4.6 Innovative pedagogical educational technologies

The process of reforming modern education system, development of professional competence of a modern teacher is impossible without the introduction of innovative pedagogical educational technologies which not only can ensure accessibility and effectiveness of education, individualization and differentiation of the educational process, but also assist educators in preparing the youth to live and prosper in today's digital world. In the process of finding a new educational paradigm, various types and forms of professional education are becoming widespread, which is prerequisite for the comprehension development of a personality, enrichment of their creative potential, as well as the growth of professional competence and improvement of previously acquired knowledge, skills and abilities.

Digital technologies and didactics

Didactic theories and problems are considered not only from the viewpoint of internal relations of a teacher and a learner but as a didactic and at the same time social environment, open to innovations and interference, dynamic changes. Therefore, forming subject competencies, simultaneously design the formation of social, communicative and life competences (Mynbayeva, Sadvakassova, & Akshalova, 2017).

The term 'technology' refers to advancements in methods and tools to use solving the problems or achieve a goal. In the classroom technology can encompass all kinds of tools from low-tech pencil, paper and chalkboard, to the use of presentation or hi-tech, the newest technologies allow to try things in physical and mental classroom. On the other hand, pedagogical technology is the pedagogical phenomenon and process used in the field of education technology. Pedagogical knowledge is teacher's deep knowledge about the process and practices, methods of teaching and learning. A teacher with high pedagogical knowledge understands how students construct knowledge and acquire skills and how they develop habits of mind and positive

dispositions toward learning. Teaching with technology is a difficult action to do well. Using pedagogical technologies in teaching all subjects is the achievement of the guaranteed result by designing for specific goals. Learning technology is a pedagogical direction that explores and teaches the best ways to achieve educational goals, based on a technological approach to the teaching process. It is clear that an educator is a mature expert user of modern pedagogical technologies in every lesson (Janssen, 2019, p. 3).

Digital technologies have changed our way of life, socialization, thinking, communication, collaboration, studying, emotions, influencing others, behaving. As indicated by Myamesheva, the high-tech environment – computers, smart phones, video games, Internet search engines – reshape the human brain (Myamesheva, 2015). We are convinced that new technologies determine the civilizational human development, as well as they affect the quality of people's life all over the world. Moreover, with the help of modern innovative technologies the possibility of achieving an effective result in the development of personal qualities while acquiring knowledge, skills and abilities, is provided.

The authors are of the opinion that pedagogical technology is a meaningful technique to implement the educational process. Furthermore, innovative applied pedagogy intends to reconsider the whole pedagogical process, both education and training, looking at a student as an equal subject of creative activity.

Analysis of the category of educational technology performed by Jing (Jing, 2018, p. 256) shows that its structure includes the following items:

▪ a conceptual part (a brief description of ideas, hypotheses, principles that help its understanding);

▪ a content (learning objectives, scope and nature of educational content);

▪ a procedural part – production process (organization of educational process, methods of students' learning, methods and forms for the diagnostics of teachers' training process);

▪ a software and methodological support (curricula and programs, teaching and learning aids, learning tools and diagnostics).

Innovation in education

The term ‘innovation’ derives from Latin (in – in, nove – new) and means the introduction of novelty. Innovation is a phenomenon that carries in itself the essence, methods, techniques, technologies and content of the new (Mynbayeva, Sadvakassova, & Akshalova, 2017).

The introduction of information and communication technologies in the educational process presupposes the integration of diverse subject areas with computer science. This leads to the informatization of learners’ minds and their understanding of the processes of informatization in modern society. Information and communication technologies allow teachers to develop skills of independent, research, creative work, promote self-expression and self-development of the individual. Their implementation in the educational process helps us to strengthen the visual and emotional component of learning (Raymova, 2020).

We are convinced that pedagogical technologies are only way to help improving the process of teaching. Consequently, educational process of modern pedagogical technologies is the purpose of a teacher, who is a mentor and, in a way, main guarantor of achievement. From the perspective of new pedagogical technology, the basis of information and communication technology is a teacher who is the manager of the system and, as a result, whose level of preparation should be given priority. As rightfully mentioned by Yuldashova, a positive or objective solution to plenty of the current topical issues of the pedagogical process depends on the professional capacity and pedagogical skills of the teacher. Therefore, enlarging the scope of the introduction of new pedagogical and information technologies in the educational process, introducing advanced experience in this area, elaborating and implementing certain plans in each area, using textbooks and workbooks and programs and lectures on electronic devices, obtaining wide access to modern pedagogical and information technologies in scientific and scientific-methodological work, as well as teaching and learning process, enough to provide important functions, such as communication networks to link educational institutions (Yuldashova).

