TEACHER AND A FUTURE TEACHER AS A RESEACHER

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Abstract: Action research has the potential to promote reflective teaching practice and to form educational change. Only a few studies have examined how students perceive the preparation to do research during their future careers. The aim of the present qualitative study was to explore the perspective of students – future teachers of themselves as researchers. Two focus groups with 29 students were conducted. Data analysis revealed how they perceive the methodology courses, how they experience the process of their own research and how they construct this aspect of teacher professional identity. The findings are discussed in the context of current research, limitations of the study are mentioned, and suggestions for future research are proposed.

Keywords: students, future teachers, education, action research, focus group

1 Introduction

Preparation of students in teaching programs and their development during their educational practice is a never-ending process of finding the answers appearing in everyday school life. These are the results of numerous studies, primarily in the field of teacher research. The history of teaching profession proves that the teaching profession has become more and more demanding as the requirements for the work of a teacher have broadened teacher´s competence profile. In the context of increasing demands on teacher´s job, the entrance into the space of research takes its place due to several aspects.

Our study focuses on a teacher in the role of a researcher of his/her educational environment and activities. Based on the document of the Council of the European Union (2007) Campos (2010, pp. 13-31) underlines, that "research – based qualification" of a teacher is a current request and one of the distinguishing characteristics of initial teacher education today. As he states, there is a need for such a competence, which will support a teacher in developing new knowledge and skills. On the other hand there exist a demand to be engaged in reflective practice and research (this is one way how to be an innovative teacher). A closer relationship with research is considered to be a sign of higher level of teacher qualification.

The narrower connection of the teacher profession with research as an imperative stands out for creation of such study programs for teachers that will support investigative attitudes of undergraduate students in teaching programs within their professional practice and acquisition of knowledge and competences to work in research (get to know methods and principles of research for specific educational context).

1.1 Research competence of a teacher

Numerous foreign and home authors in their papers focus on competences and skills of a teacher. In the professional literature we encounter the topic ´Teacher and Research´ written by more authors. Research competences are discussed, as well as developmental competences (Švec, 2005), then also pedagogical and research competences (Lukášová-Kantorková, 2003). Seberová (2015) points to the fact that the research competence is a new requirement for teachers.

Regarding to professional activities performed by a teacher, research activities – action research and participation at various developmental projects are analyzed by Kasáčová and Tabačáková (2000). Spilková et al. (2008) pinpoint that in European context the attention is focused on ´Culture of reflexive practice and research´ and ´research based teacher education´. There is an evident effort of joining students/teachers mainly into action research studies in their own classroom or school (Spilková et al., 2008, p. 48).

Generally, the European context accepts the definition stated in the document ´A Tuning Guide to Formulating Degree Programme Profiles´ (Lockhoff et al., 2010). Competences of teachers to be are divided into generic, general (applicable, transferable in various fields of curriculum) and specific (related to the specific field of the study). Among the generic competences we can find also ´research ability´. Gray and Campbell-Evans (2002) stemming from the study of several authors state that appreciation of the need to strengthen teachers through the research from their own practice is constantly growing as well as appreciation of the teachers who reflect the complexity of school environment and research of teachers representing self-reflection of their own professional practice. Thus, the need of teachers who are not only recipients and subjects of research, however, they are those who generate pedagogical knowledge. A new role of a teacher-researcher is considered to be a decisive factor in interconnecting effective pedagogical practice with the following professional teacher development.

Fulfilling the growing expectation of the society from the side of a teacher, the requirement to encompass the role of a reflective practitioner in the professional role and a researcher at the same time is not only intellectually demanding but it also requires a solution of serious and often difficult questions on a classroom practice and learning results of students. The double role of a teacher and researcher has currently become extremely demanding in the fast changing current conditions of schools. The difficulties are growing if a teacher is not properly prepared for such a role and has not gained enough experience in the field of the pedagogical research. Sometimes even reading research studies can be difficult for many teachers in the practice due to the fact that they find academic research very artificial, language of research too distant from their way of expression. Academic research is not considered to be a voice of teachers (Gray and Campbell-Evans, 2002).

