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## PEDAGOGICAL TECHNOLOGIES

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**Abstract:** Pedagogical technology is characterized by clear definition of learning objectives, guarantee of the final result, ensuring the repeatability of the learning process and the presence of a fast feedback loop. The article covers a wide range of pedagogical technologies.

**Keywords:** Pedagogical technology, lesson, innovation, pedagogy, didactics, teacher, lesson.

### Introduction

The manual includes pedagogical technologies, technological map of the lesson, interactive tools, scheme of interactive lesson development, method of completing the room in small groups, examples of interactive technologies, brainstorming, boomerang technology and its stages, communication training and its stages, FSMU technology and its implementation stages, blitz-interrogation technology, blitz-game technology and stages of its implementation, one-for-one, all-for-one method, lecture after independent preparation of students, openwork saw method, synectic method, round table method, pen on table method , rotation method, gallery rotation method, snow storm method, bee gala method, rolling snow pile method, syndicate method, aquarium method, numbers method, scarab technology, Veer technology, dolphin technology, T-table technology, SWOT-analysis table, What for? - scheme, insert technology, I know. I want to know. Learned method, zigzag method, Venn diagram, networks (cluster) method, round tables, round tables, debate method, debate method, discussion technology, discussion lecture method, new pedagogical technology course developments and 100-point test of students in higher mathematics -Rating is given as an example. The test-rating model we present may differ from that of other universities. The reason is that its formation is based on the internal regulations of a particular institution. The word technology entered science in 1872. It is Greek for "texos," meaning profession, skill, and "logos," meaning doctrine or science. In short, it means 'the science of skill'. Today, some people think that pedagogical technology is only related to information technology, and the use of TSO, computer, distance learning, or various techniques that need to be used in the teaching process. This is not true. The main basis of pedagogical technology is the technology chosen so that the teacher-trainer and the student can work together to achieve a guaranteed result from the set goal.

The term "pedagogical technology" was first introduced in 1970 by the Japanese scientist T. Sakamoto. According to the scientist, pedagogical technology (teaching technology) is a field of knowledge related to the system of guidance that ensures the acceptability of teaching. Professor N.F. Talizina believes that pedagogical technology is about identifying rational ways to achieve a set learning goal. According to Professor N. Saidakhmedov, pedagogical technology is a project of a certain pedagogical system that can be put into practice. According to Professor M. Ochilov,

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pedagogical technology is a set of methods and techniques used in the process of mastering, taking into account the interaction of human potential and technical means to facilitate forms of education on the basis of systematic, technological approaches, guaranteeing results and objective assessment. This concept is defined by UNESCO as follows: pedagogical technology is a systematic (designed) method (method) of identifying, creating, applying all processes of teaching and learning, taking into account the technical means, human potential and their interaction to optimize forms of education. Pedagogical technology is a set of methods and tools used in the educational process to achieve the goals of education [13. 8; 15. 3]. Pedagogical technology is old and new. However, as the society develops, it puts its new social orders in front of education, and the educational process is enriched and updated with modern advanced methods and techniques.

There are many directions of pedagogical technology. Modern traditional education, formed in the 17th century on the basis of the didactic principles of J.A. Comenius, is now the most widely used classroom system in schools around the world. Modern pedagogical technologies were created mainly for the purpose of improving this system in various directions and are currently developing in different directions.

They are pedagogical technologies based on the improvement of the pedagogical process, its orientation to the student's personality; pedagogical technologies aimed at activating and accelerating student activities; pedagogical technologies based on didactic improvement and processing of educational material; pedagogical technologies based on effective management and organization of the educational process; nature-adapted pedagogical technologies; developmental learning technologies, etc. [6. 3-4].

The realization of the goal in education and the achievement of a guaranteed result depends on the joint activity of both teacher and student, as well as the goal they set, the chosen content, method, form, means, ie technology.

It is up to the teacher and the student to choose the technology to achieve the goal, because the main goal of both parties is to achieve a clear result, in which the teacher chooses the technology used depending on the level of knowledge of students, group behavior, conditions, for example, computer work film, handouts, drawings and posters, various publications, information technology will be needed, depending on the teacher and the students.

At the same time it is necessary to design the teaching process in advance, in which the teacher must take into account the specifics of the subject, place and conditions, UTV, and most importantly, the ability and needs of the student and the ability to organize collaborative activities. can be achieved. In short, it is necessary to bring the student to the center of education.

It is necessary for the teacher to be able to see each lesson as a whole and to design the future lesson process in order to imagine it. It is important for the teacher to create a technological map of the future lesson, because the technological map of the lesson is based on each topic, the subject taught for each lesson, the nature of the subject, the capabilities and needs of students. The technological map of the course can be compared to the scenario of all the technological processes, from finding the porcelain raw material in the form of soil to the finished dish.

