

# Methodological support of the system of mathematical knowledge in upper-class students

Jamila Jumayevna Rahmonova  
Karshi district, School №37

**Abstract:** The object of study of the subject of mathematics consists in the spatial forms of things in matter and the quantitative relationship between them. In the process of determining the quantitative relationship between these forms, mathematicians use scientific methods of research as a tool.

**Keywords:** educational system, teaching programs, system of mathematical knowledge, mathematical concepts

Since the first days of independence in our republic, the most important link in the process of reforming and renewing the society, the policy of reforming the education sector as a necessary and mandatory condition for democratic changes in the society, sustainable development of the economy, and the integration of the republic into the world community, has been consistently implemented. Today, the National Personnel Training Program is a single educational system that comprehensively covers the process of providing continuing education to the younger generation and educating it. Each link of the educational system has a special place.

In mathematics lessons, the curriculum can be used by students in the study of new materials, at the stages of preliminary determination and repeated training. It should be noted that at the tutoring stage for the upper classes, the teacher usually applies training programs when working with unsuccessful students or with those who, for some reason, have gaps in the material in question. In the next decade, the use of computers in teaching mathematics was carried out in several main areas. These include evaluating knowledge using a computer, developing and developing teaching programs of different types, developing mathematical games on cognition, etc.

Another area of convenience of computers in teaching mathematics is the modeling of certain learning situations. The purpose of using modeled programs is to ensure that materials that are difficult to visualize are understandable when other teaching methods are used.

The science of elementary mathematics forms the basis of the school course of mathematics. The school course of mathematics, the purpose of which is to convey to students a system of mathematical knowledge, taking into account their psychological characteristics, through a certain method (methodology). (The word methodology is a

greek word that means "road".) The methodology of mathematics is one of the main sections of pedagogy and didactics and is an independent discipline that studies the laws of teaching, learning mathematics, corresponding to educational goals at the level of development of our society.

The science of the methodology of mathematics studies the purpose, content, form, style of mathematical education and the laws of its application to the course process. The science of mathematics is also inextricably linked with the disciplines of physics, drawing, chemistry and astronomy. The inextricable connection of mathematics with other disciplines is carried out in the following two ways: 1) adaptation of programs of neighboring disciplines without violating the integrity of the mathematical system; 2) the use of materials related to the study of theorems of the laws, formulas of mathematics in other disciplines in the course of mathematics;

Education is understood as an activity between the teacher and the students that involves conscious and goal-oriented knowledge. Any education sets itself two goals: 1) to give students the necessary system of knowledge that should be studied on a program basis; 2) by providing mathematical knowledge, the student learning to form logical thinking skills. In order for these two goals in the educational process to be realized, the teacher must explain each of the concepts taught on the basis of psychological, pedagogical and didactic laws. As a result of this, a psychological process is formed in the minds of students, which is called cognition.

Scientific methods of research in mathematics at the same time also act as methods of scientific research in the teaching of mathematics.

The methods of scientific research in teaching consist of the following.

1. Experience and observation.
2. Comparison.
3. Analysis and synthesis.
4. Generalization.
5. Abstracting.
6. Clarify.
7. Classification.

In the school mathematics lesson, conditionally, the simplest concepts that cannot be described are accepted. In particular, in the course of arithmetic, the concept of number and the practice of addition, and in the course of geometry, the concepts of plane, point, distance and straight line are indescribable concepts. With the help of these concepts, other mathematical concepts are described. The meaning of the word definition is that it is understood as a logical method that allows you to distinguish the concepts that are being looked at from others, to clarify the content of a new term introduced into science. The definition of a concept is formed from the relationship between a descriptive concept and a descriptive concept.

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