

TEACHING MATHEMATICS FOR JUNIOR SCHOOL CHILDREN IN DEVELOPING EDUCATION SYSTEM

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Tayanch soʻzlar: shakllantirish, mantiqiy tahlil, tafakkur rivojlanishi, muammo, qarorlar, taʼlim.

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One of the characteristic features of the modern stage of development of education is that the ideas of developmental education are increasingly being introduced into the practice of education, including primary education. Features characteristic of the zero level: random signs of analyzed situations are highlighted, past knowledge is reproduced that does not refute the solution to the problem, etc. Mental activity is characterized by its instability, the ease of transition from one action to another without sufficient grounds (sometimes accidentally found objectively correct actions change to erroneous ones, etc.).

As indicated in the law "On Education" and the "National Program of Personnel Training", every primary teacher of the first class has an important task in front of him.

When we say the methodological and mathematical skills of the elementary school teacher, we mean his preparation based on the scientific worldview in the methodology of teaching mathematics in an integral connection with the general psychological-pedagogical and mathematical training that's it.

Methodological-mathematical training is a component of primary school teacher training, and it cannot be considered in isolation from educational activities. On the other hand, teaching mathematics in elementary grades is the first stage, that is, it is the stage of preparing children to master the next school mathematics course, or their readiness for mathematics. These two aspects (aspects) of elementary education in mathematics (a component of elementary education and mathematical preparation) should be adequately reflected in the teaching methodology.

Psychologists have proven that the period of 6-10 years is the most responsible period for the formation of important thinking skills and imagination of children. It is very difficult to fill the foundation of knowledge that was not formed in childhood. Therefore, one of the main tasks of the primary education methodology, especially mathematics, is to ensure a sufficiently high developmental efficiency of teaching, to accelerate the impact on children's mental development. It is advisable to enrich the lesson with creative thinking materials rather than being limited to the materials in the textbook. For example, using different representations of multiplication by 10, 100, 1000 will increase students' interest.

$$68 \cdot 5 = (34 \cdot 2) \cdot 5 = 34 \cdot (2 \cdot 5) = 34 \cdot 10 = 340$$

$$68 \cdot 50 = 34 \cdot 100 = 3400$$

According to the distributive law of addition:

$$17 \cdot 50 = (16 + 1) \cdot 50 = 16 \cdot 50 + 1 \cdot 50 = 800 + 50 = 850$$

According to the technique of dividing numbers:

$$135 : 5 = (135 \cdot 2) : (2 \cdot 5) = 270 : 10 = 27$$

$$2250 : 50 = 4500 : 100 = 45$$

It is necessary to attract the attention of students to increase oral and written so that the interest of students increases.

The specificity of creative tasks involves the use of auxiliary methods of analysis - "heuristics". Such techniques include the technique of concretization, when the decider gives abstract data a more concrete form. The most common technique is variation, which makes it easy to identify functional relationships between data. This technique consists in the fact that the decider arbitrarily discards or changes the value of one of the data (and sometimes several) and, based on logical reasoning, finds out what consequences follow from such a transformation, how the change in one of the data affected the rest. The

opposite of the graphical analysis technique is the abstraction technique, when the solver discards specific details, "exposing" the data and the relationship between them. The techniques of analogy and posing similar questions are widely used in solving problems.

The need to develop various types of mental activity also follows from the specifics of productive, creative thinking. In productive mental activity, its various components (both practical and educational, and the knowledge and opportunities for acquiring new knowledge necessary to solve them) act in close interaction. The main principle of recruiting students at school is to take into account their age characteristics. However, numerous psychological studies have shown that differences in mental development between students of the same age are often much greater than between students of similar ages (with an interval of 1-3 years). These differences clearly appear when comparing students of the same age for each component included in the structure of mental development - in terms of the level of mastery of knowledge, mastery of generalized techniques and methods of operating them and, finally, in terms of the level of learning ability as the general ability to acquire new knowledge. Therefore, a very important principle of developmental education is the principle of its individualization and differentiation. The implementation of the principle of problem-based individualized learning has a positive impact on the advancement in the development of all main groups of school children: with high, average and low levels.

It is especially important for the teacher of primary classes to know and take into account the level and capabilities of mental activities of students, since the mental development of children is founded in these primary classes. The future practical activity will be acquired through tasks performed in the methodology of teaching mathematics in seminars, practical and laboratory classes.

There are various methodological issues that arise in the preparation for practical training and in the training practice and require the use of theoretical knowledge.

Methodological issues arise in every lesson, however, as a rule, they do not have a one-size-fits-all solution. In order for the teacher to be able to quickly find the most suitable solution for the methodological problem that arose in the lesson, it is necessary to have extensive training in this field. For this reason, the methodological issues presented in this manual, including those that arise directly in the lesson, should be solved in as many different ways as possible. Special attention should be paid to the methodological issues arising in connection with students' wrong answers. Determining and explaining the essence of mistakes performs an important educational task.

Games are important for preschool children: learning through games is a serious form of education. The existing didactic games are used as a means of strengthening the learned material from the point of view of logic and mathematics.