Creating a technological map is not easy, because for this the teacher will need to be aware of pedagogical, psychological, private methodology and information technology, as well as know a lot of methods, techniques. The variety and fun of each lesson depends on a well-thought-out technological map of the lesson.

How to create a technological map of the lesson depends on the experience, goals and will of the teacher. Whatever the technological map, it should reflect the course process as a whole, and clearly define the purpose, task and guaranteed result, the technology of organization of the course process. The structure of the technological map saves the teacher from writing an extended syllabus of the lesson, because such a map will reflect all aspects of the lesson process.

The structure of the technological map, based on the capabilities and needs of the student, brings him as a person to the center of education. This will increase the effectiveness of teaching.

In the process of teaching students are considered as individuals, the use of various pedagogical technologies and modern methods allows them to think independently, freely, research, creative approach to each issue, sense of responsibility, research, analysis, effective use of scientific literature, most importantly, strengthens their interest in reading, science, pedagogy and the profession of their choice.

Achieving such a result requires the use of innovative and information technologies in the learning process. They are so diverse that we will focus on some of them and provide methodological guidance on how to conduct them. The modern methods or technological trainings mentioned in this manual help to increase the effectiveness of teaching, help students to form logical, intellectual, creative, critical, independent thinking, develop their abilities, become competitive, mature professionals and cultivate the professional qualities needed by the specialist.

What is an interactive method? While traditional education focuses on “what, when and where” issues, modern collaborative learning technologies focus on “how to teach?”. The problem is important.

The ratio of the contribution of teachers and learners in the educational process has varied in different periods of human development (civilization). While educators were once leaders, in certain periods learners were proactive and the pros and cons of such activities were explored. In recent decades, educational technologies based on the collaborative work of educator and learner have been rapidly evolving and gaining popularity. Educators call such educational technologies “collaborative pedagogy”. Such collaborative learning technologies are widely used in developed countries such as the United States, Japan, the United Kingdom, and Germany, and are highly effective. One such learning technology is based on interactive teaching methods. The word "inter" is Latin and in Uzbek means "intermediate", "middle", "mutual". This means that interactive learning technologies are collaborative interactions between educator and learner. Naturally, interactive learning technologies consist of interactive methods in the education system.

Collaborative, designed to increase student engagement, to encourage students to listen to, understand, respect the opinions of others, to consider the interests of others, to learn from them, to teach them, to influence, to feel, feel, and feel the “I” of themselves and others. ‘interactive’ teaching

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methods aimed at teaching management, the ability to articulate ideas clearly and concisely, are developing rapidly and are yielding positive results. Interactive methods create a competitive environment between small groups in a group, inspiring and motivating students to move, and as a result, students begin to learn to collaborate. Any interactive method teaches learners to think independently when used correctly and purposefully.

The use of problematic, life situations in interactive methods gives very good results. A controversial, problematic situation is when a person falls into a complex situation or situation that depends on the outcome of thinking during the period of activity. In this case, he does not know how to interpret the event or process. Controversial, problematic situations strain the mental power of students, who begin to look for ways to clarify the situation. They face challenges. A person begins to think only when he is confronted with a problem. He begins to think and act with the knowledge he has, and to draw conclusions at a level appropriate to his level.

Students should be able to explain how they did the assignments they did. They need to be able to talk about how they thought, what they thought. It is very important for the teacher to be able to express in their own words the places they do not understand in the process of problem solving.

Any high-level lecture, even if it is rich in facts, if it lasts too long, the students' hearing will decline and they will get tired. Therefore, lectures based on new pedagogical technologies will be effective.

The speaker will divide his speech into several blocks. Each block lasts 15-20 minutes and a question and answer session is held after each block.

It raises some issues during the lecture. During this time, it determines the attitude of students to the problem, listens to their opinions. It gives every commenter a chance. His opinion is listened to attentively. But without criticizing him, the opinions of others are listened to. This situation changes the attitude towards the speech in a positive way, leading to indifference to the speech. It takes 5 minutes to interview students.

The speaker observes the growing interest, aspiration, and responsibility of the students. He continues the lecture and this situation is repeated. During this period, always active participants, deep thinkers become the backbone of the speaker.

During the lecture, the topic is gradually linked to the daily activities of the student, and gradually they are answered on the basis of short discussions.

In this case, in previous lectures, students do not know how time has passed. Wanting the lecture to continue, indifference is replaced by vigilance, inner aspiration, search for a solution, and they themselves try to contribute to finding a solution in person.

Such reports increase the interaction of both parties. Encourages further discussion. As students participate in such a lecture, they will want the rest of the lectures to continue and meet with their teacher again.