Innovative methods of teaching are methods of teaching that involve new ways of interaction between 'teacher-student' and a particular innovation in practical activity in the process of mastering educational material (Mynbayeva, Sadvakassova, & Akshalova, 2017).

Scholars (Taubayeva, & Laktionova, 2001) distinguish 2 types of 'new':

1) purely new – first created, which takes place at the level of adequate discovery;

2) new – which contains the layer of the old and a layer of the new.

This categorization has been extended and the following typology has been formulated:

• absolute innovation – absolutely new technology;

• modernized technology – considerably improved technology;

• modified innovation – slightly improved technology;

• innovation introduced to a new territory;

• innovative technology of a new field of application (Mynbayeva, & Sadvakasova, 2007).

We support the idea of Derijan (Derijan & Valchev, 2012, p. 165) who stresses that all innovations in pedagogy unite:

♦ the belief that the human potential is unlimited;

♦ the pedagogical approach is aimed at mastering reality in the system;

♦ stimulation of nonlinear thinking;

♦ they are based on the hedonistic principle, i. e. based on the enjoyment of learning, the joy of achievement, the pedagogy of success;

♦ the mobile role-playing field of the teacher – the educator simultaneously teaches and learns from the student.

Examining the issue of innovation in education, scholars have come to the conclusion that in the modern period, innovative changes follow such directions as: developing new content of education; developing and applying new learning technologies; applying the methods, techniques and tools of learning new programs; creating the conditions for personality self-definition during the learning process; changing the type of activity and style of thinking in both teachers and students,

changing their relationships, creating and developing creative innovation teams (Stukalenko, 2016).

Classifications of Pedagogical Technologies

Different researchers have presented their own classifications of pedagogic technologies which are indicated below. It is possible to present all pedagogic technologies known to pedagogic science and practice in the most general form and systematize them (Selevko, 1998):

• by the level of application there are general-pedagogical, specific-methodical (subjective) and local (module) technologies;

• by the philosophical foundation there are: materialistic and idealistic, dialectical and metaphysical, scientific and religious, humanistic and anti-humanistic, anthroposophical and theosophical, pragmatic and existential technologies; technologies of free mentoring and compulsion;

• by the leading factor of psychological development there are: biogenic, sociogenic, psychogenic and idealistic technologies; it is currently accepted that a personality is the result of integral influence of biogenic, sociogenic and psychogenic factors but a specific pedagogic technology can consider of them as the main.

The classification directed towards orientation on the personality structures indicates the following types of technologies:

‣ information technologies (developing knowledge, abilities and skills on the subjects);

‣ operational (developing the ways of cognitive actions);

‣ emotional-creative and emotional-moral (developing the field of aesthetic and moral attitudes);

‣ technologies of self-development (developing self-regulating mechanisms of a personality);

‣ heuristic (developing creative skills);

‣ applied (developing action-practical field) (Stukalenko, 2016, p. 7301).

Modern scholars have offered a classification of pedagogic technologies by the type of organization and regulation of the cognitive activity. Interaction between a teacher and a student (regulation) can be open-ended (uncontrolled and uncorrected students' activity), cyclic (with control, self-control and mutual control), diffused (frontal) or directed (individual); manual (verbal) or automatized (with educational tools). Combination of these characteristics defines the following types of technologies:

1) classical lecture learning (regulation is open-ended, diffused and manual);

2) learning with audio-visual technical means (regulation is open-ended, diffused and automatized);

3) consultant system (regulation is open-ended, directed and manual);

4) learning with a textbook (regulation is open-ended, directed and automatized), independent work;

5) small groups system (regulation is cyclic, directed and manual) – group differentiated ways of learning;

6) computer-based learning (regulation is cyclic, diffused and automatized);

7) tutor system (regulation is cyclic, directed and manual) – individual learning;

8) programmed learning (regulation is cyclic, directed and automatized), which has a program constructed in advance (Stukalenko, 2016, p. 7302).

