competences.

The following methods were applied during the study: analysis of scientific literature, document analysis, and case analysis.

Compatibility between the European Qualifications Network (2005) and the Description of Teachers' Professional Competence (2007)

The document "Common European Principles for Teacher Competences and Qualifications" (2005) emphasizes the notion, that a teacher should be capable of effective work in three overlapping areas of activity — work with information, technologies, and knowledge, work with people (school children, colleagues, and other partners), and work with the society and within the society on the local, regional, national, European, and global levels.

This document lists *cognitive*, *functional*, *personal* and *ethical competences*.

The analysis of the Order No. ISAK-54 of the Minister of Education and Sciences of the Republic of Lithuania "On the Approval of the Description of Teachers' Professional Competence" dated January 15, 2007 highlighted *common cultural* competence, *professional* competences and *general*.

Saulėnienė, Žydžiūnaitė, & Katiliūtė (2006), upon completing the comparative analysis of the document "European Qualifications Network" (2005) and the "Description of Teachers' Professional Competence" (2007), concluded that these competences are compatible (1 table).

Table 1 The concordance of the general European teachers' competences with those described in the "Description of Teachers' Professional Competence" (Order No. ISAK-54. January 15, 2007)

| Competences of the European Qualifications Network | Lithuanian Teachers' Professional Competences (2007) |
|---|--|
| 1.Cognitive competences | General competences: |
| | Research activity. |
| | Reflection and learning to learn. |
| 2.Functional competences | Professional competences: |
| | Use of information technologies. |
| | Planning and improvement of the subject content. |
| | Management of the teaching/learning process. |
| | • Evaluation of the school children's achievements and progress. |
| | Creation of learning environments. |

| 3.Personal competences | General competences: |
|------------------------|--|
| | Communication and cooperation. |
| | Communication and information management. |
| | Organization improvement and change management. |
| | Professional competences: |
| | • Knowledge of the schoolchildren and recognition of their |
| | progress. |
| | Professional improvement. |
| | Common cultural competence. |
| 4.Ethical | Professional competence: |
| competences | Motivation and support of school children. |

The essence of the action research technique

This study on the improvement of pedagogical activity differs from the others in that it, being a qualitative study, requires the researcher (a student or a pedagogue) studying a group of school children, a single school child, or several of them to become a subject, to continuously demand self-reflection of one's activity, and to keep asking oneself questions like "am I working well?", "are the methods I am using appropriate?", "do my school children understand me and develop?", and "how could I improve my assistance in their problem-solving activity?" (Bankauskienė & Bankauskaitė–Sereikienė, 2015). This supports the statement by S. Corey (1953) that action research is a process that specialists (both researchers and practitioners) use for studying the emerging problems and for the selection, correction, and evaluation of the decisions and further activity. Action research is studies performed by coworkers with the aim of evaluating their activity and improving the socialization of schoolchildren or clients.

According to A. Strauss and J. Cobin (1990), a qualitative study is a study whose results are obtained by means other than statistical operations or other mathematical calculations. The researcher is trying to understand the objects and their most typical characteristics under the same conditions. This type of study is convenient in that, as A. Staskevičienė and N. Bankauskienė (2012) indicate, it is situational, and thus a specific, unique research design may be created for each situation. According to L. Rupšienė (2007), in a qualitative study, the researcher becomes the research instrument. He or she is a part of the researched world and the main research instrument seeking to know another person's life, to perceive that person's world, and to learn that person's possibilities for development. For this reason, there are no pre-formulated hypotheses because the researcher does not know and cannot predict what might happen during the course of the study.

The improvement of pedagogical activity is a spiraling process whose participants include the pedagogue and his or her assistants – the schoolchildren seek a common goal and pursue the course of continuous improvement. This

process allows a pedagogue to view his or her work from a different perspective, and this view – the internal reflection – is a continuous conversation with oneself, asking oneself whether the achieved result is satisfactory, and if not, whether what is lacking is experience, theoretical knowledge, or time for the improvement of the selected activity. The schoolchildren are also encouraged to participate in the process. They are also taught internal reflection (Bankauskienė & Bankauskaitė–Sereikienė, 2006, 2007, 2010, 2015). This is the "mobile" (Huberman, 1978) rather than the "stationary" model of changing one's working environment.

