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INNOVATIVE TECHNOLOGIES

The article deals with innovative technologies in the field of training and education of future specialists. One of the most promising and effective innovative technologies recognized throughout the world is the «case study» – learning with the use of specific learning situations, reflection as a method of self-knowledge and self-esteem, training technologies for teaching using the project method, developing students' communicative skills. The results of the conducted experiments showed that education in our country needs the implementation of innovative technologies. Modern, dynamically developing socio-economic realities of society require changes in the system of vocational education in the field of strengthening its practical and personal orientation, which proves the importance of the innovative technologies described by us, that will enter the system of active professional and pedagogical activity of university teachers in our country.

Key words: innovation, technology, case-study, reflection, telecommunication projects.

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Инновациялық технологиялар

Мақалада болашақ мамандарды оқыту мен тәрбиелеу саласындағы инновациялық технологиялар қарастырылады. Дүние жүзінде мойындалған ең тиімді, перспективалық және тиімді инновациялық технологиялардың бірі – «кейс-стади» – оқытудың нақты жағдайларын пайдалана отырып оқыту, өзін-өзі тану және өзін-өзі бағалау әдісі ретінде көрсету, жобалардың әдісін қолдана отырып оқытуды оқыту технологиясын жетілдіру, студенттердің коммуникативтік дағдыларын дамыту. Эксперименттердің нәтижелері біздің елімізде білім берудің инновациялық технологияларды енгізу қажеттілігін көрсетті. Қоғамның заманауи, қарқынды дамып келе жатқан, әлеуметтік-экономикалық шынайылығы оның кәсіби және практикалық және жеке бағдарын нығайту саласында кәсіби білім беру жүйесінде өзгерістерді талап етеді, ол біздің сипаттайтын инновациялық технологиялардың маңыздылығын дәлелдейді, бұл біздің еліміздегі жоғары оқу орындарындағы мұғалімдерінің белсенді кәсіби-педагогикалық қызметіне енетін болады.

Түйін сөздер: инновация, технология, кейс-стади, рефлексия, телекоммуникациялық жобалар.

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Инновационные технологии

В статье рассматриваются инновационные технологии в области обучения и воспитания будущих специалистов. Одними из наиболее эффективных, перспективных и результативных инновационных технологий, признанных во всём мире, считаются «кейс-стади» – обучение с использованием конкретных учебных ситуаций, рефлексия как метод самопознания и самооценки, тренинговые технологии обучения с применением метода проектов, развивающие коммуникативные умения студентов. Результаты проведённых экспериментов показали, что образованию в нашей стране необходимо внедрение инновационных технологий. Современные, динамично развивающиеся,

социально-экономические реалии общества требуют изменения системы профессионального образования в области усиления его практической и личностной ориентированности, что доказывает значимость описанных нами инновационных технологий, которые войдут в систему активной профессионально-педагогической деятельности преподавателей вузов в нашей стране.

Ключевые слова: инновация, технология, кейс-стади, рефлексия, телекоммуникационные проекты.

Introduction

Sociocultural norm of modern specialists is the integration of three intellectual functions – thinking, communication and activities: the image, word and pattern of activity should be adequate. The concept of their preparation, in our opinion, includes the development of the ability to methodological thinking, the mastering of the norms of culture, the acquisition of new value orientations, the education of innovative behavior.

Such an approach provides the specialist with metaprofessional thinking, which makes it possible to organize not only his own vital activity, but also to organize effective thinking, communication and the activity of the collective of people.

Taking into account the characteristics of a modern dynamically developing society, it is necessary to strive to ensure the advanced character of the teacher's preparation in relation to the training of future specialists trained by him.

The teacher of the university is a person who, according to the content of professional activity, must possess a set of qualities that is not available to many. He should be able to design the educational process, combine different approaches to technology of teaching, use innovative systems of teaching, carry out pedagogical reflection, that is, solve creative, problem tasks of professional pedagogical activity.

The complication of the system of scientific knowledge, their integration and differentiation require the faculty to broaden and deepen their qualification through the ability to create interdisciplinary programs that unite several disciplines in one or another larger specialties.

