



METHOD OF DEFINING THE CONCEPT OF MATHEMATICS IN THE EDUCATIONAL SYSTEM

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Annotation: As in every subject, mathematics has definable and non-definable concepts. This article talks about the method of defining the concept of mathematics and mathematical judgment in schools.

Key words: mathematical science, educational process, didactic laws, plane, distance, concept.

Introduction:

Education is a conscious and goal-oriented learning activity between a teacher and students. Any education has two goals: 1) to provide students with the system of necessary knowledge that should be learned based on the program; 2) formation of students' logical thinking skills by imparting mathematical knowledge. In order to achieve these two goals in the educational process, the teacher must explain each taught concept on the basis of psychological, pedagogical and didactic laws. As a result, a psychological process called cognition is formed in the minds of students.

Literature analysis and methodology:

Mathematics was created on the basis of the practical needs of people, that is why its connection with practice is becoming deeper and more diverse, and mathematics can be easily used to study any kind of action, any kind of phenomena. However, its role in various scientific and practical activities is not the same. The role of mathematics, especially in the development of modern physics, astronomy, and chemistry, is extremely important. Also, mathematics has a special place in the development of sciences such as economics, biology, and medicine. The qualitative specificity of the phenomena studied by these sciences is so high and their impact on the nature of their occurrence is so high that, for now, mathematical analysis can only play a subordinate role in this stream. Speaking about this, it is necessary to emphasize that mathematical statistics are of great importance for social and biological sciences.

Mathematics is in continuous development. This is caused, firstly, by vital needs, and secondly, by internal needs necessary for the formation of mathematics as a science. Mathematics significantly affects the development of technology, economy and production. The "mathematization" of various fields of knowledge, this is the penetration of mathematical methods into various aspects of human practical activity, the rapid development of computing

techniques, in turn, gave impetus to the emergence of a number of sciences, such as game theory, information theory, mathematical statistics, and the theory of relativity.

In the school mathematics course, conditionally, the simplest concepts that cannot be defined are accepted. For example, in the course of arithmetic, the concept of number and the operation of addition, and in the course of geometry, the concepts of plane, point, distance and straight line are undefined concepts. Using these concepts, other mathematical concepts are defined. The meaning of the word "definition" is that it means a logical method that allows to distinguish the considered concepts from others, to clarify the meaning of a new term introduced into the science.

The definition of a concept is formed by the relationship between the defined concept and the defining concepts. The definition of the concept is derived from the English word definition (definito), which means "the limit" or the end of something. In his book "The Language of School Mathematics", Professor J. Ikromov divides the definition of concepts into the following types.

1. Real definition. It shows the difference of the considered concept from the concepts of this group. An important role is played by equal volumes of descriptive and non-descriptive concepts. For example, "A circle is a set of points whose distance from a point of a plane is not greater than a given distance." The defining concept here is the concept of a circle, and the defining concepts are the concepts of a plane, a point, and a distance.

2. Classification definition. It shows the difference between the concept of gender and its type. For example, "a square is a right rectangle with all sides equal." In this definition, the concept of "rectangle" is the gender concept of a square, and "all sides are equal" represents the difference in terms of type.

3. Genetic definition or inductive definition. It mainly shows the process of formation of the concept. In other words, the definition that shows the process of formation of the concept is called the genetic definition.

Results:

The main task of teaching mathematics at school is to ensure the conscious and solid acquisition of mathematical knowledge and skills that are used in daily life and work activities appropriate for the student's age, and are necessary for continuing education in the future. The science of mathematics teaching methodology is directly based on philosophy, psychology, pedagogy, didactics, mathematics, drawing, logic, history and other sciences. When researching problems related to the theory of mathematics and its teaching, it is appropriate to take into account the specific features of mathematics and its teaching.

Mathematical judgment is one of the forms of logical knowledge, which is defined as follows: "Confirming or refuting a mathematical idea formed on the basis of concepts is called a mathematical judgment." It can be seen from this definition that the characteristic property of the judgment consists in confirming the correctness or denying the incorrectness of the said mathematical idea. The following are examples of judgments in the sense of confirming mathematical concepts:

1. Opposite sides of a parallelogram are mutually parallel and equal.
2. Any type of triangle has three vertices.
3. The sum of the internal angles of a triangle is equal to 180° .
4. The sum of interior angles of a polygon is equal to $2d(n-2)$. The following examples of judgments in the sense of denying mathematical concepts can be given:

1. In any triangle, the sum of the lengths of two sides is not less than the length of the third side. 2. The sum of three-sided angles in a pyramid can never be a fixed number. 3. The sum of internal angles in any rectangle is not greater than 360° .

It follows that any mathematical statement cannot be a mathematical sentence. For example, "Can ABCD be a parallelogram?" Can the sum of the interior angles of any triangle be equal to 180° ? Neither of the above examples has the meaning of negation and affirmation, so they cannot be examples of mathematical judgments.

Discussion:

One of the habits firmly established in our schools is the daily oral calculation exercises that are conducted in almost every math class. In addition to the practical importance of everyone knowing how to quickly and correctly perform simple calculations "in the mind", methodologists always consider oral calculation as one of the good tools for deepening the theoretical knowledge that children have received in mathematics classes.

The concept of mathematics arose as a result of properties that arise as a result of abstracting (abstracting) the quality indicators of events and things specific to this sphere, separated from concrete events and things. Uniform laws of mathematics, uniform mathematical apparatuses are used to satisfactorily express natural and technical phenomena, as well as economic and social processes. In modern education, an opportunity is created for the learner to work on himself, expand and deepen his knowledge outside of the classroom. Mathematics, like other sciences (physics, chemistry, history, etc.), studies real existence.

Conclusion:

In conclusion, it should be said that in the process of teaching mathematics, all three types of judgments are interrelated. In other words, as a result of a unified judgment, a particular judgment is formed, and as a result of a particular judgment, a general judgment is formed.

A number of factors influence the implementation of the mathematics education system, including the general goals of education, socialization and socialization of education, the development of mathematics as a science, the orientation of mathematics to practice, new educational ideas and technologies, and the results of psychological research. affects. The sum of these factors constitutes the external environment and it directly affects the mathematics education system. Many components of the external environment affect mathematics through the purpose of teaching it.

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