In reality, there are usually diverse combinations of these mono-didactic systems. The most common of them are as following:

- traditional classroom-lessons system which is a combination of lecture type of material presentation and independent work with a book (Komenskiy, 1982);
- modern traditional learning, which makes use of independent work with a book in combination with technical tools;
- group- and differentiated ways of learning, when a teacher has an opportunity to exchange information with the whole group, as well as to focus on single students as a tutor;
- programmed learning, which is based on the adaptive program regulation with partial use of all other types (Stukalenko, 2016, p. 7302).

However, mono-didactic technologies are seldom used in teaching. As a rule, the educational process is created on the basis of several mono technologies combined together into a certain poly-didactic technology. It should be noted that combined didactic technology may include qualities which exceed qualities of each separately taken technology.

We support the idea of scholars who indicate that one of the most essential aspects of pedagogic technology is learner's position in the educational process and adults' attitude towards the students. There are several types of technologies:

● Authoritarian technologies, in which a teacher is a subject of the educational mentoring process, while a student is merely an object;

● Didactic-cantered technologies present a high level of ignorance towards a student's personality; subject-object relationships between a teacher and a student prevail; education has a priority before mentoring, and the main factors of personality development are considered to be didactic tools;

● Personality-oriented technologies put a student's personality in the centre of educational system, along with provision of comfort, conflict-free and safe conditions for its development and actualization of its natural potentials; in this technology, student's personality is the goal of the educational system and not the mean of reaching some unrelated goal; such technologies are also called anthropocentric. Within personality-oriented theories there are separate directions, such as humanistic-personality technologies, technologies of cooperation and technologies of free mentoring:

- Humanistic-personality technologies are primarily recognized by their humanistic essence, psychotherapeutic orientation on personality support and assistance (they state the ideas of complete respect and love for the student, optimistic belief in his creative powers and reject compulsion);

- Technologies of cooperation actualize democracy, equality and partnership in the subject-subject relationship of teacher and student: teacher and students work in cooperation on setting goals and content and giving evaluations while being in the state of cooperation and co-creation;

- Technologies of free mentoring focus of providing the students with freedom of choice and independence in his lifestyle: by making a choice, a student has the best way to actualize the position of subject by coming to the result from an internal impulse and not from the external influence (Stukalenko, 2016, p. 7302-7303).

Phomenko has suggested the following classification of pedagogic technologies: technology that implies constructing the educational process on the activity basis; technology that implies constructing the educational process on the paradigm basis; technology that implies constructing the educational process on the basis of large blocks; technology that implies constructing the educational process on the anticipating basis; technology that implies constructing the educational process on the problematic basis; technology that implies constructing the educational process on the personality-essential and emotional-psychological basis; technology that implies constructing the educational process on the alternative basis; technology that implies constructing the educational process on the situational, primarily game-oriented, basis; technology that implies constructing the educational process on the dialogical basis; technology that implies constructing the educational process on the mutual basis (cooperative ways of learning); technology that implies constructing the educational process on the algorithm basis; technology that implies constructing the educational process on the programmed basis (Phomenko, 2004).

Key Innovative Pedagogical Technologies

Khymynets has indicated that the educational innovation is a way of the effective development of our society, its adaptation and integration into the circle of the developed countries (Khymynets, 2007). Lately, researchers have related opportunities for mastering teachers' professional training and their proficiency in applying new innovation pedagogical approaches with the need of enlarging future teacher's knowledge about the nature and structure of activity and developing special abilities and skills, which provide its effectiveness (Lukyanova, 2001; Raven, 2002). According to Volkov, the innovation potential of an educator is a set of cultural and creative peculiarities of the teacher's personality who is eager to master teaching activities and

it is the accessibility of internal tools and methods that may ensure this readiness (Ryzhkova & Belska, 2016, p. 203).

We completely agree with the researchers who state that the very methodology of innovative learning is built on a personal-oriented approach, i.e. student-centred learning. Moreover, it synthesizes synergistic, systemic, competence, dialogical and activity-oriented, culturological, information and technological, environmental, and other approaches. Besides, it is possible to determine the laws and principles of the innovation process in education and the basis of the innovative culture of the teacher. The methodology of innovative teaching is reflected in the training manual (Mynbayeva, 2017).

In the modern scientific literature there is a polyvariance of classifications of pedagogical educational technologies that differ in the basic classification feature. We would like to present the most commonly used classifications in the present work.

