

METHODS OF INNOVATIVE USE OF EDUCATIONAL TECHNOLOGY IN TEACHING MATHEMATICS IN GENERAL SECONDARY SCHOOLS

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ABSTRACT

In this article, its role in the innovative training of competitive personnel and personality formation through the teaching of mathematics based on the innovative model of educational technology is scientifically revealed.

KEYWORDS: *Competitive Personnel, Educational Technology, Technological Map, Class-Lesson System, Pedagogical Method, Pedtechnology.*

INTRODUCTION

The 21st century is the century of intellectual potential development and personality formation, which aims to develop a targeted system of personnel training in the republic, to meet the needs of society and the state for qualified and competitive specialists. The role of the innovative model of educational technology in the implementation of this priority task is incomparable.

Therefore, the teaching of these subjects in general secondary education has a high role in the educational and educational preparation of students, and they enter life as independent personnel. In their further activities, they will certainly have to do practical work with the help of computers. For this, the knowledge, skills and qualifications of the students acquired in informatics, especially the level of using practical computer programs, should be high. One of the most important issues is teaching computer science and learning how to use its practical programs. One of the main tasks is to determine the teaching content of practical programs based on professional fields, to develop a set of teaching and methodical materials suitable for this content and to deliver it to students using modern teaching methods.

The innovative model of mathematics education technology is a set of the most optimal form, tool, method, methodology and technology of education that guarantees the realization of the set goal and the achievement of the predicted educational results at the given time and in the existing conditions.

The innovative model of educational technology includes:

- Clearly defining the goals of teaching mathematics;
- Choosing the theoretical and practical material of the educational subject and determining the ways of delivering it to the students;

- Distinguishing the basic concepts and phrases of a specific subject;
- Determining methods and technologies aimed at making students interested in reading;
- Organize the organization of the educational process individually and collectively;
- Making plans and projects of training sessions;
- Based on it, determine the anticipated results of educational activities;
- Defining the pedagogical tasks necessary to achieve the expected results.
- In the process of teaching and learning mathematics, the following results are achieved:
- The actions acquired by the learner as a result of teaching and the actions to be performed by him allow the teacher to objectively evaluate the results achieved;
- Determine the initial knowledge of the learner;
- Educational training projects are drawn up;
- Creates feedback and determines the evaluation of educational tools, namely, rapid survey, question-and-answer, presentation of the results of the educational task;
- Formalizes the result of the project activity in the form of a table, that is, in the form of an innovative educational technology model of the educational process;

Plans educational technology in the form of a technological map.

The technological map of an educational session is a document that reflects the processual, i.e., procedural description of the structure of educational technology in each educational session, taking into account the specific characteristics of the educational session. , illuminates the content of the step-by-step sequence of activities and develops the organizational and didactic support of the educational process and formalizes it in the form of an appendix to the technological map.

The annex to the technological map includes:

a list of tests and questions used by learners to activate knowledge acquisition;

instructions for working in groups, concepts and rules that learners can rely on as a result of educational activities.

For example, Brainstorming, Global Brainstorming, Brainstorming, 6x6x6 Method, Cluster Method, Decision Tree Method, Experiential Learning Cycle ” (idea of D. Kolb), “Black box” method, “Ven diagram” strategy (method), “Zig-zag” strategy (method) “Insert” strategy, Role-playing and business games, “School friendship rules such as the "judicial" and "ingenious" method;

- Computer, multimedia, blackboard, slide, table and other visual materials used by the teacher in the educational process;
- Additional questions for discussion;
- Criteria and indicators for evaluating learners' activities.

The innovative model of mathematics educational technology requires wide introduction of modern pedagogical technology into the educational process. As a result, the learner develops independent learning skills, develops critical thinking, and creates an opportunity for independent learning, taking into account the characteristics and personal capabilities of each of them. This leads to an increase in the quality and efficiency of education.

In the formation of an innovative model of educational technology, traditional and person-oriented technologies of teaching subjects occupy the main place.

In the current period of accelerated scientific and technical development, the effectiveness of teaching mainly depends on the role of the learner in the teaching process and the teacher's attitude towards him. In such conditions, two types of teaching technology can be distinguished: authoritarian and person-oriented

In authoritarian technology, the teacher is the only "subject", and the learners are only "objects".

In this case, the initiative and independence of the learner is reduced, teaching is carried out in a compulsory manner. Conventional traditional teaching refers to authoritarian technology. Such an educational process is based on the principles of didactics expressed by the pedagogue scientist Ya.A. Komensky, which provides for the organization of teaching in the classroom-lesson system. The class-lesson system of teaching, which is still widely used in the world today, is characterized by the following features:

- A class (group) is formed based on the requirements of approximately the same age and training level;
- The class (group, stream) works on the basis of a uniform curriculum, training programs and training schedule;
- The main unit of training is a lesson, each lesson is devoted to one topic of one subject and is led by a teacher;
- Textbooks are mainly used for homework

"Traditional methods" based on the principle of "Delivery" are of incomparable value even today, if they are chosen correctly based on the nature of the future specialist and the subject being taught, and the place of use.