Problems arise in the content and methods of teaching children from the age of 6-7. Teaching counting, addition and subtraction at the first stage (within a hundred) has been and remains the main task of primary education. However, this will not be the only task, but it will be a component of the work of preparing children for the study of mathematics in a wider and more comprehensive way. It is defined in two main ways: the pedagogical way, that is, preparing children's thinking for applied mathematical

reasoning, and the mathematical way, that is, teaching children the most important mathematical concepts, first of all, natural numbers and geometric shapes. By preparing to learn their concepts. More developed students have the opportunity to work on material of increased difficulty and independently solve problems that are adequate to their capabilities. Less developed ones receive more detailed explanations from the teacher, solve problems of gradually increasing difficulty with some outside help, learn new material, advance in their development, often moving to groups with a higher level. Problem-based learning and other principles of developmental education cannot be implemented without taking into account the age and individual characteristics of children's thinking. A lot of research has been devoted to age-related characteristics of intellectual development. They reveal the stages of development.

Such training has a significant impact on the mental development of schoolchildren, since it corresponds to the very nature of thinking as a process aimed at discovering new patterns for humans, ways to solve cognitive and practical problems. Only those problems are problematic, the solution of which involves, although guided by the teacher, an independent search for patterns, methods of action, and rules still unknown to the student. Such tasks stimulate active mental activity, supported by interest, and the "discovery" made by students brings them emotional satisfaction and is much more firmly fixed in memory than knowledge presented in a "ready-made" form. In the process of solving a problem, students overcome difficulties, resolve contradictions between existing knowledge and the requirements of the task, identify new elements of knowledge, new ways of operating with them, master methods of cognition, which expands their capabilities in solving new, even more complex problems. This active independent mental activity leads to the formation of new connections, new personality traits, positive qualities of the mind and thereby to a shift in mental development. The choice of tasks for problem-based learning primarily depends on the specifics of their content, the students' initial minimum knowledge, and the level of independence in posing and solving problems.

Numbers and calculations

- to have an idea about the natural numbers within 1000, to understand the specific features of the structure of the natural series of numbers;
- mastering the decimal notation of numbers;
- mastering the methods of showing and dividing numbers ending in zeros into one-digit numbers, whole tens and whole hundreds;
- mastering the written methods of showing and dividing a three-digit number into a one-digit number;
- to have an idea about the order of actions in bracketed and unbracketed expressions containing 2x3 actions;
- correct equations of the form $x + 123 = 140$, $x - 436 = 152$, $x \times 4 = 160$, $810 : x = 135$ (based on the selection

method and the relationship between the given and the sought number) and learning to solve quickly.

The most effective way to create problem situations for students is to use contradictions, conflicts between existing knowledge, familiar ways of solving a certain class of problems, and the requirements that a new task makes. The developmental effect is provided only by such tasks-problems that correspond to the level of mental development of students, which the productivity of mental activity increases with age, which is associated with the beginning of the formation in schoolchildren of such positive qualities of their mental activity as its independence, depth (expressed in the ease of abstraction and high level of generalization of signs essential for solving the problem), awareness, stability. Flexibility of thinking also increases. We can identify a number of psychological and pedagogical principles that are important components of the system of developmental education, education that has a significant impact on the intellectual development of students. The principle of problem, responding to the specifics of productive thinking - its focus on the discovery of new knowledge, is the main, leading principle of developmental education.

Problem-based learning is such learning in which the assimilation of knowledge and the initial stage of the formation of intellectual skills occur in the process of relatively independent solution of a system of tasks and problems, occurring under the general guidance of a teacher. A person's mental abilities are judged not because of what he can do on the basis of imitation, or learn as a result of such a detailed explanation.

A person's intelligence is manifested in the relatively independent acquisition, "discovery" of new knowledge, and in the breadth of transfer of this knowledge to new situations when solving non-standard problems. In this side of the psyche, productive thinking finds its expression; its features are manifested in the qualities of the mind that are formed in a person, determining the level and specificity of a person's learning ability.

Productive thinking involves not only the widespread use of acquired knowledge, but also overcoming the barrier of past experience, moving away from the usual train of thought, resolving contradictions between updated knowledge and the requirements of the problem situation, the originality of solutions, their originality.

For productive problem solving, it is important not only to highlight the essential features required by the situation, but also to hold the situation under analysis in accordance with them, without succumbing to the provoking influence of external, random features.

The stability of the manifestation of certain features of productive thinking by younger schoolchildren (its depth, flexibility, etc.), subject to knowledge in various subjects, indicates that these features have become personality traits, qualities of the mind of these schoolchildren. At this level, they determine the specifics of schoolchildren's general learning abilities, i.e. general learning ability.

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РЕЗЮМЕ. Ushbu maqolada boshlang'ich sinf o'quvchilariga matematikani o'qitishning yangi usullari yoritilgan va kerakli tavsiyalar berilgan.

РЕЗЮМЕ. В данной статье освещены новые методы преподавания математики учащимся начальных классов и даны необходимые рекомендации.

SUMMARY. This article highlights new methods of teaching mathematics to elementary school students and gives the necessary recommendations.