International Journal of Innovative Technology and Exploring Engineering (IJITEE)
ISSN: 2278-3075 (Online), Volume-8 Issue-12, October 2019

Professional Training in Higher Education: Technological Aspect

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Abstract: ***The development of science and technology offers new forms of communication, new types of resolution of abstract and specific tasks, turning the teacher from an authoritarian translator of ready-made ideas into an inspirer of intellectual and creative potential of students. The future of the system of training, which would fit into the scheme student – technology – teacher, in which the teacher does not turn into a teacher-methodologist, technologist, and the student becomes an active participant in the learning process.***

Index Terms**: *Technology, specialist, education, higher school, profession.***

I. INTRODUCTION

The analysis of scientific pedagogical and methodical literature shows that many people focused their attention on the study of this issue. The relevance of this problem is due to the requirements of modern society. The doctrine of education development States that the development of education should ensure the growth of intellectual, cultural, spiritual and moral potential of the nation. The task of today is to create conditions for the development and self-realization of each individual. [14], [17]

The purpose of the article is to reveal the essence of modern educational technologies used in higher education.

The socio-economic changes taking place in the country have led to significant changes in the higher education system. The analysis of international experience shows that the success of reforming educational systems and their development in today's conditions is determined by two leading trends: humanization and technologization of educational activities. Technological effectiveness of the educational process is today an indicator of quality.

Revised Manuscript Received on October 30, 2019.
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Therefore, the actual problems of pedagogy of higher education are: the definition of conceptual approaches to the development of psychological and pedagogical foundations of learning technologies in high school; development and theoretical justification of the content and structure of personality-oriented pedagogical technologies; identification of psychological and pedagogical conditions for the effective functioning of pedagogical technologies in continuous education.

II. THEORETICAL FOUNDATIONS OF RESEARCH

Analysis of scientific sources on the problem of «technology» in relation to education, as well as generalization of foreign and domestic experience of technologization of pedagogical activity allows us to conclude that the concept of «technology of education», «pedagogical technology» for a long time had no unambiguous interpretation and was used in theoretical and practical innovative pedagogical searches.

Today, various concepts of technology are used in psychological and pedagogical theory and practice. It is noted that the basis for the technological understanding of learning, in addition to programmable learning, became computer science, Cybernetics and systems approach. The learning process began to be considered widely and systematically, and the main idea was the idea of recreating the learning technology. At the same time, the term «pedagogical technology» is widely used in Russian literature. It can denote a direction in didactics, a technologically developed system, a training system, a system of methods and techniques of a certain teacher, a technique and separate methods of education [6], [11], [12].

Learning technology was often identified with the use of learning technologies and defined as “technology-learning techniques”. The essence of modern learning technology is to determine the most rational ways to achieve the goals. At the same time, the educational process is considered as a complex system in its unity and interrelation. Learning technology is often interpreted as a field of application of the system of scientific principles to the programming of the learning process and their use in educational practice with a focus on the activity of learning objectives that allow their evaluation. This branch is more focused on the student, rather than on the subject of study, to test the practice (methods and techniques of training) in the course of empirical analysis and the widespread use of audiovisual tools in training, defines the practice in close connection with the theory of learning. [3], [13], [15]

The technology of training is defined as the modernization of the didactic system based on the study and experimental verification of the elements that form it, as a systematic way of organizing training, based on the activity approach and includes an ordered set of actions and operations that provide the formulation of pedagogical goals, content, information, subject and procedural aspects aimed at the assimilation of knowledge, the acquisition of various types of skills, the formation of personal qualities of students, as a complex integrative system, including an ordered set of operations and actions, providing a pedagogical whole definition, content, information,subject and procedural aspects aimed at the assimilation of knowledge, the acquisition of professional skills and the formation of personal qualities of students in accordance with the objectives of training; the technologies are classified into traditional and active learning technologies. [9], [16], [18]

III. ANALYSIS AND DISCUSSION

Scientists identify the main features of learning technology, such as: modernity; optimization of the educational process; synthesis of results obtained in related Sciences; scientific and the ability to reproduce the learning process and its results. In the construction of the educational process, the teacher as a designer of the learning process is put to the fore, and one of the main requirements of the technological approach to learning is to look at it as a single interrelated process of interaction between the teacher and the student. [10], [19], [23] Development of the problem of modern technologies is a prerequisite for science-based innovations in education, strategic decisions in this multi-faceted industry and highlights the elements of modern learning technology (development, creation and integrated use in the educational process of learning tools to transform educational information into knowledge and skills of students in all forms of learning), highlights the characteristics of modern learning technologies (modernity, integrity and optimality; the ability to reproduce the learning process and its results; programming of teachers 'and students' activities; complex use of modern technical means of teaching and didactic materials, methods that activate the activities of those who study; intensity and efficiency; optimization of material and technical base of training; qualitative and quantitative evaluation of learning outcomes; purposeful active interaction between teacher and student) (fig. 1) [7].

