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

Formation of Technological Competence of the Teacher of Professional Training

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Abstract*: *In the context of the reform of the Russian educational system, the main task of the higher educational institution was the training of highly qualified specialists through the formation of appropriate competencies. The new competence paradigm has made it necessary to find the most effective ways to ensure this process. To date, the priority in the development of domestic higher education is the use of a technological approach that allows creating more favorable conditions for the preparation of graduates. The article aims is to analyze the training of specialists in higher education based on the technological approach. Noting its diversity and versatility, the authors reveal its functions and structural elements. On the example of the formation of future graduates in the field of training 43.03.01 "Service", the authors consider the objectives, content and monitoring in accordance with the implementation of the technological approach. The article identifies the competence to achieve the formation of which is aimed at the content of training, built in the framework of modern pedagogical technologies. Innovative technologies, research projects, information and telecommunication technologies and presentations occupy a large share in theoretical training and practice. The authors reveal the possibilities of gaming, modular technologies, and technologies of contextual and problem learning in the formation of professional competencies. The authors state that the methodological basis for the preparation of students for professional activities in higher education is a technological approach at a high level providing the formation of the necessary competencies.

Keywords* : *pedagogical technology, technological approach, professional training, higher education institution.

I. INTRODUCTION

In the modern education system are widely used new pedagogical technologies that contribute to the increase of the educational process [1].

Revised Manuscript Received on October 30, 2019.
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If earlier in pedagogy various methods were actively used, today the methods within the higher education system are fading into the background, and the use of technology is becoming increasingly important [2]. Formally, the methodological and technological approaches do not contradict each other, but the target settings are significantly different. We can identify several reasons for this trend [3]. First, in contrast to the methodology, pedagogical technology allows to design training on the basis of scientific knowledge of educational practice, and not on the basis of generalization of experience, and secondly, the technology assumes the presence of sustainable results, regardless of the factors and conditions of learning, and thirdly, the technology is focused on specific rather than expected learning outcomes [4]. The advantage of technology is the possibility of its replication [5]. The development of teaching AIDS and their gradual expansion in pedagogical systems for many years stimulated the formation of technology of the educational process [6]. And as a result, the role of the teacher as a carrier of individual skill in learning gradually decreased [7]. To date, the use of technology is firmly rooted in the educational process [8].

Returning to the target settings of methodological and technological approaches, we can say that the first was built during the ideological installation on the formation of a harmoniously developed personality, which cannot be represented in the form of unambiguous goals that can be subjected to experimental verification. The technological approach implies that the final product has many properties that can be diagnosed by various means [9]. Besides, the object of the methodical system is the average student, whose properties are of no importance, and within the technological approach, there is a need to obtain detailed information about the object [10]. Methodical systems quite often encounter difficulties with their transfer to other conditions, since there are no given intermediate States of students, the available descriptions are not enough to reproduce.

II. LITERATURE REVIEW

The concept of "technology" in a broad sense is interpreted as a set of techniques, methods used in any case [11]. Technology is associated with a certain system of activities, including a set of tools to ensure its implementation. Technology within pedagogy is a set of methods aimed at achieving the planned learning outcomes.

Pedagogical technology is a multidimensional phenomenon, each author brings something of his own to the pedagogical process, and uses those technologies that, in his opinion, allow to achieve great results [12]. The concept of pedagogical technology is considered in the works of V. P. Bespalko, V. I. Bogomolov, A. A. Verbitsky, A. Ya. Savelyev, D. V. Chernilevsky, and other researchers, representing it as an integral system, including the goals, content and learning process. Other scientists prefer to talk about pedagogical technology as a system in which a phased activity is carried out to develop the personality of students [13]. Many people do conclusion that pedagogical technology has a precise pedagogical intention, a specific purpose [14]. For this purpose, a consistent chain of actions is built to achieve the planned results by students [15]. Summarizing the above definitions, we can state that the pedagogical technology is a process that is carried out in various types of educational and pedagogical activities, which includes a set of techniques and methods of training that ensure the guaranteed quality of the educational process aimed at the comprehensive development of students. We are considering the authors reveal systematic, scientific, conceptual, interactive, warranty of achievement, innovation, awareness, availability are among the characteristics of educational technology. At the same time, many authors, including G. Ilyin, V. A. Slastenin and N. G. Rudenko, rely on the integrity of the pedagogical process as one of the main characteristics. Since in the modern education system one of the priority directions is an activity, some authors consider pedagogical technology from this position, highlighting in this process the scientific substantiation of the goals and objectives of training, the selection of objects of study and activities based on the principle of accessibility [16]. However, the main characteristic is the orientation of pedagogical technology to clear learning outcomes [17]. The researchers note that the modern educational process uses technologies rather than methods, as technology is the stability of the results [18]. Pedagogical technology is a phenomenon that unites inside the use of different scientific approaches based on empirical innovations to achieve high results [19]. Pedagogical technology includes learning objectives, results, content, methods, forms of organization of the educational process, learning tools and control of results, and the subjects of the educational process. The result of the use of technology in the training of students becomes the formation of professional competence.

