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HISTORY OF MATHEMATICS TEACHING METHODOLOGY, STAGES OF DEVELOPMENT AND WAYS OF DEVELOPMENT

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Abstract: Today, teachers often cannot separate methodology from technology. Therefore, it is necessary to define this concept. The methodology consists of a set of recommendations on the organization and conduct of the educational process. And PT is a set of procedures that renews the teacher's professional activity and guarantees the final result in education. If the goal of the methodology is to "transfer" the theoretical rules to the plane of concrete events, then the goal of PT is to organize the related aspects of the learning process in an organizational manner, to create a sequence of stages. To create a "responsibility" is to constitute the perfection of stiax.

Base expressions : Arithmetic , logic , mathematics , calculation , mathematics history , teaching methodology

Arithmetic as a teaching subject appeared a long time ago and has a strong place in school education. Arithmetic teaching methodology was created much later. Until the end of the 18th century, the methodology of arithmetic existed as an independent study guide. The development of arithmetic teaching methodology was organized in Russia according to the instructions of Peter 1 (1701). "School of Mathematics and Navigation Sciences", the second general education school in Possia, was the impetus for this.

In 1703, specially designed for the school of mathematics and navigation, Leontii Philippovich Magnitsky created a textbook called "Anfmetika, sirech nauka chislitelnaya". he asked.

About the history of teaching arithmetic

Arithmetic appeared very early as a subject of education and had a definite and strong place in the home and school. The teaching methodology was created much later.

In the 60s of the 19th century, new directions of education began to emerge. Paulson's book "Arifmetika po sposobu nemets-kogo pedagoga Grube" was published. It was rewritten by the Russian Methodist D. A. Yevtushcvsky and used in the Russian primary school.

Later, BA Latishev created a methodology for learning arithmetic operations. He tried to simplify the process in the book "Rukovodstvo k prepodavaniyu arifmetiki" (1880).

After that, AI Goldenberg in his book "Methodology" recommended to study the action in three areas:

a) decimal; b) one hundred; d) multi-digit numbers.

Arithmetic operations, their properties. gave many methodical recommendations such as instructional explanation, arithmetic book, verbal calculation table. Based on this, until the beginning of the 20th century, there were many changes in the field of creating arithmetic and teaching it. Arithmetic has been proven to be at the forefront of mind development.

Education in grades 1-4 includes primary education and students' regular knowledge of the basics of science, the need to acquire knowledge, basic academic and general cultural knowledge, national and It is a spiritual and moral virtue based on universal values. forms work skills, creative thinking and conscious attitude to the environment and career choice.

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Article 12 of the "Law on Education" states that "Elementary education is aimed at forming the foundations of literacy, knowledge and skills necessary for general secondary education." Children are admitted to the 1st grade of the school from the age of 6-7.

In fact, the driving force of educational development at the threshold of the 21st century is the pedagogical system that incorporates didactic issues and pedagogical technology.

Pedagogical technology (PT) is a field of such knowledge, with the help of which fundamental changes will take place in the field of education of our country in the 3rd millennium, teacher activity will be renewed, students will have a curiosity, a thirst for knowledge, love for Bata, humanitarian feelings. is systematically formed.

The main idea behind education is to realize the unity of nature and man, to abandon the authoritarian and false way of thinking. patient, satisfied. it is a humanist who respects the opinion of others, aims to form personal qualities such as national-cultural and universal values. The solution to this problem is related to the technology of education.

First, let's clarify the concept of "technology". This word entered the science in 1872 in connection with technical progress and is derived from two Greek words - "technos" (techne) - art, craft and "logos" (logos) • is formed from the words "science" and means "craft science". However, this expression does not fully describe the modern technological process. The technological process always involves the execution of actions (operations) in a certain sequence using the necessary tools and slides. To be more precise, a technological process is the activity of a worker (worker-machine) to create a product as a result of the step-by-step impact on labor objects (raw materials) with work tools. can be transferred, that is: PT is when a teacher (educator) shows a secret to students (students) in certain conditions with the help of teaching (educational) tools, and as a product of this activity, they already have the determined person is a process of intensive formation of qualities.