Similarly, Shkedi (1998) suggests, that the idea of teachers as researchers arises from the encounter between the teacher's world and the researcher's world, which may be characterized as a deep gap. He found that the teachers do not perceive positivistic university-based educational research to have the potential to express their professional world. It is often too theoretical and the findings do not suit specific situations in which practitioners work. On the other side, qualitative research, being more narrative and reflecting real-world experience, may represent a bridge between the research and practitioners, help raising their professional levels, and reinforce their status as professionals.

1.2 Action research

The first signs on action research and its distinction from academic research can be found in the work of the American social psychologist and educator Kurt Lewin from the 1940s. Lewin is considered to be the author of the term action research (Ferrance, 2000). The action research was perceived as an activity with its potential to strengthen the "science of education", as well as a status of the professionals who had been working at schools and faculties. Research of teachers and with teachers was one of the ways of improvements in this field and clearly points at the action research as knowledge/cognition generating activity (Noffke, 2009).

Throughout establishing action research, the terms such as practitioner research or teachers as researchers were used. In any case, the reason is apparent that it is about research activities that are performed by teachers themselves in their educational

environment (sometimes in cooperation with colleagues and academics). The research aim comes from the problematic situation (i.e. phenomenon) in a certain classroom or school with the results serving for immediate improvement of pedagogical practice. Application of teacher investigations and findings are not bound with various lengthy defenses, approval procedures or licenses as it is in the case of other studies. However, they are immediately reflected in the changes and making the pedagogical practice more quality like. Even if regarding the character of the stated research, a research sample is small but the presentation of findings at the workplace or through publishing the results (journal, conference, teacher meetings, etc.) gives space to apply the positive experience of others in own practice.

Kincheloe (2012) defines the research teachers do as taking matters into their own hands, suggesting that good schooling is not possible when it fails to account for social, historical, philosophical, cultural, economic, political, and psychological contexts that shape the educational process. The teachers that do a research of their own professional practice, explore and attempt to interpret the learning processes that take place in their classrooms, become empowered.

Action research has been currently most frequently defined as a process in which participants systematically and carefully research their own educational practice and use there different research techniques. This research is performed with the aim to change educational practice in the future in a particular education environment of a teacher, with students/pupils, with whom the teacher is dealing, at school where he/she works and therefore it raises questions directly connected with his/her educational work. Ferrance (2000) states that this type of research comes from several assumptions. Teachers and school directors solve best the problems that are identified by them, they work more effectively if they are challenged to find out and evaluate their own work and after that consider the way of how to differentiate their work. Efficacy increases if they help each other and work together. Despite that, cooperation among colleagues helps teachers and directors in development of their professionality (Ferrance, 2000).

Relevant literary sources limit various types of action research. Ferrance (2000) according to the nature and aim of the research describes the action research performed by a teacher in his/her own classroom and a group action research of several teachers dealing with the same issue. There are also team action researches of teachers or others who jointly solve a problem on a level of the whole school or respective geographical district.

Action research is characterized by its cyclical form and phases in which it is performed. The most frequently these are the steps as identification of a problem in educational environment, study of relevant theoretical literature about the subjected issue, data collection (interview, questionnaires, tests, diaries, portfolio, audio and video recordings, etc.), identification, classification and analysis of collected data, their interpretation, processing the design ´action – intervention´ in the classroom/school, evaluation of the results of intervention, communication of the results or their written publication. In each phase a teacher researcher applies chosen methods of pedagogical research (Seberová, 2015).