The change in the technology of training should be directed at the reorientation of the activity of the teacher from informational to organizational – in the direction of independent educational, cognitive, research and professional activities of students. This implies an increase in the level of personal activity not only of students, but also of teachers, and also consideration of learning as a process of interpersonal interaction and communication, organized to achieve the goal that unites them.

The activity of the teacher should be aimed primarily at creating conditions for the student's con-

scious choice of an «educational trajectory»; to clarify the goals that the student sets for himself; to help students plan their activities; on counseling on the use of specific textbooks, tools, techniques, teaching methods.

In practice, university teachers experience difficulties in diagnosing goals and evaluating learning outcomes, selecting and implementing modern teaching technologies. Teachers are wary of integration and differentiation of training courses, multi-level education and new educational special courses, innovative practices in the field of education and upbringing.

The modern educational situation hinders their desire to improve the educational process, to risk, since stereotypes of everyday «professional-pedagogical thinking» dominate at the level of the corporate culture of the university: a specific phenomenon of «split personality» arises – at the personal level, the teacher critically assesses the existing model of education, and within the pedagogical array he actively reproduces its values and attitudes.

There was a need to retrain teachers in order to provide them with new tools that meet modern requirements. It is about innovative technologies in the system of activity of the university teacher.

Experiment

Innovation presupposes the emergence, the development of a new within the already existing, functioning. Innovation means the preventive emergence, development, diversification of innovations that arise, first of all, due to the development and achievement of the level of creativity of the subjects of the educational process. Innovation emerges when the teachers themselves and the heads of the educational institution can no longer, within the framework of traditional forms and content, solve the tasks of training specialists. There is a situation of demand for new technologies that meet new goals and objectives.

Results and discussion

We will highlight the components of educational technology in the context of traditional and innovative approaches in teaching at the present stage.

Traditional approach	Innovative approach
Content component	
It is defined by the standard of education: the main difference is unification, compulsion for all, a kind of averaging.	The standard of education is enriched due to the differentiation of trainees in terms of preparedness, the training program for advanced students is deepened and expanded, individual high-level programs are created for especially capable ones.
Design component	
Defines the goals and objectives of the teacher in accordance with the program settings and the requirements of the society for the training of a specialist.	In the design of goals and determining the final results, the student also participates, based on his motivations and requests.
Model of training	
Basic forms: lecture, seminar – prevailing methods are monographic, training is built on an authoritarian scheme – «requirements pedagogy».	The variability of the methods that activate the students' mental activity is characteristic: problem questions, heuristic conversations, brainstorming, trainings, case studies, business games, discussions, debates.
Organizational component	
The teacher builds his work so that the student must adapt to the teacher. The main source of education is the textbook and the lecture of the teacher.	Used additional literature, the latest sources of information, computers, audiovisual tools. The educational space is creatively organized. Individualization of the educational process, use of the possibilities of computer informational technologies.
Diagnostic component	
A traditional five-point system of knowledge assessment is used, an analysis of the quality of education on the basis of examinations and tests.	The diagnostic method of monitoring the quality of education is used: the results of the student's academic activity are evaluated taking into account its real educational possibilities and the initial level of knowledge. The most promising rating system is rating. Diagnostic data are used to adjust training activities.
Psychological component	
The teacher better knows the psychology of advanced students than the lagging students. The teacher lacks the motive and time to correlate his approaches with the psychological characteristics of students.	Mutual adaptation in the system of relations «teacher-student», adaptive interaction. The teacher forms intellect based on objective and subjective psychological and biological laws of the development of the psyche and the brain. The teacher understands that the highest degree of intelligence is wisdom – the ability to adapt to everything, protecting yourself and others.

Among the innovative technologies, the most promising are «case study», reflection as a method of self-knowledge and self-esteem, and as a technology – diagnostic and developing, training technologies.

«Case – study»

First stage. Having studied the text describing the situation, the student must independently try to find out the essence of the problem, determine his own position in assessing the situation, think through the answers to the questions and find concrete ways of solving the problem.

Second stage. Work in a small group. Students in small groups exchange views on the range of problems that constitute the basis of the case, and through a dialogue and consensus approach they come to a common solution to the problem. At this stage are possible: brainstorming, dialogue and

polylogue, discussion, dispute. Intelligent leaders are able to set out ways of resolving problems after group discussion.