In 2010, UNESCO recommended the following teaching strategies for the 21st century (Teaching and Learning for a Sustainable Future, 2010):

- ♦ experiential learning;
- ♦ storytelling;
- ♦ values education;
- ♦ enquiry learning;
- ♦ appropriate assessment;
- ♦ future problem solving;
- ♦ outside classroom learning;
- ♦ community problem solving.

Kovalchuk (Kovalchuk & Fedotenko, 2018). singles out the following innovative technologies and teaching methods in education:

- ■ informational technologies;
- ■ team work;
- ■ couching;
- ■ case & study;
- ■ gamification;

■ problem-based learning;

■ contextual learning;

■ empirical learning;

■ training;

■ individual learning;

■ interdisciplinary training;

■ anticipatory independent activity;

■ communication technologies.

The following learning technologies are commonly used in education institutes. These methods may be used separated as well as combined with each other:

● collaborative learning;

● project method;

● integrated learning;

● multimedia technologies;

● case method;

● research method;

● problem-based learning;

● digital technologies;

● distance learning;

● student-oriented learning;

● training.

Collaborative learning includes learning in small groups. Such an organization of training is based on three basic principles:

▪ principle of encouragement – getting one for the whole assessment group;

▪ principle of individualization – each learner fulfils their share of the group assignment;

▪ principle of equal opportunity – the introduction of each member of the group into the overall result of their particles (Mykhailychenko, 2020).

These principles can be implemented in two versions. The first option is team training. Learners of the class are divided into groups (4 students each). The teacher

first explains the material, and then students in groups discuss it. The second option. Students are divided into groups (4-6 students in a group) and work independently on the material that the teacher gives them. Upon completion of the work, students publish the results of their work (Kerimov & Rachinsky, 2016).

Project method – educational method when students obtain knowledge in the planning and implementation of practical tasks projects. This system was introduced into teaching at the beginning of the 20th century by American educator W. Kilpatrick. Each project has an individual scenario, which is defined by the topics of individual projects and indicative questions for them. Project training can be used in the process of self-learning of students, as a preparatory stage for the main questions of the lesson topic (Kerimov & Lapidus, 2017). The main principles of the projects:

1. Provide maximum freedom to students in terms of content, forms of work.
2. Priority research activities.
3. Using the experience of studying previous material and students' own life experiences.
4. Use in training in the form of questions and answers.
5. The combination of rational and intuitive to master the material (Mykhailychenko & Ponomarenko, 2020).

We support the idea that the project method belongs to interactive teaching methods aiming at supplying students with the opportunity to obtain knowledge independently while solving problems which requires unification of knowledge in various academic disciplines (Salnikova, 2018, p. 20).

Integrated learning system is a system when educational material is studied on certain complex topics. Organizational of training according to this model is built on a problematic basis and dialogue methods. The most vividly integrated learning system is presented in the so-called 'school of dialogue of cultures'. The dialogue of cultures is a form of intercultural interaction in the process of which the mutual transformation of cultures takes place, significant phenomena in one culture give rise to corresponding phenomena in another; determine the existence of a common cultural thesaurus. The dialogue of cultures presupposes close relationships between subjects of the cultural

process (human communities, ethnic and national-political entities) (Mykhailychenko & Ponomarenko, 2020, p. 292).

It is true that one of the major goals of the use of ***multimedia*** in the educational process is to promote students' motivation and learning interest, which will help them to feel involved into the learning process. We agree with the scholars (Ryzhkova & Belska, 2016, p. 204) who indicate that such educational process should be based on the openness and accessibility of the teaching materials and information. While implementing multimedia teaching, the educational process becomes more student-centred and time-consuming. Consequently, it shows that the teaching quality is improved and students' applied the new skills can be effectively cultivated, meaning that students' educational competence are further developed. It is also believed that the more usage of multimedia technology, the better class atmosphere may grow, the more actively the students get involved in class participation, the more easily the material access to the students (Ryzhkova & Belska, 2016, p. 205).

Multimedia technology opens up a wide scope for a combination of computer graphics, animation, video, sound and other components which provide a unique opportunity to give the studied topic clarity, visibility and accessibility (Guom, 2011; Mayer, 2005). This approach to the organization of the educational process allows to immediately consolidate theoretical material, identify gaps in knowledge of students and adjust subsequent assignments. Multimedia technologies make it possible to significantly improve the quality of the presentation of new material, to establish immediate communication with students and promptly respond to emerging non-standard situations which appear during the class (Dychenko & Bolshanina, 2018).

