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Role of Innovative Technologies in the Modernization of Higher Education

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A B S T R A C T
The article describes the technology of individualization of learning, the technology of program learning, the technology of stratification of learning, the technology of accelerated learning, human-personal technology, critical thinking and innovative technologies of problem-based learning used in the modernization of higher education.

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Innovative activity in education is a set of purposefully organized technologies of educational processes that are carried out in the educational process on the basis of innovative activities related to production, training, knowledge acquisition, technical, commercial, theoretical and independent cognitive processes. Innovation in higher education in the broadest sense is an activity that includes new approaches to the acquisition of new modern and cognitive teaching skills, which develops as a combination of scientific, technical, technological, organizational, financial and commercial activities [1].

The essence of the content of education is determined by different approaches to it. The educational process in high school is based on a unified, multifaceted system of organizing forms and methods of teaching. A set of forms and methods of teaching at a university is a single didactic complex determined by the objective laws of the educational process.

Innovative technology is the general content of the process of achieving educational goals, i.e. the implementation of a pre-designed educational process on the basis of an integrated system, step by step, the development of specific methods, techniques and tools to achieve a specific goal, their effective and efficient use is management.

To ensure the quality and effectiveness of lessons in higher education, it is advisable to use the following types of innovative technologies:

1. Technology of individualization of training. In the studies of Inge Unt, A.S. Granitskaya, V.D. Shadrikova, individual training is defined as a form, a model of the organization of the educational process. Later:

- the teacher interacts with only one student;
- the student interacts only with teaching aids (books, computers, etc.) [2].

In one-to-one learning, the content, methods and way of doing things are tailored to the individual approach and the specific characteristics of the student. Personal approach means:

- the principle of pedagogy, according to which the teacher interacts with individual students according to an individual model, taking into account the individual characteristics of students in the educational process;
- taking into account the individual characteristics of students in the learning process;
- It is understood that not only the development of all students, but also the creation of psychological and pedagogical activities for the individual development of each student.

A good example is the use of the Trump Plan in one-to-one learning (by Lloyd Trump, USA). Trump's plan is to make this technology very popular in the United States. It is such a system of forms of education that classes in a large classroom are combined with individual lessons in small groups. Highly qualified teachers, professors give lectures in large groups of 100-150 people using modern technical means. Small groups of 10-15 people discuss and discuss lecture materials, individual work is carried out in classrooms and laboratories. 40% is allocated for lectures, 20% for small groups, 40% for individual work in classrooms and laboratories. There is no typical class concept or permanent small groups.

2. Technology of software training [3]. Programmable learning emerged in the early 1950s. It is associated with the name of the American psychologist B. Skinner. He recommended that it be created and monitored on the basis of a regular partial communication program, while enhancing the effectiveness of the management of the assimilation of materials.

There are five basic principles of programmed learning:

1. The principle of a certain hierarchy of control devices. In the hierarchical structure of this technology of programmed learning, the teacher is above all, and this is the first general goal of the subject; individual support and correction takes place in difficult non-standard learning situations.

2. The principle of feedback: requires periodic organization of the management of the educational process for each type of educational activity. In this case, the correct connection is established - information about the required action image is transmitted from the control object to the controller. Feedback, emphasizes V.P. Bespalko is necessary not only for the teacher, but also for the student, the first one is for correction, the second one is for reading.

Understand the material.

Internal and external feedback is also available. Internal feedback serves to independently adjust students' own results and the nature of their mental activity. External feedback is provided to the student directly through devices that control the learning process, or under the influence of a teacher.

3. The principle of a step-by-step technological process in the coverage and transfer of educational material.) Consists of separate, independent, but interrelated and optimal in terms of breadth of parts. The set of information required for direct and feedback forms a step in the educational program of cognitive actions and rules. This step adds three interrelated frameworks: information, feedback, and control. A sequence of step-by-step educational actions forms the curriculum, which forms the basis of programming technology.

4. The teaching continues the principle of individual modeling and management. This principle guides and recommends to each student the information process in such a way that it allows the student to move forward quickly during the exercise, as his cognitive abilities adapt to the information conveyed by the manager. will be comfortable.

5. The principle of using special technical means for the transmission of educational program material.

The scientific substantiation of the technology of program learning allows us to identify a number of educational programs:

- smooth programs;
- forking applications;

- simplified programs;
- mixed programs;
- algorithm;
- block learning;
- modular training;
- full possession of knowledge;

3. Stratification of learning. [4] In the study by G.K. Selevko, the stratification of learning is interpreted as a form of organizing the educational process, the teacher works with a group of students who have the same level of knowledge, one way or another having common qualities in the learning process. Learning stratification is also defined as a part of general didactics, which ensures the specialization of different groups of learners in the learning process.