Third stage. The general group discussion is conducted under the guidance of the teacher. Each group expresses its point of view on the range of problems posed in the situation. The teacher skillfully «conducts» the process of analyzing the situation, involving as many students as possible in the discussion, stimulating a variety of points of view, creative addition of individual moments. A feature of the discussion is that the teacher does not give a qualitative assessment of the answers – any statement is perceived as acceptable. The process of discussing the situation requires the teacher to have a broad erudition, communication skills and flexibility, a complex of knowledge on a number of

related disciplines, possession of the technology of discussion, non-reflective listening, behavior, based on parity in relationships with students.

The method of a particular situation can be used to study any discipline. It can be historical events, situations from the field of social and economic development, situations related to personnel management, specific everyday problems that can be used to teach decision-making technology. There are situations that can be used as teaching material for students to learn how to analyze and systematize information.

The concrete situation does not have a clear, correct or incorrect answer, it serves only as a teaching material, in which students learn to analyze, speak, argue, justify their point of view.

Reflection as a «human» technology

How can a teacher learn to realize his pedagogical and personal potential?

The most expedient and necessary way of self-ascension is reflection as a way of self-knowledge, self-esteem, self-analysis and as a pedagogical technology that provides active perception of the educational material by students.

It is impossible not to agree with V.Z. Vulfov and V.N. Kharkin is that «professional reflection contains the unity of human and professional, that is, the application of this ability to complex conditions and the circumstances of professional life» (Vulfov, Kharkin, 1995: 18)

Reflection acts as a technology of self-diagnosis of the success and effectiveness of pedagogical actions of the teacher, as a means of flexible response to a particular pedagogical phenomenon, life situation.

How can I learn to reflect? If we consider the reflection as a pedagogical technology, then we can try to determine the conditions and stages of the «learning» of reflection.

The main conditions for mastering the technology of reflection are the following:

- the teacher's desire to work with high dedication;
- love of pedagogical activity;
- the ability to «connect» your inner voice;
- psychological readiness for self-analysis and analysis of their actions;
- responsibility for the results of pedagogical activity;
- the desire for professionalism;
- certain development of the inner world;
- knowledge and understanding of the meaning of verbal and nonverbal information received from outside.

The stages of reflexion can be presented in a simplified manner using the following algorithm:

A momentary signal «stop» in the mind of the teacher, allowing you to instantly assess the situation, the reaction of the audience, individuals, participants in the pedagogical process or communication.

«Running» the work of thought: «What do I do? What is happening at the moment? And how should I do?»

Evaluation of their intellectual, emotional state and the status of their partners in communication.

Insight.

Decision-making.

Pedagogical improvisation.

Let us dwell briefly on the latter. As a basis for the technology of pedagogical improvisation, certain provisions of V. Kharkin and A. Groisman are taken.

Objective criteria for improvisation – suddenness, momentary, novelty, publicity, pedagogical significance.

Pedagogical improvisation has an intuitive nature, but its foundations are quite real: general cultural and psychological-pedagogical knowledge, habits and skills, especially in the field of pedagogical creativity; the presence of a creative dominant in the teacher, as well as special habits and skills of improvisation.

Readiness for pedagogical improvisation depends on the following knowledge and skills:

- knowledge of the subject and methods of teaching it;
- the ability to apply knowledge in pedagogy and psychology;
- the ability to distribute and concentrate attention;
- the level of development of the imagination;
- creative state of health;
- effective communication skills;
- possession of speech and all psychophysical apparatus;
- developed intuition;
- the ability to incarnate;
- the ability to instantly and adequately analyze the situation;
- the ability to make instant decisions;
- the ability to instantly and publicly implement the decision;
- the ability to organically go from impromptu to planned.

Improvisation is the highest level of the teacher's professionalism.

In order to master the skills of pedagogical improvisation, it is necessary to participate in

special trainings for personal development, development of business communication skills.

Technology of teaching using the method of projects

Experts believe that this technology is appropriate to use in addition to other methods of training. The project is interdisciplinary in nature and integrates information from various fields of knowledge. Researchers distinguish the following sequence and structure of activities of students and teachers.

1 stage – preparation of the project. Definition of the topic and goals. Students discuss the subject together with the teacher, get advice, set goals. The teacher reveals the prospects for research, motivates, advises.