III. METHODOLOGY

On the example of students of higher education in the field of training "Service", we reveal the goals and content of their training in the framework of the technological approach. According to the Federal state educational standard, they should master the readiness to participate in the research of socio-psychological characteristics of the consumer, taking into account national-regional and demographic factors, readiness to implement innovative projects in the service sector. The formation of competencies is carried out through the use of problem, modular, contextual, game training. These technologies are used both in theoretical education and in practical training of students. The form of the final control is a test with an assessment of the following criteria: manifestation of business activity in the process of practice; production discipline; quality of individual tasks; oral answers at the time of submission of the report; quality of the report; assessment of practice, delivered by the heads of practice from the Department; review of the head of practice from the host organization.

IV. RESULT AND DISCUSSION

Pedagogical science defines the concept of "approach" as the leading scientific idea that serves as the basis for the organization of the educational process [20]. In this case, we will consider the technological approach as the process of design and application of learning technologies to solve educational problems.

When setting goals, the technological approach assumes its maximum refinement. The formulation of training objectives is oriented towards the achievement of guaranteed results. In accordance with the set goals, didactic materials are prepared and intermediate, a final evaluation of the results and organization of the learning process as a whole is carried out.

Since in the modern educational system the competence approach is dominant, it should be noted that the technological approach not only does not contradict it, but also supports and enriches, expands its capabilities [21]. Competence is an integrative result of education achieved through the use of educational technologies [22]. The signs of the technological approach include the joint activity of the teacher and students, which is based on a partnership to achieve the goals and organization of the educational process, taking into account the practical orientation and realization of the potential of each student [23]. In this case, a variety of forms means and technologies of training should be used.

Among the functions of the technological approach are: Gnostic (knowledge of differences between technologies); conceptual (identification of the essence and specific features of educational technologies); prognostic (identification of methods, strategies for the development and application of technologies in the educational process); constructive (construction of new technologies for educational practice). The technological approach is related to the concept of "technology", which is a system of actions to achieve goals. The structural elements of pedagogical technology are: goals and objectives; content; means of pedagogical interaction; organization of the learning process; students; teachers; the result of joint activities of teachers and students. Consider the implementation of pedagogical technologies on the example of training in the field of service. According to the Federal state educational standard, students studying in the field of training 43.03.01 "Service" must master the following competencies: readiness to participate in the research of socio-psychological characteristics of the consumer, taking into account national-regional and demographic factors, readiness to implement innovative projects in the field of service. The formation of the competencies of the future specialist of service activities is the goal, the achievement of which is provided by pedagogical technologies, the use of technological approach in General.

The complexity of the development of the basic professional educational program in this area of training is presented in table I.

Table- I. Labour intensityof the basic professional educational program

Total credits	240
Theoretical training (hour /z.e.)	7776/216
Practice (weeks' /z.e.)	12/18
Final certification	4/6

Future professional activity of graduates is associated with the provision of services to the consumer in the following areas: organizational and management, service, production and technical, research. Among the tasks of professional activity of future graduates in these areas should be highlighted: participation in the planning of activities at the service enterprises, in organizational and managerial activities, in the selection of optimal service processes in accordance with the needs of the consumer, the assessment of production and non-production costs, monitoring needs, implementation and use of professional information systems

The practice of future specialists of service activities takes place in the organizations of service activities (enterprises of the non-production sphere of the service industry related to the service of the population). The content of the practice is presented in several stages: the study of literature and other scientific information related to professional activities; collection, processing, analysis, and systematization of the material in accordance with the individual task; preparation of the report. For the report, the student needs to get acquainted with the production and organizational structure of the enterprise, the range of services, the organization of the technological process of providing services. The practice uses innovative technologies, research projects, information and telecommunication technologies, presentations, management techniques and methods.