The following scheme of the action research has been proposed (Bankauskienė & Bankauskaitė-Sereikienė, 2015, 2017) (see Fig. 1).

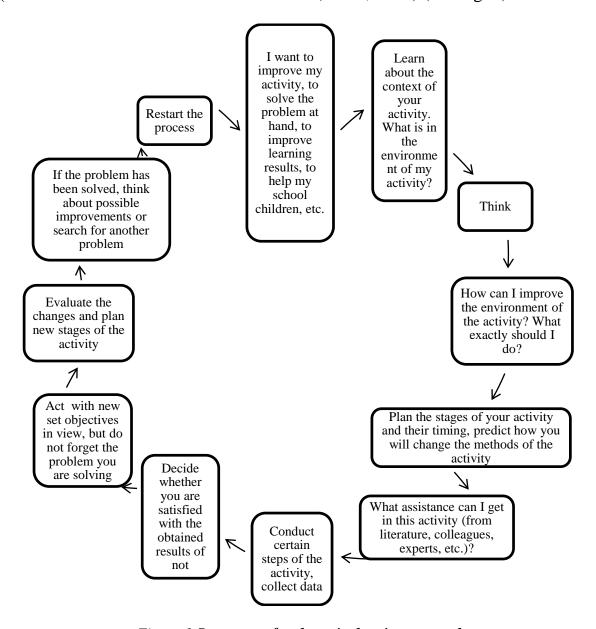


Figure 1 Sequence of pedagogical action research

The action research includes fifteen steps (Bankauskienė & Masaitytė, 2018). This research may be depicted as a continually renewing and complementing cycle – a spiral process, and may be linked to D.A. Kolb's (1975) experiential learning model.

Thus, the action research is special. It has nothing in common with laboratories, numbers, or stereotypes of "objectivity". The term "research" simply points to the attempt to improve the understanding of the activities take place in the classroom (What is going on? Why? How? What comes out of this?). Such research is an alternative to the encouragement of the pedagogue to focus more on him or herself as well rather than on the others alone, and thus this is an alternative way to improve one's work performance (Russel, 1998).

For this reason, this action research technique is widely applied not only in the social area and educational practice, but also in the training of prospective pedagogues.

The authors of the paper think that the definition of the action research that is most suitable for this study is one proposed by G.E. Mills (2003) (quoted in Ruškė, 2012, p. 113): "it includes problems arising in the classroom and the teacher's aspiration to solve them and to improve schoolchildren's learning and teachers' professional work".

Generalized survey of the results

The study was performed in May 2018 and involved the analysis of the graduation projects written by students of pedagogy at one higher education institution of Lithuania. The study was based on the action research technique.

We applied the qualitative research case study technique (Rupšienė, 2007). The data were collected from the products of activity created by students (graduation projects of 102 students – prospective pedagogues were read and grouped). In this study, we applied the qualitative research technique proposed by M. Patton (1990): the texts were analyzed, highlighting the respondents' *behavior* during the action research, revealing the respondents' *opinions* about the action research, describing the respondents' *feelings* experienced during the study, and generalizing the students' *knowledge* acquired during the study.

Using a case analysis technique, we reviewed the graduation projects of 102 students – future pedagogues written between 2007 (when the "Description of Teachers' Professional Competence" was published on January 15) and 2017 (inclusive).

The authors of the graduation projects emphasized that during their action research, they were improving their general competences (see "Description of Teachers' Professional Competence" (January 15, 2007)): research activity, reflection and teaching/learning to learn, communication, and cooperation. The

authors first indicated the *research activity competence* (1 table), which revealed the ability of the students' – prospective teachers' ability to organize action research and to select an adequate research strategy, structure, and methods: "I improved my knowledge and skills in research activity through action research (I chose the research question, the topic, the strategy, the structure, and the methods). When filling out the research diary, I marked insights and notes important for the research activity, and conducted self-reflection of my research activity" (Rudzkytė, 2015). "When working with disabled children, I earned their trust, and learned not only to improve the education process (to plan the content of the classes of the Lithuanian language, to apply information technologies, and to apply a variety of teaching techniques), but also to study my own and my schoolchildren's activity. I had a chance to look deeper into the peculiarities of language development and the possibilities for self-education in children with hearing defects. In addition, I could reflect more and learn from them" (Valaitytė, 2007).