Figure 1. The severity of professionally important student values

The researchers emphasize that setting goals is important in the technologization of learning. Diagnostic setting of learning goals in a particular discipline is that the purpose of training is formulated in terms of behavior – actions of students, which when checked by a teacher, computer, expert can be determined by the appropriate level of their formation. The technological approach assumes that the purpose of training is to change the state of the student: his knowledge, thoughts, feelings, behavior. Therefore, the General objectives of training in the development of a training system for the subject or course need to be specified. [22], [21]

On the basis of the comparative analysis of the use of phrases with the term “technology” in pedagogical science, it can be concluded that the concept of “educational technology”has the greatest pedagogical constructiveness. In the context of humanization of education, educational technologies should have a personality-oriented character, formulate signs of the technological nature of the educational process and signs of the personal orientation of educational technologies. Signs of technological effectiveness of the educational process are – a detailed description of educational goals; step-by-step description (design) of ways to achieve the set results-goals; systematic use of psychological,pedagogical and technical means of representation, perception, processing of educational and socio-cultural information; systematic use of feedback to adjust and evaluate the effectiveness of the educational process; guarantee of results; reproduction of the process regardless of the skill of the teacher; optimal resources and efforts that are spent.

Signs of personal orientation of educational technologies are – priority of the purposes of personal, intellectual, activity and professional development; emphasis on motivation of achievements and success, self-design and self-management; partnership of participants of educational process; dialogue as a form and means of exchange of information, personal estimates and values; freedom of choice and personal responsibility for the choice of all participants of educational process; emotional harmony and accommodation of educational situations and events; modeling of activities as an organizational basis for the design and implementation of the educational process.

Different technologies are used in the educational process of the University, but such training requires sufficient training of the teaching staff. The survey (127 people) allows us to conclude that, according to students, in particular 3-4 courses, in the educational process it is necessary to use active teaching methods. This makes it possible to learn to listen to others, to argue, to debate, to make decisions, to Express their opinions and the like. We offer the most interesting technologies for students that can be used in universities (fig. 2).

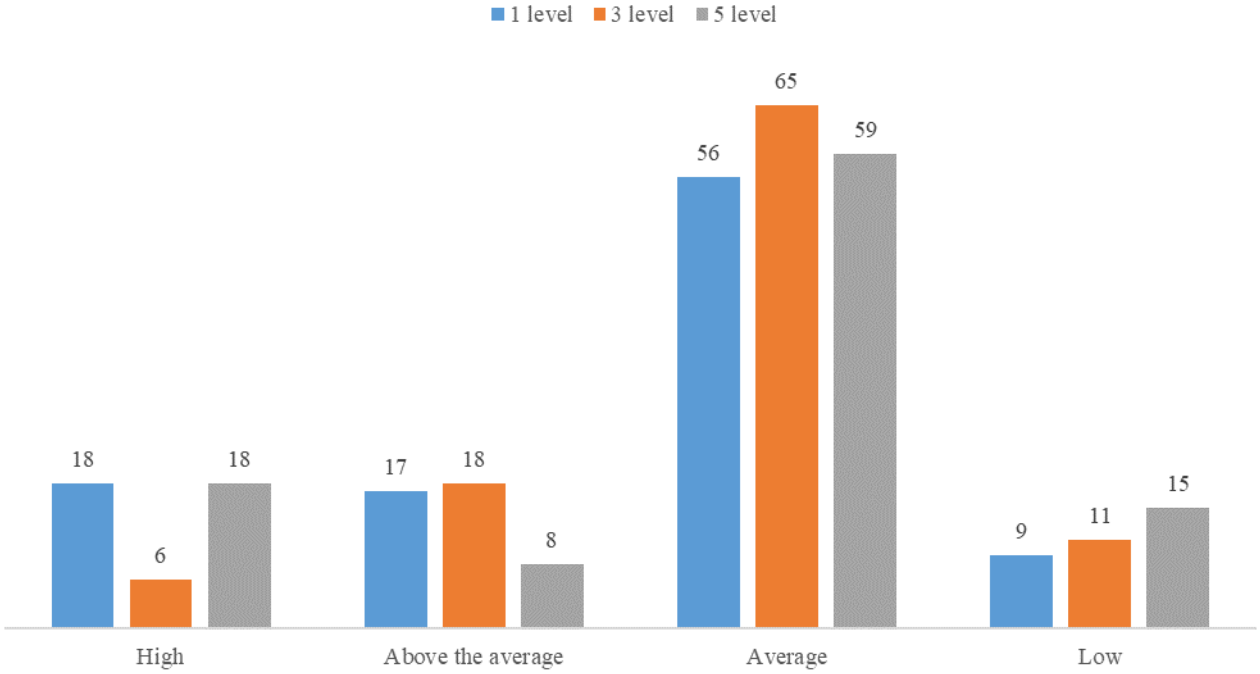

Figure 2. Distribution of subjects according to the level of formation of the motivational component

Technology of pedagogical creativity, where the goal of an orderly professional action of the teacher is adequate to the needs and capabilities of the individual and society grounded in a ladle of the educational system, which, when optimality of the resources and efforts of all participants of the educational process, ensures the realization and the actualization of creative abilities of subjects of pedagogical interaction, positive dynamics of their personal and professional creative development, the possibility of optimal reproduction of the process at a level that corresponds to the level of pedagogical skills of the teacher. Under such conditions, the technology of pedagogical creativity as personality-oriented is a means of professional creative development of the subjects of the educational process.