The form of the final control is a test with an assessment of the following criteria: manifestation of business activity in the process of practice; production discipline; quality of individual tasks; oral answers at the time of submission of the report; quality of the report; assessment of practice, delivered by the heads of practice from the Department; review of the head of practice from the host organization. The report is protected at the final conference. A student who fails to submit a report on time is considered to have academic debt (except in cases with a valid reason). After the conference faculty supervisor shall a rating.

In higher education institution the check of preparation of students with using of pedagogical technologies is carried out by means of specially developed funds of estimated means.

The quality of training of students and graduates is evaluated in two directions: assessment of the level of development of disciplines (modules); assessment of competencies of students.

The use of certain pedagogical technologies has a significant impact on the formation of competencies of students.

When considering learning technologies, it is necessary to note the fact of their duality. In other words, pedagogical technology can be considered both as a process and as a result. Procedures, techniques and operations of which the technology is formed cannot be considered as links in the same chain, interpreted as sequential elements of one algorithm in detail describing the process of achieving a pedagogical result. These are the supporting didactic resources. Despite the divergence of opinions of researchers on this issue in higher education, the following types of pedagogical technologies are used: problem education, modular, contextual, game. Consider the content of each of them in the educational process of higher education.

In problem-based learning, the teacher creates problem situations in such a way that the independent and search activity of students is optimally combined in this process with the ready knowledge provided by the teacher for students. A problem task is not a problem situation; it creates it under certain circumstances. Creating a problem situation is as follows: the formulation of the problem, difficulties, contradictions, lack of available information and standard means of the solution; the presence of cognitive needs of the student; to solve the problem task. According to the degree of independence in the performance of tasks by students, the technology of problem learning forms learning in three forms: problem statement; partially-search activity; consistent independent activity. The functions of problem-based learning consist in the assimilation of students ' ways of practical activity; development of creative abilities; accumulation of experience, the formation of competencies.

The technology of modular training involves the division of the content of the course or each topic into components in accordance with professional, pedagogical, didactic tasks. Most often, the semester course (40-50 lecture hours) is divided into 10-12 modules. The structure of the module is presented in the following form: theoretical and practical classes, laboratory practice, software, independent work. The technology of model training is based on special principles: modularity (determines the approach to training, reflected in the content, organizational forms and methods); separate elements from the content of training (from one global goal, several private goals are allocated, the achievement of each of which is provided by the appropriate educational material); dynamism (the content of the elements that make up the module is easily changed or supplemented); flexibility (the modular program is built in such a way that the content of training takes into account the needs of students). The information contained in the module has a wide range of complexity with strict structuring and integrity aimed at achieving an integrated goal. Pedagogical control in the implementation of the technology of modular training is carried out through the rating – the number of points scored by the student for a certain amount of time.

The technology of contextual learning is a personality-oriented learning based on the contextual immersion of students in a professionally-oriented environment, acting on the basis of continuity, continuity, interactivity and integrity of the educational process. As part of the technology of contextual learning, modeling of the subject and social content of the future professional activity of graduates is carried out. The principles of contextual learning include: personal inclusion of the student in educational activities and consistent modeling of the integral content,

forms and conditions of professional activity of future graduates; adequacy of the problem content of the set goals and content of education; the leading role of joint activities and dialogue communication of the subjects of the educational process.

The technology of contextual learning allows you to bring the content and process of learning activities to the future profession and to form students necessary for the implementation of this activity competence.

Game technology promotes a smooth transition of students from one type of activity (educational) to another (professional) with a corresponding change of motives, subjects, goals, means and results of the activity. Functions of game training: training (stimulation of development of cognitive activity); socially-orienting (formation of social experience in the course of game); organizational-activity (development of the ability to cooperate, make decisions); communicative; reflexive (development of abilities to estimate own activity and to correct it).

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These technologies are part of a technological approach that combines the necessary elements for the formation of a competent specialist.

V. CONCLUSION

The paper presents an analysis of training in higher education on the basis of the technological approach. We had established the goals, contents and criteria of evaluation of graduates ' training on the example of the future specialists in service activities. As practice shows, the use of a technological approach has a positive impact on the formation of professional competencies of students. The development of a technological approach in higher education reveals great prospects in the quality training of competitive specialists.

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