1.3 Preparation for the role of teacher-researcher

University study is for an undergraduate from the first days meeting with science and research. Pointing significant personalities in science and research creates a specific aspect of academic environment and it is an integral part of its culture. New students enter this culture and they are gradually taken into creation of such environment. Organization of university study gradually gives space to getting closer to science and research and their specific language, enables them to follow results and apply them into their student work, engage them into solution of different research projects. It seems that an interest in student research work can be influenced by personal motivation of a student, internal persuasion about the meaning of his/her study, fulfilling own expectation in particular courses of the study but also other informal activities held at university, supporting atmosphere and university culture (hidden curriculum), possibilities to study abroad, a level of communication between a university teacher (or scientific authority) and student, etc.

Success of student work when creating final thesis as well as their later interest in applying research skills in their future practice both depend on several factors. Unfortunately, there are only a few studies that have examined how future teachers learn the processes of action research, what they learn, and how they see the connections between classroom inquiry, teaching and educational change (Price, 2001). Gray and Campbell-Evans (2002) emphasize the need for exploring the views of students on research work.

Price (2001) examined 11 future teachers' experiences of action research and suggests that the knowledge, skills, and experience students gain during their university studies powerfully influence the shape of their teaching practice. Based on data, the author examines four critical components of an action research course – reflection and inquiry; learning about students; learning about pedagogical content knowledge; and learning about social justice and democracy. In another study, Price and Valli (2005) used case-study methodology to explore novice teachers' experiences of action research. They identified five central tensions that form the process and pedagogy of action research – individual and institutional change, action and understanding, support and challenge, passion and reason, and regulation and emancipation. Authors suggest that educators use them as framework to develop understandings of change in relation to biography, teaching, and context of their students.

Kitchen and Stevens (2008) used self-study methodology to conduct an action research project as they introduced action research to their students. They analyzed written data from both students and teachers. The students reported that engaging in action research helped them to understand how to connect theory to practice and expanded their conceptions of teaching. The authors conclude that when teachers learn they are capable of transforming student learning by researching their own practice, their conceptual understanding of teaching and learning changes and the connection between teacher-growth and student-growth becomes explicit.

1.4 The present study

The research of the authors comes out of the several-years practice of the authors during supervision of students at their final bachelor and master theses or through solving doctoral research projects. These are activities that significantly support the student orientation in theoretical cognition in the field of pedagogical science (or related fields), they provide the space for interconnection of theoretical knowledge with current problems in pedagogical practice, the "training" of skills for scientific and research activities and moreover, strengthening the sense of never-ending search for truth, attentive research of environment, lifelong learning and connecting different fields of teacher work. The issue is that only a part of the students enter their teaching professions with this mind set and only a small proportion seeks for opportunities to continue in searching and innovating work. A small part of them consider the double role of a teacher and researcher as a part of their profession.

The main objective of the study was to explore the factors determining the perspective of students – future teachers of themselves as researchers and to highlight the key areas they consider significant in their future role as researchers.

2 Methods

Participants
The sample consisted of students – future teachers who study the master degree of pedagogy at the Faculty of Education,

Constantine the Philosopher University in Nitra. The sampling was non-random. Two focus group interviews with 29 students were conducted until the condition of theoretical saturation of data was met (Strauss and Corbin, 1997). Two of the authors of this paper (V. K. and T. T.) were moderators of the focus groups.

Methods of data collecting
With regard to the nature of the research problem and to the aim to explore unique experience of students – future teachers the method of qualitative focus group was employed. Qualitative data is authentic, complex, and rich, and provide insight into phenomenon of interest. A set of open-ended questions was defined according to the previous research in this area. Group interactions that arise during the moderated interview bring dynamics into the process of phenomenon exploring – anything that is said can be confirmed, supported or disproved in a group discussion. Data of the focus groups were digitally recorded and transcribed verbatim.

Methods of data analysis
Data were analyzed by means of grounded theory as proposed by Strauss and Corbin (1999). Two independent coders (T.T. and J.T.) analyzed the data to detect as many aspects of studied topic as possible and also for validity check. Their partial results were confronted to reach congruent view at the phenomenon. They used multi-level coding of participants´ statements. In the next phase central categories and sub-categories were created, relationships among them were explored and the findings were included in a model (Miovský, 2006).