The competence of reflection and learning to learn (see Table 1) revealed the researchers' ability to organize their learning, to renew their knowledge continuously, to improve their skills, and to evaluate the advantages and disadvantages of their professional practice, outlining future prospects of professional perfection: "Throughout the study, I could analyze the effectiveness of my activity, reflecting on the teaching techniques I applied in my work. In the future, I also want to keep searching for new alternatives and possibilities for improvement. I kept a diary, wrote down notes and feelings, and made conclusions and generalizations. I learned from the children when observing them" (Olekienė, 2009).

The competence of communication and cooperation (see Table 1) increases the success rate of the pedagogues' cooperation with their colleagues and their school children's parents, and helps them encourage their school children's active communication and cooperation during the education process: "I improved this competence because action research was based on cooperation with the school children, hearing their needs, and reacting to changes. During the classes, I tried not only to cooperate with my school children, but also encouraged them to cooperate among themselves, seeking common aims of learning" (Martišiūtė, 2010).

The case analysis of the graduation projects revealed that when applying the action research technique, students – prospective pedagogues successfully acquired and developed the following professional competences (see "Description of Teachers' Professional Competence" (2007)): professional perfection, use of information technologies, knowing the school child and recognizing his/her progress, motivating and supporting the schoolchildren, planning and

improvement of the subject content, management of the teaching/learning process, and registering the school children's achievements and progress (see Table 1).

Upon improving their *professional perfection competence* (see Table 1), the pedagogues indicated: "I objectively evaluate my professional powers, have improved my knowledge and skills, and practically applied elements of the action research technique" (Argustaitė, 2013).

In their projects, future teachers stated that they acquired and developed their competence of the use of information technology (see Table 1): "The use of information and communication technologies during the economics classes provides the possibility to employ different educational software and to obtain more information about the taught subject. I was deeply impressed by the virtual electronic heritage system where information about the history of the economics of Lithuania may be obtained. I use these technologies during classes in a non-traditional environment, doing projects with the children, and in pedagogical action research" (Žiūkienė, 2013).

The future teacher of French stated: "Both in the real and the virtual environments, I try to use both my native language and foreign languages (French and English) correctly. I have found software that allows for virtual learning of the French language, and I have recommended it to my schoolchildren. During this research, I started paying more attention to the school children's needs and started searching for more appropriate sources of information technologies" (Zulonaitė, 2017).

Future pedagogues improved their *competence of knowing their schoolchildren and recognizing their progress* (see Table 1), which revealed the future pedagogues' ability to recognize the schoolchildren's special needs and to evaluate the schoolchild's development and cognitive powers: "I improved my competence of knowing my school children and recognizing their progress. The improvement in this competence was especially affected by the process of the perfection of pedagogical activity because during this process, I became more acquainted with the school children who participated in the study through their observation and evaluation, and I recorded changes in their learning and the acquired new activity skills" (Bakšienė, 2013).

The competence of motivating and assisting schoolchildren (see Table 1) promotes the manifestation of such skills of the pedagogues as the development of the schoolchildren's self-evaluation ability and self-confidence, stimulation of the joy of cognition, and promotion of interest in the studied subject: "Upon completion of pedagogical action research, I consolidated this competence. When working with schoolchildren, I encouraged them to become familiarized with various jazz singing techniques, and applied them, taking into account the schoolchildren's knowledge and capacities. I encouraged the children to apply

reflection, which resulted in a faster completion of the tasks, a more successful assimilation of information, and an easier linkage of theory with practice" (Bičkovaitė, 2017).

The *competence of the planning and improvement* (see Table 1) of the subject content requires a pedagogue to be able to prepare a curriculum and a syllabus, to form the aims and objectives of learning, and to select the learning material: "During the action research, I more closely studied the teaching program of mathematics in the 1st gymnasium grade, prepared a syllabus, studied the regulating documents prior to formulating the aims and objectives of learning, and searched for and prepared learning material that would be attractive and interesting to the school children" (Šiugždienė, 2012).