The technology of interactive learning is such an organization of the educational process, in which it is impossible to participate in the learning process: either each student has a specific task, for the performance of which he must publicly report, or the quality of the task assigned to the group depends on his activity. Interactive technologies cover a well-planned expected outcome of the training, a separate interactive methods and techniques that stimulate the process of cognition, as well as the conditions and procedures by which it is possible to achieve the planned results.

In contrast to the methods, interactive technologies are not chosen to perform certain educational tasks, because their structure determines the final result.

Technology training in the game. The model of learning in the game is the construction of the educational process by including in the game (primarily game simulation of the phenomena studied). The use of the game in the educational process always encounters a contradiction: learning is a purposeful process, but the game by its nature has an uncertain result (intrigue). Therefore, the task of the teacher in the application of games in the educational process is to subordinate the game to a specific didactic goal. The game model of training is designed to realize, in addition to the main didactic goal, a set of goals: to control the output of emotions; to provide opportunities for self-determination; to promote and help the development of creative imagination; to provide opportunities to improve the skills of cooperation in the social aspect; to provide an opportunity to Express one's opinion.

As a rule, the game model of training has four stages: orientation, preparation for the game; holding and discussion of the game. The Arsenal of interactive games is quite large, but the most common are modeling.

Cooperative (group) educational activity is a form (model) of organization of training in small groups United by a common educational goal. This model of learning allows us to realize the natural desire of each person to communicate.

Foreign studies of cooperative learning, competitive and individual learning have a long history and undoubtedly prove that cooperation, in contrast to competition and individual efforts, predetermines:

– highest level of achievement and great performance;
– the dominance of positive emotional relationships;
– good psychological health.

The positive effect of cooperation in achieving many important results makes cooperative learning one of the most valuable tools in the Arsenal of the teacher.

Learning technologies in the discussion is an important means of cognitive activity in the learning process. By definition, scientists, discussion is a broad public discussion of any issue. It greatly contributes to the development of critical thinking, allows you to determine your own position, forms the skills of asserting your opinion, deepens knowledge on the problem under discussion. Modern didactics defines a great educational and educational value of discussions, because they contribute to a deep understanding of the problem, the formation of an independent position, operating arguments, the development of critical thinking, the ability to take into account the opinion of others, to recognize relevant arguments, to better understand the other, as well as to clarify their own beliefs and the formation of their own view of the world.

In the world practice of using discussion in training, various options for the organization of exchange of views between the participants, various technologies for discussion, development of discussion issues have become widespread.

Distance learning is a technology in which the best traditions and innovative means are used in the educational process, as well as forms of training based on computer and telecommunication technologies. In the education system, distance learning is consistent with the principle of humanism, according to which no one should be deprived of the opportunity to study because of poverty, geographical or temporary isolation, social insecurity and the inability to attend educational institutions for other reasons. Distance learning will spread as it is a consequence of the objective process of Informatization of society and education and combines the best features of other forms as the most promising, synthetic, humanistic, integral form of education.

Distance learning should solve specific problems in the development of the creative component of education, in particular, increasing the active role of the student in their own learning in the formulation of educational goals, the choice of dominant directions, forms and rates of learning in various educational areas, a sharp increase in the amount of available educational motives, the possibility of communication of the student with others, access to unlimited sources of information, increasing the heuristic component of the educational process through the use of interactive forms of learning, more comfortable conditions, the ability to demonstrate the products of their activities, extensive expert evaluation of creative achievements, the ability to compete with an abundance of interested people living in different cities and countries. Participation in competitions, remote projects, etc.

At the present stage, it is almost impossible to obtain knowledge for life in a higher education institution. The slogan “learning through life”becomes relevant. Therefore, distance learning plays and will continue to play an important role in education.

The integration of education into the European or world context begins with the understanding of the foundations and principles of modern lifelong education and the search for ways of its practical implementation. The problem of maximum disclosure of the potential of each person, its development, formation as a subject of social life, seeks to improve, self-development and self-realization to a large extent can be realized using in higher education modern educational technologies, which are another system-forming factor in the educational process and educational activities.

I. CONCLUSION

The use of innovative educational technologies in higher education allows to optimize education, make it more favorable for students for whom interactive and remote technologies are a priority. In our further research, we will consider ways to improve the system of using interactive teaching methods, creating appropriate conditions for the disclosure of the creative potential of a modern teacher who introduces innovative technologies in the educational process of the University.

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