Scholars have indicated that presentation of information on a computer screen allows:

- increase the volume of information perception;
- focus on important aspects of the learning process;
- present the object of study in an understandable form;
- stimulate the emergence of new mental representations;
- comprehend the relationship between ideas and objects (Zhdanov, 2018).

Case method is a method that makes use of real situations and is expected to master the skills of analysing and synthesizing information, understanding the meaning of the details described in the situation; operate with assumptions and conclusions; evaluation of alternatives and the adoption of an optimal solution (Smirnov, 2014). In the field of pedagogical innovation, case technology is an interactive technology (involves interaction of all participants in the educational process) based on real or imaginary situations aimed not so much at acquiring knowledge but at formation of new learners' qualities and skills (competences) (Shabalina, & Yagidina, 2018, p. 70).

Case technology provides the opportunity to reproduce a certain activity of a person on a particular position in a specific company, region, etc. It is used to develop the skill of solving analytical, strategic or managerial tasks, and it makes possible to assess the skills and abilities (functional and personal competencies) the student being trained on the basis of the obtained results (Polat & Bukharkina, 2002). Actions in a case study are presented either in the description (then a learner should think over them (consequences, effectiveness), or they can be offered as a way of solving the problem. At all events, progress of a model of practical action is an efficient means of developing and training the professional qualities of students (Samarskaya, 2018, p. 23).

We share the opinion of scholars who indicate that due to the practical problem and real efforts of its solving, the case study allows to reproduce a certain man's activity, to simulate a specific socio-cultural context, to imitate diverse models of behaviours and to correct them, developing strategies necessary to avoid the conflict. A basis for the development of speaking skills and communication strategies, which is necessary for initiating and maintaining intercultural dialogue, is seen in the necessity to comment on one's own and others' actions, to interact within the group, to object, to agree, to express one's own opinion (Samarskaya, 2018, p. 23).

To our mind, educational and ***research method*** promotes the formation of students' meta-subject educational results. These results include interdisciplinary concepts and universal educational actions (regulatory, cognitive, communicative) which provide an opportunity for students to independently exercise learning activities, set educational goals, seek and use the necessary means and ways to achieve them,

monitor and evaluate process and results of activities, and create conditions for harmonious personality development and self-realization based on readiness for continuous education (Dergunova & Poop, 2018, p. 33).

It should be stressed that the research method is one of the means of implementing the idea of the system-activity approach. Under this method learners become little scientists making their own discoveries. As a result, the teacher should organize the work of students so that they themselves think of the solutions to the problem and explain how to act in new conditions (Dergunova & Poop, 2018, p. 34).

It should be noted that any research work starts with choosing research directions when everything is determined by specification and competences of research participants. The main requirement at this stage is novelty, practical significance of the expected results and logical completeness of future work. The choice of the research topic primarily follows from the learners' interests. The next stage is called goal setting. At this stage the problem is transformed into a personally significant goal and acquires the image of the expected result, which will later be embodied into a project. The next stage comprises search of information, which can be very laborious, on the one hand, and, extremely interesting, on the other hand. The most exciting part is the creation of final work. During this stage students active independently and creatively. We are convinced that the research work is the embodiment of the result of work found by the author of the method for solving the original problem. The research method is a flexible model of organising the educational process focused on learners' self-realization through the development of their intellectual and physical capabilities, strong-willed qualities and creativity (Dergunova & Poop, 2018, p. 34).

Problem-based learning is defined as the organization of the learning process, based on a formation of the educational process under problem situations, identifying students' problems and their solving by themselves or with the help of the teacher. It means that the main tasks of a problem-based learning are:

- the development of thinking skills of an individual, their creative skills,
- bringing up active creative learners who are able to see, ask and solve non-standard problems,

‣ individuals' assimilation of knowledge, skills, acquired during an active cognitive activity (Jing, 2018, p. 262).

The introduction of ***digital technologies*** in the educational process is aimed at integration of various subject areas with informatics, which leads to the digitalization of students' consciousness and their understanding of the digitalization processes in modern society (in its modern aspect). The use of computer software is essential in the study of all disciplines, their reflection in the structure and content of education, the implementation of radical restructuring of the entire educational process on the basis of using digital technologies. It is implemented by means of inclusion in the curriculum of new disciplines aimed at the study of digital technologies. It improves motivation and learning outcomes, increases teacher's productivity and shapes digital culture (Vovk & Matvienko, 2020, p. 378).