Today, teachers often cannot separate methodology from technology. Therefore, it is necessary to define this concept. The methodology consists of a set of recommendations on the organization and conduct of the educational process. And PT is a set of procedures that renews the teacher's professional activity and guarantees the final result in education. If the goal of the methodology is to "transfer" the theoretical rules to the plane of concrete events, then the goal of PT is to organize the related aspects of the learning process in an organizational manner, to create a sequence of stages. To create a "responsibility" is to constitute the perfection of stiax.

Secondly, with the development of science and technology, the limits of human activity are greatly expanded. new technologies (industry, agriculture, clcktron, information, etc.) are entering the audience with great opportunities for teaching. There are new technical, informational, polygraphic, audio-visual tools that are in demand and are becoming an integral part of the educational process and introduce their own features to it. they made the new PT a reality.

Technologicalization of the educational process is a historical (especially since the second half of the 20th century) reality and process. Information is a revolutionary " turn " in this process , its important stage. In simple terms, information technology in education is communication between "learner and computer".

Information technology is part of PT. Manila began to be used in the educational process as a perfected modern type of technical means. In the future, on the basis of information technology, it will be possible to organize and manage the student's (pupil's) cognitive activities, and he will become a close assistant of the teacher or can fully perform his functions.

These data indicate that by the end of the 70s of the 20th century, depending on the development of technology and the level of computerization of education, two aspects of PT were separately shown and researched:

introduction of technical means to the educational process;

use of the knowledge system in finding solutions to practical problems. For example. The research conducted in Japan during this period was directly related to the first direction of

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technologicalization of the educational process, that is, the creation of new technical means of education and their application to the educational process (Noshinisono Narou, Yedicational Technology in Japan. Audio shal Instruction, No. vember. 1979).

This situation is typical for a number of other countries, and the second direction of PT - theoretical and didactic aspects - became the object of research in the USA and England in the early 80s. Because the word "technology" means transfer of theoretical knowledge to practical purpose. the need to develop clear pathways for this transfer was recognized.

The leading quality of problem-module teaching technology is flexibility. As a flexible automated system is considered important in modern high-tech production, the effectiveness of pedagogical technology now and in the future depends to a large extent on its ability to adapt to the changing scientific-technical and socio-economic conditions and to be immediately affected. ladi Flexibility can be structured, substantive and technological.

Structural flexibility is provided by a number of conditions: the mobility of the multi-module structure, the problem-module program step, the availability of a flexible schedule project and the possibilities of equipping multitasking classrooms, etc.

Content flexibility is manifested primarily in the possibilities of differentiation and integration of educational content. Such a possibility arises due to the selection of the educational material based on the block and modular principle in the proposed technology.

Technological flexibility is provided by the following aspects of the problem-modular educational process: the variability of teaching methods, the flexibility of the control and evaluation system, the organization of the educational and learning activities of students individually, etc.

Thus, the diagnosis of educational goals in terms of the quality of knowledge and skill acquisition requires clarification of the necessary levels of acquisition. now the pedagogical terms include "technology", "opcratsiya" Khamal), "ability to work", "technical control". introducing a series concept such as "dopusk" (difference in size). It is necessary to create a pedagogical interpretation of ulam and use it in the process of teaching. The activity of a modern teacher should be evaluated from the point of view of "teacher-technologist" rather than as a simple methodist who transmits knowledge.

Technology is a pedagogical activity that embodies the laws of education, upbringing and development of a person and ensures the final result. The concept of "technology" has the power of influence and encourages free creativity:

find the basics of effective learning activities;

to build it on an intensive (intense), scientific basis as much as possible, rather than on an extensive (ineffective, which leads to loss of energy, time, resources) basis;

use of scientific and experimental achievements that guarantee the required result;

loss of the possibility of corrections during training, relying on the design method;

high-level informatization of the educational process and algorithmization of necessary actions;

creating technical tools, mastering the method of their use, etc.

Technology as a complex process consists of a number of training stages, and each of these stages, in turn, consists of specific actions.

Atal is a summary of the work done by the teacher in the classroom in order to explain the educational elements on the subject. constitutes the completed part of the teaching process at this stage. If each subject of the study subject is considered a separate stage. Each of the learning clcmcnts on this topic can be considered as a separate action. Action forms the basis of technology and is the main element to be considered in planning and implementing the educational goal. Actions consist of a number of methods, each of which is divided into actions. In other words, in order to explain an educational element, the teacher performs one or another algorithmic action in accordance with the purpose during the use of effective educational tools and methods.

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