Noverbal means to express or emphasize a meaning through facial expressions, hand, body movements. Noverbal remedies are so important that nothing else can replace them. Every human action has a specific meaning, and these actions are understood differently in different nations. It is accepted to call these actions noverbal speech. It is worth mentioning that nonverbal speech is the movement of a person's muscles, including his thinking, which consists of the movement of certain muscles in him. It is no secret that the effect of making a gesture is stronger than speaking. Visual

(visual) tools include all the tools designed for students to see with their eyes in the process of pedagogical technology. These include writing and other images on the blackboard, writing and images in books, handouts, educational posters, photographs, works of fine art, videos, film images, animals, plants, natural objects, various objects, and more.

The use of visual aids in pedagogical technology allows students to quickly, clearly and accurately explain the content of information to be taught in a variety of forms and ways.

Audio tools allow you to learn and absorb information through listening.

Nowadays, more audiovisual means are used, that is, means that serve both hearing and sight at the same time: movies and other audio-visual images.

In fact, in practice, a complex use of available tools based on a creative approach may be most effective, depending on the circumstances and the situation at hand.

Natural means include all natural things related to the content intended for learning in the process of pedagogical technology. These include man and animals, plants and nature, tools, objects, machines, mechanisms, structures, and so on.

Necessary teaching aids and school equipment for students and teachers are the necessary tools of pedagogical technology.

In general, the quality and effectiveness of pedagogical technology today largely depends on the quality of all necessary tools and their ability to use them with high efficiency.

The brainstorming method is easy to use in both lectures and practical lessons. This method instantly covers all the students in the classroom and activates them.

The fact that the whole topic, part of it or a set of questions for students on the selected problem is prepared in advance by the teacher gives good results in the work.

The mental attack method can take 5-10 minutes depending on the problem solution. In this case, the answers of students are not allowed to interfere with the teacher or others, do not express any opinion, and the results are not evaluated, scores are not given. This rule is often violated automatically by the teacher, i.e. the student quickly corrects his or her reaction to the misconception expressed. This situation stops students from thinking, undermining the method of mental attack used in the lesson.

Objective: To get the student to express their opinion, even if it is wrong. After the teacher summarizes, the correctness or incorrectness of the opinions expressed will be known to each student.

Students' thinking is guided and encouraged by the teacher. From time to time opinions are generalized.

Once opinions on the solution to the problem have been formed, it is finalized and finalized. Students then compare their suggestions on their own, understand right and wrong opinions, and evaluate themselves. But the teacher is not allowed to evaluate or reprimand them

A boomerang is a scythe-like weapon that allows a shot to return to the shooter. The meaning of the boomerang method in education is the return of a problematic issue or topic thrown by the educator to the teacher orally or in writing while being mastered by the students.

1. If the lesson plan has 4 topics, the students in the classroom are divided into 4 groups. The first topic in the plan is presented to each of the first group of students with answers prepared by the teacher. In this way, the other topics in the plan, along with the answers, will be distributed to the students of

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the appropriate number groups. Students in each group study a single topic with their answers in the order set by the teacher.

2. Then 4 groups of students are mixed and 4 groups of new members are formed. In each of these new groups, the participation of several students from all of the first 4 groups is achieved. As a result, it is possible to study the entire training material as a whole. It is important that students develop the skills and abilities to study the material independently, to work collaboratively, to explain what they know to others.

3. After completing the group study of the topic in the rules set by the teacher, the students return to the first group and the questions and answers begin. Based on the teacher's organization, the questions are given to one team by other groups. A student of their choice from the team writes down and summarizes the scores of their student partners and submits the results to the teacher. All groups are questioned in this way. In this case, the student who answered the question correctly will be given 3 points, 2 points for correct addition, 1 point for correct replication, 0 points for no comment at all.

4. Each group composes one question on the topic and invites other teams to answer it. The team that answers correctly will be added 3 points to the total score and the others will be given 0 points. If no one can answer, if the team that composed the question answers it themselves, 3 points will be added to their total score.

5. Now each student will be given a pre-prepared test on the topic for assessment. The results of the work of one group are checked by the students of the other team on the basis of ready answers, and scores are given on a scale provided by the teacher.

6. The lesson is reinforced and summarized by the teacher with the participation of students. Incentives will be provided to groups and students by scoring points. The assignments and tasks that will be needed for the next lesson will be formed.

Depending on the level of preparation of the group of students, the amount of learning materials, easy or difficult, it is possible to skip the fourth stage if a shortage is expected during the lesson.