When conducting action research, students – prospective pedagogues indicated that they developed their *competence of the management of the teaching/learning process* (see Table 1): "During the action research, I improved my learning process management skills in drawing classes, more frequently applied group work techniques, and tried to maximize my work with individual school children. I solved problems that emerged during the education process and encouraged the school children's self-criticism" (Gužienė, 2011).

In their projects, future teachers emphasized that during action research, they successfully improved their *competence of the evaluation of school children's achievements and progress* (see Table 1) because these processes are directly applied during the research: "I familiarized myself with the evaluation system used in the methodologist circle of the teachers of the Lithuanian language and analyzed the evaluation of school children carried out by my mentor. I started applying more variable methods of evaluation, including the evaluation of the progress and achievements. This competence of mine was noticed, and I was invited to the school's commission for the evaluation of school children's achievements via standardized tests" (Statkuvienė, 2016).

The analysis of statements provided by the students – prospective pedagogues showed that via the application of the action research technique, the students mostly developed the competences listed in the "Description of Teachers' Professional Competence" (2007) that are in concordance with the respective European competence groups: *cognitive*, *functional*, *personal* and *ethical* competences (see Table 1).

The analysis of the graduation projects showed that the students to a lesser extend developed the following competences listed in the "Description of Teachers' Professional Competence" (2007): communication and information management, organization improvement and change management, creation of teaching/learning environments, and the common cultural competence (see Table 1).

When searching for reasons why the aforementioned competences were less developed, the following assumptions could be made. Since the entrants of one-year pedagogical studies were students with a bachelor's degree but without pedagogical qualification, it could be stated that they had already acquired and developed their *communication and information management competence* during their bachelor studies. In addition, students partially indicated that when preparing the graduation projects by applying the pedagogical action research technique, they developed one of the functional competences – *the competence of the use of information technologies*, and thus they did not emphasize the competence of communication and information management separately (see Table 1).

In their graduation projects, the students did not place much emphasis on the *competence of organization improvement and change management* (see Table 1). This in part might have been due to the fact, that not all participants of pedagogical studies were directly working in educational institutions – they mostly underwent pedagogical practical training there. As trainees, they frequently were not invited to the school events for activity improvement, or involved in broader change management processes. Instead, they acted more as observers or mentors' assistants.

Creation of *teaching/learning environments* (see Table 1) is usually taken up by experienced teachers. Since not all participants of pedagogical studies worked in educational institutions (many only underwent pedagogical practical training there), they only partially participated in such activity – and even in this case they worked under the supervision of a tutor (university practice supervisor) or a mentor – teacher (assigned by the head of the educational institution).

The case analysis of the graduation projects showed that by applying the action research technique, the students – prospective pedagogues successfully acquired and developed the following professional competences: professional improvement; use of information technologies; knowledge of the school children and recognition of their progress; motivation and support of school children; planning and improvement of the subject content; management of the teaching/learning process; and evaluation of the school children's achievements and progress (see Table 1).

Conclusions

1. The analysis of scientific literature and documents showed that the *common cultural, professional,* and *general competences* defined in the "Description of Teachers' Professional Competence" (2007) correspond to the *cognitive, functional, personal,* and *ethical competences* defined in the "Common European Principles for Teacher Competences and Qualifications" (2005).

