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Interactive Learning in the System of Future Teachers' Training: Experience, Problems and Prospects

[1]Elena V. Kondratenko, [1]Natalia A. Biryukova, [2]Ilya B. Kondratenko,
[3]Larisa Y. Mashtakova, [4]Ksenia D. Dyatlova and [1]Tatyana V. Kolesova
[1]Mari State University, Yoshkar-Ola, Russia
[2]Interregional Open Social Institute, Yoshkar-Ola, Russia
[3]Nizhny Novgorod State University, Nizhny Novgorod, Russia
[4]Birsk Branch of Bashkir State University, Birsk, Russia

Abstract: The study discusses the importance of interactive learning for the formation of future teachers' basic competences in the system of their professional training. The papers cover the nature and content of interactive learning in the process of professional preparation of future teachers as a system of forms, methods and means of pedagogical interaction, focused on the formation of basic competences of future teachers. Pedagogical conditions providing successful formation of the basic competences of future teachers in the process of interactive learning are identified and scientifically grounded. The main criteria and indicators corresponding to the selected groups of future teachers' basic competences are revealed.

Key words: Interactive learning, teachers' basic competences, training, competences, training

INTRODUCTION

The leading idea of the modernization of pedagogical education at the present stage is the competence approach. In its framework the training process can be defined as a complex activities aimed at developing a number of competencies of future teachers. These competencies include the willingness and ability for professional work and communication. It is impossible without the involvement of a student into active cognitive activity through the creation of various situations of pedagogical interaction in a higher educational institution.

In this regard, interactive learning in the vocational training of future teachers is of particular importance. Interactive learning is a system of forms, methods and means of pedagogical interaction. The basis of this technology is the activation of subjective experience of future teachers and their involvement into active, cognitive and communicative activities to reach educational and professional goals. The use of interactive technologies is an important factor in the formation of basic competences of future teachers in the process of their professional training in a higher educational institution.

Literature review: The analysis of researches on the problems of modernization of the content of pedagogical education shows that basic competences form the foundation of professional readiness of future teachers. The basic competencies include:

- General professional competences which being common to all pedagogical professions
- Basic competencies providing effective implementation of professional activities by an educator
- Metaprofessional qualities combining abilities, qualities and features of an individual and determining the effectiveness of cognitive, social and professional work of the teacher (Balakireva, 2005; Maltseva *et al*., 2015)

According to the researchers of the OECD project (2005) "Definition and Selection of Competencies" (DeSeCo), "basic competences must mobilize cognitive, practical and creative skills and other social human resources such as aim, motivation and the idea of values". Among the basic competencies that define successfulness of a person in today's society, the researchers identified three categories: interactive use of information tools and instruments; interaction in heterogeneous groups; the ability to act autonomously.

The notion of "interaction" (from English "interaction" from Latin "inte+actives"-interaction) was

Corresponding Author: Natalia A. Biryukova, Mari State University, Yoshkar-Ola, Russia

first used in sociology and social psychology in the middle of the 20th century (J. Mead, Charles Cooley, G. Bloomer). Later the problems of interaction were studied in the works of such scholars as Chiari and Nuzzo (1996) and Raskin (2006).

In modern psychology interaction is defined as the ability to interact or to be in the dialogue with anyone and represents interaction, mutual influence of people or groups on each other, based on the dialogue.

The analysis of literature on the problem of the research allows to determine interactive learning as the system of forms, methods, means of pedagogical interaction, based on the activation of the subjective experience of future teachers and their involvement into active, cognitive and communicative activities to solve educational and professional tasks (Kondratenko *et al*., 2015).

The essence of interactive learning is most evident through the ideas of the activity approach (Vygotsky, Leontiev, Rubinstein). This approach allows identifying the conditions for formation of competence of future teachers through their involvement into various activities in the process of interactive learning.

From the standpoints of the activity approach interactive learning can be defined as a special kind of pedagogical interaction. Slastenin considers pedagogical interaction as the universal characteristic of the pedagogical process which "always has two sides, two interdependent components: the pedagogical impact and the learner's response". In the process of interactive learning pedagogical interaction can be implemented according to three main schemes: "the teacher student (a group of students)", "a student a group of students", "a student-electronic educational resource". We can observe the formation of such personality trait as subjectivity that implies the consideration of the process of interactive learning in terms of the personal-oriented approach (Mashtakova and Valitova, 2015; Kolomiets, 2014).

In psychological studies of an individual being the subject of some activity (K.A. Abulkhanova-Slavskaya, A.V. Brushlinsky, A.N. Leontiev, S.L. Rubinstein, V.E. Chudnovsky) the ability to transform oneself and the environment including the system of social relations is the leading ability of the subject. This causes the change of the educator's role: while organizing the interactive learning he is not the source or the translator of complete educational information but serves as the consultant, the supervisor, the moderator, the facilitator. Here he/she provides students with wide opportunities for self-realization and self-development (Dyatlova and Kolpakov, 2012).