Differential training is:

1) the form of organizing the educational process by the teacher in interaction with students and in homogeneous groups according to the qualities that are important for the educational process;

2) Part of the general didactic system, based on the training of various participants in the educational process in specialties.

The differentiation of education is as follows:

1) development of existing conditions for schools, classes, groups, taking into account the specifics of the contingent;

2) a set of methodological, pedagogical, psychological and organizational and managerial measures that provide training in homogeneous groups.

5. Technologies to accelerate learning [5]. This technology was developed and implemented by Viktor Fedorovich Shatalov. He demonstrated the enormous untapped potential of the traditional teaching method.

The appointment of V.F. Shatalova:

- formation of knowledge, skills and abilities;
- training of all students with any individual characteristics;
- Speed up learning.

Principles:

- repetition, obligatory step-by-step control, high level of complexity, learning in large blocks, dynamic pattern of activity, application of the basis and the assumed basis of behavior;
- personal approach;
- humanity;
- do not teach by force;
- Conflictness of educational situations, awareness of the achievements of each student, correction (remembering).

6. Human-personal technologies Sh.A. Amonashvili. [6] Shalva Alexandrovich Amonashvili is a well-known pedagogical scientist and practitioner who, in his experimental environment and educational institution, has developed and implemented joint pedagogy, an individual approach, and an excellent methodology for teaching language and mathematics.

Sh.A. The main goals of Amonashvili:

- to contribute to the formation, development and education of a noble personality in a student through

the manifestation of personal qualities;

- to glorify the heart and soul of the student;
- development and formation of the student's cognitive abilities;
- create conditions for broad and deep knowledge and skills;
- The ideal upbringing is self-education.

To implement his technology, Sh.A. Amonashvili used the following methods and techniques:

- humanity;
- individual approach;
- communication skills;
- additional opportunities for family pedagogy;
- educational activities.

6. Critical thinking. [7] Critical thinking is a process similar to reading, writing, speaking and listening. It is an active, coordinating process in which ideas about reality are embodied.

Developing critical thinking is not an easy task. It is also not a task to be completed and forgotten at a certain age. At the same time, it leads to critical thinking no paved road.

But there is a set of specific learning environments that help shape critical thinking. For him:

- give students the opportunity to think;
- acceptance of various ideas and opinions;
- Ensuring the active participation of students in the educational process;
- Encourage students not to laugh;
- instill confidence in each student's ability to think critically;
- The emergence of critical thinking should be appreciated.

In this regard, students:

- gain self-confidence and understand the value of your thoughts and ideas;
- active participation in the educational process;
- listen carefully to different opinions;
- ready to formulate their judgment and return from it

7. Problematic learning (BF Skinner). [8] This is an advanced teaching technology.

An effective teaching technology in a modern secondary school is based on problem-oriented learning. Its task is to stimulate the process of active learning and to form a research method of thinking.

Symptoms of a problem situation include:

- presence of a fact unknown to the student;
- Instructions given to the student for completing tasks, student's personal interest in solving learning difficulties.

In the literature, the following common techniques for creating a problem situation are noted:

- solving problems to explain the essence of events, the studied concepts;
- set the task to find ways to apply the knowledge gained;
- Encourage students to explain contradictions and inconsistencies between events and facts;
- encourage the analysis of facts and events that lead to a conflict between scientific concepts and life ideas;

- Encourage students to compare, contrast facts, events, actions, conclusions;
- Introduce students to facts that seem incomprehensible and lead to a scientific problem in the history of science.

To implement the problematic technology, the following must be observed:

- selection of the most urgent, important tasks;
- to reveal the specifics of problem-based learning in all types of educational activities;
- ask a problematic question;
- organize students' attempts to think about the search and justification of the questions asked;
- organize a critical analysis of the answers, identify their strengths and weaknesses;
- Developing a consensus position - organizing the intercomparison of responses to construct the most appropriate response.
- Move on to the next problematic question.

CONCLUSION

For the individualization of learning in the education system, it is recommended to use the Trump Plan (Lloyd Trump) technology as a unique approach, i.e. conduct individual lessons for small groups in lectures of 100-150 students by experienced high school professors. education. The peculiarity of the technology lies in the fact that in one lesson a certain group of students works separately in parallel in the direction of their goals. This saves time and innovates the learning process.

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