3 Results

The analysis of focus groups data showed three categories that explain how the perspective of students – future teachers about themselves as researchers develops and what determines it. The categories include – knowledge and education at the university, practical experience with basic and action research, and personal vision.

Overview of key categories and subcategories is given in the following model (Fig.1). The relationships between the categories and their definitions are presented in brief below.

Fig. 1 Main categories and subcategories

1 Knowledge and education at the university
- quality of university education (theory)
- models of the teacher's profession at the university
- complicated language of science and statistics
2 Practical experience with research
- models of training teachers in teaching practice
- cooperation with the supervisor in a diploma thesis (trust and engagement)
3 Personal vision
- personal objectives
- attitude and activity

3.1 Knowledge and education at the university

The idea of students – future teachers about themselves as researchers is determined primarily by the quality of university education. Understanding the methodology is important for students. Students perceive that more attention is given to the theory and less to the process of applying knowledge.[1]

"Although we knew everything about the methodology, we were supposed to learn it, but only in theory."[4]
"The methodology was good. We were prepared theoretically. We learned about all the research methods. But we did not really learn how to work with them."[5]
"For example, I know that there are rules for formulating hypotheses. But I still have problems creating hypotheses." [9]

Models of the teacher's profession at the university are another important part of creating the idea of students – future teachers about themselves as researchers: *"The great motivation is, if the teacher is active, communicative, and open to new things."*[12]

Students also verbalize some deficiencies in the competence to statistically process their own data: *"We have solved mathematical examples at the statistics lesson. However, I do not know how to apply it to my research. This is a barrier for me."*[1]

"It would be better to learn statistics with our own data we have in diploma theses than to count some fictional examples during the lesson."[14]

Research respondents emphasized one more problem. The language used in the methodology and research studies is often complicated: *"Recently we were reading a research paper and it was very difficult. It bothers me if the author uses too complicated language to describe the results."* [11]

"Sometimes the professional language of the teacher is also a barrier. The supervisor is trying, but there are situations when I don't understand at all. I don't know what she's talking about. She can't explain what to do in a clear way. " [23]

3.2 Practical experience with research

The idea of students – future teachers about themselves as researchers is determined by their practical experience with research: *"Practical experience is a problem. Already at school, we should do some action research. Maybe it does not need to be complete, but at least demonstrative. We had nothing like that during our teaching practice."*[20]

„Yes, it's true. Educational practice is focused only on learning. Less attention was dedicated to action research. In the future we will have to do it. They should prepare us for this." [7]

Models of the training teachers are another important part of creating the concept of future teachers about themselves. Future teachers reported rather poor experience, suggesting system changes are needed in this area: *"If we wanted to teach something in a different way, something new, the training teachers disagreed. "* [14]

"Teachers gave us simple instructions. This has to be dictated, explained, and taught. And that is the image of the teacher, when he is not open to himself, to improve himself, so he will hardly try to improve something through action research. " [1]

Positive self-image of students is supported by confidence in their abilities. Trust between the student and the supervisor is created through their cooperation. An important motivating element is confidence and encouragement: *"The supervisor trusted me. Recently, she has finished her own research. She showed me how to do it. I have similar research design, so it helped me a lot. We collected the data together."*[9]

Effective cooperation between the supervisor and the student has many aspects. It is important to support the student through his or her involvement in further research work. It is necessary to offer the students the opportunity to present the results of their own work. An example of good practice can be the organization of student conferences: *"The supervisor supported me to attend the student conference. It helped me. I have gained more confidence in my ability to conduct research, for now and in the future."* [15]

Engaging the student in research of his or her supervisor is an effective method of cooperation between tutor and student. Publishing results of the research they conducted together can be very motivating.