This technology is aimed at in-depth and holistic study of the learning material, creative comprehension, free acquisition of educational material in one session. It is suitable for the study of topics with different content and character (problematic, controversial, different content), including oral and written forms of work, and during each session each participant performs different tasks, in the role of a student or teacher, It allows students to work with a variety of literature, texts, memorize, narrate, express themselves freely, and evaluate all students during a lesson.

Thus, we can draw certain conclusions on the concept of pedagogical technology, in particular, the new, innovative ped technology. The education system consists of several interconnected components: 1. Shahe (swimmer); 2. Educational goals; 3. The content of education (upbringing); 4. Didactic (educational) process; 5. Forms of organization; 6. Pedagogical methods or technology; 7. Teacher (tutor). As is the case with any theory, the above system represents two legitimate directions: x and al: didactic (educational) problems and ways to implement these problems. Conditionally, if didactic (educational) issues include goals, forms, means, methods can be included in the ways of implementation. Within this system we can distinguish pedagogical methods or pedagogical technologies. Pedagogical technology is an innovative approach to the educational process. It is an

expression of socio-engineering thinking in pedagogy, a certain standardization of the process of teaching and upbringing. In particular, the abandonment of preaching, oral methods of teaching, teaching with the help of computers, technical means of education, the manager, organizer, consultant of the student's cognitive activity, the guide to the final result - the teacher, the organization of independent work of students under the guidance of teachers. is that the facilitator has the ability to achieve almost the same end result. In particular, in the current period of training of specialists who can meet the requirements of the standards of the world's leading countries, where uniform standards of education have been introduced, the next step is especially important. As a result of the organization of the learning process on the basis of pedagogical technologies, educational goals are defined or projected, the expected end result is a positive quality change, a repetitive cycle of the learning process is created, a fast reversal occurs or the learning goals are adjusted. borilaveradi. It should be noted that, according to the Uzbek scientist N. Saidakhmedov, "teachers often do not distinguish between methodology and technology. The methodology consists of a set of recommendations for the organization and conduct of the learning process. The aim of the methodology is to transfer the theories of the subject to a specific, plane of events ... Pedagogical technology is a mutual boitic of the teaching process; Organizational arrangement, construction, implementation, identification of components, achievement of the set goals, taking into account the available opportunities.

We can study the pedagogical technologies used in practice into 12 types (GK Selevko, *Sovremennye obrazovatelnye tehnologii*, M. 1998):

1. By level of use (general pedagogical; special subject; local, modular, narrow pedagogical).
2. On a philosophical basis (materialism, idealism, dialectical, metaphysical, humanistic, inhuman, anthroposophy, theosophy, pragmatism, existentialism, Zionism).
3. On the leading factors of mental development (biogenic, sociogenic, psychogenic, idealistic).
4. On the concept of assimilation (associative-reflexive, developmental, behavioral, gestalt technology, suggestive, neurolinguistic).
5. On the structure of the individual (informational, operational, emotional, self-developing, heuristic and practical).
6. On the content and nature of the structure (educational and pedagogical, secular and religious, general and vocational, humanitarian and technocratic, various field technologies, special subject and monotechnologies and polytechnologies).
7. By organizational forms (class-lesson, alternative, academic, individual, group, group learning, stratified education).
8. By type of organization and management of cognitive activity (classical lectures; reading with the help of audiovisual techniques; "consulting system"; teaching with the help of books; "tutoring" system; "program education" V.P. Bepalko).
9. On the approach to the child (authoritarian, didactic-centric, person-centered technologies, collaborative technologies, free parenting technologies, esoteric technologies).
10. Priority methods (reproductive, explanatory, developmental education, problem-based education, creative; program education, dialogue, game education, self-learning education, information education).
11. On the modernization of existing traditional systems (on the basis of humanization and democratization of relations; on the basis of activation and acceleration of children's activities; on

the basis of organizational and managerial effectiveness; on the basis of methodical and didactic reconstruction of educational materials; 12. Taxes, by category of tuberculosis recipients (mass technology, advanced education, supplementary; technologies for working with non-communicators, technologies for working with tuberculosis). X, in the world's most developed countries, such as AKD1, the United Kingdom, Japan, Germany, Turkey and Korea, as a result of such a new systematic approach to education, students' learning is at a high level. In particular, 75% of the 50,000 swimmers trained as experimenters in pedagogical technologies in South Korea received positive feedback. In general, such an indicator can be achieved only by the best swimmers. The use of effective innovative pedagogical technologies in educational institutions of the country leads to further improvement of educational processes, bringing the quality of education to world standards, training in accordance with the requirements of the Unified State Educational Standards. In the future, pedagogical technology will become richer both theoretically and practically. The Uzbek people will create a solid foundation of technology in line with the national features of pedagogy, the ideas of the ideology of national development.

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