Another important condition for ensuring the effectiveness of the implementation of interactive learning in the process of professional training of future teachers is the creation of information educational environment. It includes information educational resources, computer learning tools, the internet technologies, etc. (Kurochkina, 2015). Information educational environment is aimed at providing students with communication opportunities with the teacher and other students, implementation of cooperation in the process of cognitive and creative activities, the solution of actual problems of socialization and professional formation of future teachers.

Basic competencies are presented in the Federal state educational standard "pedagogical education". We have analyzed the opportunities of interactive learning for the purpose of their development. There were singled out four groups of competencies (value-oriented, cognitive, information and communication-activity-related) which can be formed through interactive learning.

The criteria and indicators of the level of formation of basic competencies of future teachers in the process of interactive learning are:

- Value-orientated: mastery of the system of basic cultural values, moral ideals, norms and patterns of behavior
- Cognitive: readiness for continuous improvement of the educational level, the ability to independently acquire new knowledge and skills, the ability to self-development
- Information: possession of selection methods, assimilation, processing of educational and professional information.
- Communication-activity-related: possession of abilities and skills of effective cooperation in the process of solving professional problems; the ability to goal-setting, planning, organization and evaluation of effectiveness of efficiency of educational and professional activities

Pedagogical conditions that ensure successful formation of basic competencies of future teachers in the process of interactive learning are:

- Orientation of interactive learning on students' assimilation of norms and values of their future professional activity, their socially and professionally significant qualities
- Integrated use of interactive methods, forms and means of education in the process of professional training

- Creation of information educational environment providing interaction of subjects of education
- Monitoring of the formation of basic competencies of future teachers in the process of organization of interactive learning

MATERIALS AND METHODS

The experimental part of the study was implemented in Mari State University from 2012-2015. To identify the level of the formation of future teachers' basic competences the bank of diagnostic tests was established. It includes the following: the test (B. Bass), "orientation of the personality", the test "communicative and organizational abilities", test (A. Snyder) "level of communicative control", the test of A.V. Karpov which determines an individual degree of reflexivity.

During the first stage of the experiment regarding the nature of the formed competences different means of verification and control were used in the interactive learning process. They were both traditional and more advanced means: professional cases in education; observing students during games; modeling professional situations; expert evaluation of educational projects, the analysis of the activity products (an essay, mental maps).

The second stage of the study included the establishment and implementation in the educational process the original model of the formation of future teachers' basic competences in the process of interactive learning, the development and implementation in practice the specialized course "technologies for interactive learning in modern education".

RESULTS AND DISCUSSION

At the stage of ascertaining experiment the author's questionnaire for assessment of the level of organization of interactive learning at the university was designed and approbated. There were interviewed 156 3rd year students of the field of "pedagogical education" and 52 professors of Mari State University.

Students were asked to note and evaluate the effectiveness of the most common types of pedagogical interaction which are used in their professional training in the university. Among the types the students noted were the following: "a student the teacher" (40%) and "a group of students the teacher (40%). Other types of interaction of "a student a group of students" and "a student-electronic means of education" were noted by the 10% of the students. Pedagogical interaction of the type of "a student the teacher" being indicated as the most effective one was noted by 55.3% of the respondents.

The 31.6% of respondents chose the type of pedagogical interaction of "a group of students the teacher", 21.1% of the respondents chose the type of "a student-electronic educational resource". In our opinion, the low estimation of the effectiveness of interaction of "a student a group of students" was caused due to the fact that this type is not sufficiently used in the practice of the preparation of teachers in the university. This assumption was confirmed while the analysis of the students' responses to the question "what of the following forms and methods of teaching are used in the course of your education at the university?" 42.1% of students noted group discussions, 23.7% project technologies, 21% technologies of mutual learning, role-playing and simulation games, 13.2% case-study technologies.

The survey of teachers showed that the majority of university teachers (92.3%) are aware of the need to use technologies of interactive learning. At the same time 63.5% of the teachers admit that they experience difficulties in using them. As the main difficulties they note the following:

- Lack of methodical knowledge in the field of organization of interactive learning (55.8%)
- Lack of time for preparation and organization of lessons with the use of interactive learning technologies (40.4%)
- Inadequate level of provision of interactive learning tools in the university (34.6%)
- Low level of students' motivation to independent cognitive activity (26.9%)
- Low level of readiness of students for active interaction in the learning process (21.2%)

The priority of interactive learning technologies being used in the training of future teachers was given by teachers to: a group discussion (92.3%), information and communication technologies (61.5%), the technology of solutions of professional problems (53.8%), problem lecture (46.2%), e-Learning educational technologies (46.2%). To a lesser extent such technologies as project technology, case-study technology, lecture-provocation technology, gaming activities technologies, debates and others are used.

The analysis of the results of the test of B. Bass having been obtained during the ascertaining experiment suggests that the orientation to cooperative activities in the process of interaction while solving professional problems is prevalent among the majority of students of the experimental and control groups. However, the results of evaluation of methods of communication and

organization abilities showed that the majority of students of the experimental (76.3%) and control (62.5%) groups have a low level of organizational skills. In the experimental group, there were no students with a high or a very high level of organizational abilities. In our view, it prevents effective implementation of their orientation to the organization of joint activities in solving their professional problems.