[1] to ensure the anonymity of research participants their identification data were replaced by a number, it is placed as a superscript at the end of each statement.

3.3 Personal vision

The idea of students – future teachers about themselves as researchers is formed also by their personal vision. School innovation is related to the personal objectives of future teachers. Future teachers who want to teach in a modern way are aware of the great importance of action research. The activity of future teachers and the belief that it is possible to teach modern is important: *"I want to teach at primary school, because I'm not happy with the way education looks. It is the same as twenty years ago."*[17]

"There are only a few schools where students work more than a teacher and come up with new ideas themselves. I would like to try new methods, something interesting and then verify it in action research."[2]

The personal vision gets formed by individual activity, identification with the teacher role, positive attitudes, enthusiasm, and additional education and self-education.

4 Discussion

The aim of the present study was to explore how students perceive the research as a part of their future career and every-day practice. The data suggest some key findings. One of the most often mentioned problems is the dominance of theory over practice in methodology courses. Students understand the theoretical basics of methodology well, but they have difficulties applying the knowledge. The lack of practical research experience affects the concept of students – future teachers about themselves negatively. Without the opportunity to experience the process of designing and conducting a research with a support from a teacher or supervisor, they do not feel competent to do research by themselves. The first contact of students with research work should be a part of basic courses during the first years, before the student starts to work on his or her diploma thesis. Current research (e.g. Price, 2001; Price and Valli, 2005) on experience of students of action research courses may provide a useful inspiration. As Kitchen and Stevens (2008) found the students who engaged in action research during the course reported that it helped them to understand how to connect theory to practice and expanded their conceptions of teaching.

Our data of future teachers reflect general attitudes toward research that teachers have, as being too theoretical, complicated and not suitable for practitioners (Shkedi, 1998). Students perceive the language of many research papers as a barrier preventing them from interest in research. It may be useful to introduce the students to the qualitative research, which is narrative, authentic, explores individual experience, and uses stories and real-world language.

Working on the diploma thesis is a significant experience for most of the students. The quality of relationship with the supervisor may have determining impact on the outcome of the process. Our data provide a picture of a good supervisor – he or she can speak about the research clearly, shows examples of a good research, and expresses confidence in the skills and knowledge of the student. The supervisor and student may work on a research together and eventually publish together. Student conferences at universities seem to be a good platform for gaining experience with presenting and defending results of their own research. Future teachers may receive useful feedback from the audience and support the confidence in their abilities.

The teachers who the students meet at the university or training teachers may represent significant models – the students want to be like them or the students perceive them as rigid, burned-out and unwilling to try anything new. Especially training teachers have the potential to influence the students through their personality, enthusiasm and competency, promoting climate for innovative ways of teaching.

4.1 Limitations of the study and suggestions for future research

There are some limitations that may threaten the validity of our results. One of them is related to the sampling. We tried to follow the rule of theoretical saturation of the data, however, we believe, that different, more heterogeneous sample may yield different results. Since there is a lack of similar studies in our country, we suggest the attention of both qualitative and quantitative researchers should be dedicated to the exploration of this issue. Understanding the experience with action research and attitudes toward action research of future teachers and in-practice teachers may help educators design the courses of research, methodology, and statistics for university students and in-practice teachers who take part at various forms of lifelong education. While the qualitative approach brings deep insight and understanding of a process and experience of an individual, quantitative approach may provide useful data on attitudes in relation to various variables, e.g. the field of study.

5 Conclusion

The main objective of the study was to explore the factors determining the perspective of students – future teachers of themselves as researchers and to highlight the key areas they consider significant in their future role as researchers. Only a few other studies have examined how students perceive the preparation to do research during their future careers. Two focus groups with 29 students were conducted. The main factors determining the perspective of students are: knowledge and education at the university, practical experience with research, and personal vision of students – future teachers. We discussed the findings in the context of current research and we mentioned the limitations of the study.

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