In clarifying traditional teaching methods, one can look at the classifications of Yu.K.Babansky, I.Ya.Lerner and M.N.Skatkin, M.A.Danilov and B.P.Esipov, M.I.Makhmutov, J.Hasanboev and S.Alikhonov, based on which learners' knowledge activity lies.

However, there are also some disadvantages in traditional teaching, which have the following characteristics: pedagogy of violence, explanation based on the demonstration method, mass teaching, in which the learner is still completely la is an unformed person, he only needs to do it, and the teacher is the captain, the judge, the only initiator.

Therefore, implementation of the pedagogical process on the basis of a person-oriented approach - provides an opportunity to guarantee the achievement of educational goals in advance.

At the beginning of the 21st century, the need to seriously modernize the education system became clear. Due to the fact that traditional education is outdated, new forms of didactics are

needed to organize teaching in the modern education system. One of the new forms of teaching organization is the person-oriented approach, which is the basis of traditional teaching.

Currently, the term "Personal-oriented approach" in education is widespread among the scientific and pedagogical community, and it cannot be confirmed that this concept did not exist before. The educational system has always emphasized not only teaching as its most important task, but also personal development, as well as the need to take into account the student's knowledge, skills and abilities, individual abilities and personal qualities. In the person-oriented approach of the modern education system, it is more important to focus both on the learning process and on the final goals, in which the main question is not "Who to be", but "How to be".

The person-centered approach to teaching is based on the recognition of the individuality, uniqueness of each learner, not as a "Collective subject" of his development, but first of all his own unique "Subject experience" . It means to include the "subject's experience" in the process of knowing, to organize one's activities based on personal needs, interests, and aspirations. It is also necessary to use an individual method of educational work and individual mechanisms of mastering, to take personal attitude to educational activity as a guide.

A person-oriented approach, a person, relying on the unity of psychic properties that make up his individuality, implements the important psychological-pedagogical principle of the individual approach with his technology, according to which, in the process of teaching with students, that is, the lesson and o The individual characteristics of each learner are taken into account in training sessions.

All this, in our opinion, creates optimal conditions that help the development of the learner's personality through the educational activities of the young leader. In practice, it has been proven that teaching is determined by the level of child development. Therefore, it is necessary to define at least two levels of learner development:

The first is the level of development of the learner's mental functions, which was formed as a result of the periods that determined and completed his development. Here it is recommended that the learner can complete the tasks independently without the help of adults.

The second is the level that reflects the psychic potential of a person's development, which is the "Circle of Nearest Development". What a child at this level cannot do independently, but with a little help, he can do.

The basis of the person-centered approach is person-centered technologies in education. It is based on the following main principles: humanitarianism, that is, showing respect and love to a person in every way, helping him, looking with confidence in his creative ability, full renunciation of violence; cooperation, that is, democracy, equality, partnership in the relationship between teachers and students; free education, i.e. giving a person the freedom and independence to choose his life activities within a wide or narrow scope, to bring about results not from external influences, but from internal feelings.

The communicative basis of person-oriented technologies is a "new look at the person" in the pedagogical process, i.e., a human-personal approach, which includes:

in the pedagogical process, a person is not an object, but a subject;

every learner is a gifted person, and most of them are gifted;

high ethical values (generosity, love, diligence, conscience, etc.) are the priority qualities of a person.

Democratization of relations in the educational process (teacher - learner, learner - learner) includes:

equalization of the rights of the learner and the teacher, the right of the learner to choose freely;

the right to make mistakes;

The right to have one's own point of view is the basis of the teacher-learner relationship, that is:

a) Non-prohibition;

b) Joint management, not management;

c) Persuasion, not coercion;

d) Organizing, not ordering;

e) To allow free choice, not limitation

The main content of the above-mentioned new relations should be used in the appropriate places instead of the pedagogy, which gives less results in the conditions of the current developed and more intensively developing pictures.

That's why today many countries, including our republic, use variously named educational methods and technologies in the continuous education system. *In particular:*

The main pedagogical methods and technologies: traditional education (class-lesson form, monologic, one-way oriented scheme of information transmission); interactive approaches; modern educational methods and technologies; educational technologies in educational areas; pedagogical methods based on moral-personal orientation of the pedagogical process; Pedagogical methods designed to increase the activity of students (active methods of education); game methods; problem education; pedagogical methods based on effective management and organization of the educational process; pedagogical methods based on didactic skill improvement and reconstruction of material; pedagogical methods on educational subjects; Pedagogical methods authored by "Teacher of the Year"; developmental education method; pedagogical methods based on the use of new information media; socio-educational methods; educational methods; pedagogical methods of the author's school and methods of internal management.

With the wide use of these educational technologies in the teaching and learning process, positive results are being achieved in the educational process.

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