2 stage – planning. Determination of sources of information, ways of collecting and analyzing information, the form of the report, the criteria for evaluating the results and process, the distribution of roles. Students develop a plan of action, formulate tasks. The teacher corrects, suggests ideas, helps to predict the result.

3 stage – study. Collection of information, solution of tasks. Tools: interview, survey, observation, experiment, work with reference literature. Students do research, solving intermediate tasks. The teacher indirectly observes, helps, advises.

4 stage – generalization of the research results. Analysis of information, structuring, formulation of conclusions.

5 stage – report – presentation of the results: oral report, co-reports, abstract, coursework, poster material, written report, book, brochure. Students report; the teacher on an equal footing with students, together with experts listens, asks questions, corrects.

6 stage – final, evaluation of results and process. Students participate in the evaluation, the rating of the project participants. The teacher assesses the work of students and experts taking into account the opinion of the project participants, motivates further research.

Telecommunication projects are the most promising and effective in the current system of higher education.

They must meet the basic requirements of the project method:

The presence of a significant in the research, the creative plan of the problem – a task that requires

integrated knowledge, research search for its solution.

Practical, theoretical, cognitive significance of the expected results.

Independent activity of students.

Structuring the content of the project.

The use of research methods: the definition of the problem and the research problems arising from it, the hypothesis of their solution, the discussion of research methods, the formulation of the final results, analysis of the data obtained, summing up, correction, conclusions. The use of the method of «brainstorming», «round table», statistical methods, creative reports, and views in the course of joint research.

Let's name the types of telecommunication projects: research; creative; adventure, game; information; practically oriented; literary-creative; natural science; ecological; economic; linguistic; culturological; role-playing games; sports; geographical; historical; musical.

The form of organization of work on the technology of telecommunication projects: teleconferences, correspondence of participants through synchronous, telecommunication «computer-to-computer», joint research, discussions.

Conclusion

The method of telecommunication projects is only being introduced into the system of work of universities, but behind it is the future. The existing system of training specialists is excessively theorized at the expense of practical, pragmatic aspects. The technologies described by us are not unique, many of them have been used in European and American universities since the beginning of the 20th century. Education in our country is characterized by excessive traditionalism, but it has also come close to introducing innovative technologies on a large scale. New socioeconomic realities require a revision of the vocational education system in the direction of enhancing its practical and personal orientation: it is important not only what graduates know but also how they are able to realize their personal potential; it is important not only to withstand competition, but also to win, showing leadership qualities. The technologies described by us will be included in the active pedagogical arsenal of our teachers.

Литература

- Гузеев В.В. Образовательная технология: от приёма до философии. – М.: Сентябрь, 1996. – 112 с.
Вульфов Б.З., Харькин В.Н. Педагогика рефлексии. – М.: Магистр, 1995. – 110 с.
Харькин В.Н., Гройсман А. Психологопедагогические тренинги. – М.: Магистр, 1995. – 123 с.
Полат Е.С. Телекоммуникации в школе // Информатика и образование. – 1993. – №1.
Полат Е.С., Бухаркина М.Ю., Петров А.Е., Ястребцева Е.Н. Компьютерные телекоммуникации в школе. – М.: ИОСО РАО, 1995. – 168 с.

References

- Vulfov B.Z., Kharkin V.N. (1995). Pedagogika reflexii [Pedagogy of Reflection]. Moscow: Magistr, 110 p. (in Russian)
Guzeev V.V. (1996). Obrazovatel'naya tehnologiya: otpriyoma do filosofii [Educational technology: from admission to philosophy]. Moscow: Sentyabr, 112 p. (in Russian)
Kharkin V.N., Groysman A. (1995). Psichologopedagogicheskie treningi [Psychological and pedagogical trainings]. Moscow: Magistr, 123 p. (in Russian)
Polat E.S. (1993). Telekommunikacii v shkole [Telecommunications at school]. Informatika i obrazovanie. No1. (in Russian)
Polat E.S., Bukharkina M.U., Petrov A.E., Yastrebtseva E.N. (1993). Komputernye telekommunikacii v shkole [Computer telecommunications at school]. Moscow: IOSO RAO, 168 p. (in Russian)