The results of ascertaining experiment, the researchers questionnaire and the SWOT analysis let us make the conclusion about the insufficient level of formation of information, value-oriented, communication-activity-related competences of the majority of future teachers. We distinguished the factors which had negative impact on the effectiveness of their professional training: the predominance of traditional forms of reproductive forms and technologies of education, insufficient level of interactive learning.

The second phase of the research was conducted in 2012-2013. It was directed to the creation of the model of basic competences formation of future teachers in the process of interactive learning, the development and approbation of the author's course "interactive learning technologies in modern education". The course was conducted in the experimental group of students of the 3rd course of the faculty of History and Philology and the Institute of National Culture and International Communication of Mari State University. The contents of the course included the study of didactic characteristics of interactive learning, interactive methods, means and technologies of education, the peculiarities of organization of control in the system of interactive learning. The implementation of the course was held through the use of non-traditional lectures (a lecture-visualization, a problem lecture, a lecture-provocation, a press conference-lecture), case-study, solutions of professional tasks, organization of project and gaming activities, information and communication technologies. During the implementation of the course all kinds of interaction forming the basis of interactive learning "a student the teacher", "a group of students the teacher", "a group of students a student", "a student-electronic educational resource" were used.

An important condition for the formation of basic competencies of future teachers was the information environment of interactive learning. At the stage of the forming experiment the creation of this environment was carried out through the integration of traditional and information technologies of education. For the purpose of the solution of this task the theme "interactive means of education" was included into the content of the course. Studying the theme the students were introduced to interactive means of education, different approaches to their classification. The students estimated the didactic capacities of different groups of interactive learning tools, analyzed the conditions of their application in the real school education process.

During the training of future teachers various interactive learning tools were used: electronic textbooks, encyclopedias, dictionaries, training systems, an interactive whiteboard and others. A special role in the organization of information and educational environment for interactive training was designated to the e-Learning system LMS Moodle. Its main instruments (a lecture with control elements, a seminar, a forum, a chat, a glossary, a survey, questionnaire, portfolio, essay, etc.) allowed solving information, communication and monitoring tasks connected with the formation of basic competencies of future teachers. During the interaction with the information educational environment they formed the skills of using universal packages of applied computer programs in solving professional problems of using a computer as the tool for information management of evaluating software and the prospects for its use.

At the stage of generalization and analysis of the results of the experiment (2014) monitoring of basic parameters for evaluating the effectiveness of the distinguished pedagogical conditions was carried out.

The comparative analysis of the results of the methodic of assessment of personality orientation of B. Bass in the experimental and control groups, suggests that in the process of interactive learning future teachers experience shift of priorities of interaction. Self-orientation is not substituted by orientation to communication and collaboration.

Monitoring of the activities of students of the experimental group confirms the fact that in the process of interactive learning decrease of the students' orientation to direct evaluation takes place. Students experience less aggressiveness and conflicts while the assessment of the results of their activities. They experience less inclination to competition, the desire to resolve an educational task individually, without interaction with a group (50% at beginning of the experiment up to 21.1% at the end). At the same time, the proportion of students being able to defend their interests for achieving a common goal increased by 21%.

The analysis of formation of cognitive competencies of the students of the experimental group in the process of interactive learning let us make some conclusions. In the course of the forming experiment the proportion of students at a high-level possessing the technologies of renewal of humanitarian knowledge, methods of critical thinking, skills of reflection, self-evaluation and

self-reflection in solving professional tasks has significantly increased. The proportion of students with a high level of development of communication-activity-related competences doubled (from 26.3% at the beginning of the experiment to 50.0% at the end). The analysis of the dynamics of the level of formation of information competences suggests that the proportion of students with a high level of development of formation of the type of competencies has increased from 21.1-39.5%. In the same time there were no significant shifts in the control group while the distribution of the students according to the levels.

The analysis of the results carried out while using the Student's t-criterion confirmed the hypothesis of the influence of the selected pedagogical conditions on the formation of basic competencies of future teachers in the process of interactive learning. The data obtained in the course of the experiment confirm the hypothesis of the study. They prove the efficiency of the use of interactive learning for the formation of basic competence of future teachers.

CONCLUSION

The analysis of the essence of interactive learning, implemented in the process of professional preparation of future teachers, allows us to conclude that interactive learning is focused on a very specific and projected goals: improving the efficiency of educational process, achievement of high results; strengthening motivation to study disciplines; the formation and development of communicative and professional skills of students; development of skills of analysis and reflective practices; development of skills of modern technical means and technologies for processing information; the development of the ability to independently find information and determine its accuracy; reduction of the share of classroom work and increase student independent work.

Pedagogical potential of interactive learning in the system of professional training of teachers is the possibility of intensifying the subjective experience of a future teacher and its inclusion in active cognitive and communicative activities to solve educational and professional problems, required further study. The direction of future research may be the influence of interactive learning on the formation of professional competence in general and specific groups of competencies of future teachers.

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