As fairly stated by scholars, ***distance learning*** provides a spatial online learning of subjects which interact with each other via telecommunications. This type of learning is based on the use of computer technologies. Learners can access the world from any point which has an access to the Internet in order to communicate with teachers, professionals, peers from other cities, universities, to consult with experts, to choose the system of training, content, forms, methods, to be simultaneously in different virtual classes, to choose a pace of learning, its intensity in different educational industries, both studying in various educational institutions, have the opportunity in the process of mastering educational material to ask questions, get answers, participate in contests, competitions, which are held in different cities and countries (Jing, 2018, p. 263).

According to Mehrotra, Hollister, and McGahey (Mehrotra & Hollister, 2001, p. ix.), distance learning is not a future possibility for which education must prepare, it is a current reality creating opportunities and challenges for educational institutions; a reality offering students expanded choices in where, when, how, and from whom they learn; a reality making education accessible to ever larger numbers of persons. Some of the later surveys (Mehrotra & Hollister, 2001, p. 9) have stated that distance learning is a type of learning which takes place partially or entirely over the Internet.

Berge suggests the notion of orientation for new distance learners. It presupposes that educators have a right to expect that students will come to distance learning experiences prepared to study efficiently online with such materials as a student handbook, a preliminary screening survey. It in turn will ensure that learners obtain appropriate study and learning skills and understand their rights and responsibilities in a distance learning course (Berge, 2001, p. 20-21).

Student-oriented learning presents in the centre of the entire educational system the identity of the learner, providing a comfortable conflict-free and safe conditions for their development and implementation of their natural potentials. It is an educational goal system rather than a means to achieve any abstract goal. It is manifested in the development of individual educational programs by learners according to their capabilities and needs (Vovk & Matvienko, 2020, p. 378). It comes from the definition of identity, self-worth of each person, which requires a software development and a self-identity, based on the unique identification of individual subjective experience, abilities, interests, values, opportunities to self-realization in knowledge, training activities, behaviour (Jing, 2018, p. 263).

Training, as a form of development of socio-psychological skills, the ability of the individual to interact with other people, was formed at the beginning of the 20th century. Later on training became widespread going beyond purely practical psychology. Nowadays it is used by both educators and psychologists in working with children and adolescents, it is applied in education, in the upbringing and development of personality, in correctional and pedagogical work.

Training is defined as an innovative form of learning focused on the question and search and fully covers the entire human potential: the level and scope of his competencies (social, emotional and intellectual), independence, decision-making ability, interaction, etc. The use of training forms of teaching in education institutions involves changing the role of the teacher, who ceases to be an informant, but becomes the organizer of independent work of students, promotes their acquisition of competencies, and increases the dialogic position of the teacher. The teacher acts as a

teacher-facilitator, pedagogue-moderator (Abramova, Vdovenko & Khrinenko, 2019, p. 9).

During training, methods to stimulate the interaction of participants, interactive technologies are widely used:

- discussion (group discussions, discussions based on dialogue),
- gaming technologies (situational-role, business, organizational-activity games),
- case-method,
- debate (Guryanova, p. 136).

Training has several stages such as preparatory, execution and analysis of the results of training. As fairly stated by researchers, training takes place according to a clearly defined structure, which includes the main three stages: the introductory part (10-15% of the time of the whole training); the main part (70-80%) and the final part (10-15%). The typical structure, purpose and objectives of the training together serve as the basis for compiling its detailed plan (scenario, guide) of conducting. After conducting the training, the educator analyzes what has been succeeded, what has been failed to reach the participants, and the reasons for it (Abramova, Vdovenko & Khrinenko, 2019, p. 10).

Conclusion

Innovative pedagogical technologies stimulate active participation in problematic situations that arise both in front of an individual educator and educational institution. Education should develop mechanisms of innovative activity, find creative ways to solve vital problems, promote the transformation of creativity in the norm and form of professional activity.

We are convinced that innovative technologies in pedagogy are increasing the effectiveness of education of the individual and aimed at training of highly qualified professionals who have received fundamental and applied knowledge. Besides, innovative pedagogical educational technologies are related to creative search based on existing experience.

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