- 2. The action research technique has been applied by world education researchers and practitioners since 1953, while Lithuanian pedagogues started applying this technique in their practice in the year 2000. This is a unique qualitative research technique that not only allows the teachers to study and improve their schoolchildren, but also creates conditions for the teachers' self-improvement. This study was based on the concept of the action research technique proposed by G.E. Mills (2003).
- 3. The analysis of 102 students' graduation projects submitted during 2007-2017 showed that via the action research technique, the authors of the graduation projects mostly acquired and developed the following competences:
 - European cognitive competences, to which the competences of research activity and reflection and learning to learn indicated in the Lithuanian "Description of Teachers' Professional Competence" (2007) correspond;
 - European functional competences, to which the competences of the evaluation of the school children's achievements and progress, use of information technologies, planning and improvement of the subject content, and management of the teaching/learning process indicated in the Lithuanian "Description of Teachers' Professional Competence" (2007) correspond;
 - European personal competences, to which the competences of the knowledge of the schoolchildren and recognition of their progress, communication and cooperation, and professional improvement indicated in the Lithuanian "Description of Teachers' Professional Competence" (2007) correspond;
 - The European ethical competence to which the competence of the motivation and support of schoolchildren indicated in the Lithuanian "Description of Teachers' Professional Competence" (2007) corresponds.
- 4. The study showed that during the action research and the preparation of the graduation projects, the students less developed the European personal competences to which the competences of organization improvement and change management, communication and information management, and the common cultural competence indicated in the Lithuanian "Description of Teachers' Professional Competence" (2007) correspond. In addition, the European functional competence to which the competence of the creation of learning environments indicated in the Lithuanian "Description of Teachers' Professional Competence" (2007) corresponds was developed to a lesser degree as well.

Summary

Since 2000, most Lithuanian higher education institutions that educate and train qualified pedagogues have been applying the action research technique. This qualitative research technique is valued and applied in numerous educational institutions of a number of foreign countries – especially in the education of future pedagogues. In Lithuania, this technique is applied by practicing pedagogues for a better understanding and solution of education-related issues. Higher education students – prospective teachers apply this technique during their pedagogical practice.

The document "Common European Principles for Teacher Competences and Qualifications" (2005) emphasizes the notion that all pedagogues should be capable of effective work in three overlapping areas of activity — work with information, technologies, and knowledge, work with people (school children, colleagues, and other partners), and work with the society and within the society on the local, regional, national, European, and global levels (Saulėnienė, Žydžiūnaitė, & Katiliūtė, 2006). In order to act successfully, pedagogues need to have cognitive, functional, personal, and ethical competences.

In Lithuania, the generalized description of the pedagogues' competences is provided in the "Description of Teachers' Professional Competence", approved by the Order No. ISAK-54 of the Minister of Education and Sciences of the Republic of Lithuanian January 15, 2007. The description highlights the common cultural, professional, and general competences.

The object of the current study is the action research technique.

The study was conducted with the aim of analyzing the opinion of students – prospective teachers of various subjects about the application of action research in the teaching/learning process for the acquisition and development of competences.

To achieve this aim, the following objectives were set:

- To discuss the compatibility between the European Qualifications Network (2005) and the Description of Teachers' Professional Competence (2007);
- To reveal the essence of the action research technique;
- To clarify how current and prospective pedagogues evaluate the action research technique for the acquisition and development of various competences.

The following methods were applied during the study: analysis of scientific literature, document analysis, and case analysis.

The article consists of three chapters. The first and second chapters have theoretical contain. The third chapter summarises the results of a qualitative research.

The study was performed in May 2018 and involved the analysis of the graduation projects written by students of pedagogy at one higher education institution of Lithuania. The study was based on the action research technique.

Using a case analysis technique, we reviewed the graduation projects of 102 students - future pedagogues written between 2007 (when the "Description of Teachers' Professional Competence" was published on January 15) and 2017 (inclusive): The analysis of scientific literature and documents showed that the common cultural, professional, and general competences defined in the "Description of Teachers' Professional Competence" (2007) corresponded with the cognitive, functional, personal, and ethical competences indicated in the "Common European Principles for Teacher Competences and Qualifications" (2005). The pedagogical action research technique has been implemented by world education researchers and practitioners since 1953, whereas Lithuanian pedagogues started implementing it in their practice in 2000. This is a unique qualitative research technique providing the possibility not only for the study of schoolchildren and promotion of their development, but also for the development of the pedagogue – the researcher. The analysis of 102 graduation projects showed that the action research technique allowed the authors of the graduation projects to acquire and develop cognitive, functional, personal and ethical European competences that correspond to the pedagogues' competences defined in the Lithuanian "Description of Teachers' Professional Competence" (2007). Meanwhile, competences of communication and information management, organization improvement and change management, creation of teaching/learning environments, and the common cultural competence were developed to a lesser extent.

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