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# Methodological Foundations of Mathematics in Classes

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**Abstract:** this article will put forward scientific views on the methodology of mathematics. Scientific opinions are summarized based on facts.

**Keywords:** methodology, pedagogy, content, part, form, content, Method, style.

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And the methodology (from the words method and logic) is the doctrine of the composition, logical structure, methods and means of activities. Methodological knowledge, firstly, comes to the surface in the form of habits and norms that include the content and consistency of certain types of activity, and secondly, in practice, as an effect of non-performing activity. When methodology is called in modern literature, first of all, the methodology of scientific cognition, that is, the forms and methods of scientific cognitive activity, is understood.

Mathematics has a great place in the development of a person's intellect, attention, in the upbringing of determination and will to achieve the intended goal, in the provision of algorithmic-style disorganization and in the expansion of his thinking. Therefore, mathematical culture is a component of universal culture. Abandoning the approach to teaching with a theoretical background in mathematics, achieving the formation and development of the potential for the application of mathematical knowledge in the daily life of a student, increasing the focus on the manifestation and activation of students ' independent thinking skills – a requirement of the period. A competency approach to mathematical education provides for the formation and development of practical skills in students that allow them to act effectively in situations that occur in professional, personal and everyday life, and strengthening the practical, applied directions of mathematical education. The integration of our country into the world community, the development of Science and technology makes it necessary for the younger generation to be competitive in the changing world labor market, to master the sciences perfectly. This is ensured by introducing standards based on advanced national and international experience into the education system, including teaching mathematics.

The use of new educational technologies in the process of teaching subjects provides the basis for the formation of such qualities as independent thinking, work on oneself, a creative approach to activity, which serves to ensure the perfection of the individual. Therefore, below we are talking about the use of educational technologies in the process of teaching private subjects (in particular, natural sciences), revealing their internal capabilities in this regard.

The successful design of pedagogical technology and the guarantee of the final result depend on the level of the teacher's understanding of the essence of didactic issues and the ability to correctly assess them in the lesson. The determination of the specific purpose of education in each lesson is considered one of the important conditions in the design of teaching technology. In this case, the diagnostic purpose of teaching on subjects of science is determined. In fact, any science has accumulated a large volume of knowledge from the time of its appearance, and it is enriching at high speeds. Training is only necessary information, it is necessary to select and bring their size to a quantitative size in accordance with the student's abilities to master. Any science develops on the basis of step-by-step learning. The continuous process of development varies in different disciplines, even between departments of one discipline. Therefore, in order to clearly define the goal on the subjects of study, it is advisable to use abstracting steps and the statement of the corresponding educational element.

The methodology, in short, is the study of a particular discipline, the doctrine of teaching methods. In other words, a methodology is a set of various methods that carry out the realization of the requirements for the teacher when taking a lesson.

Observation, experience, acquaintance with school documents, study of Student Affairs, conducting interviews and surveys are included in the scientific and pedagogical research methods. Recently, the use of mathematical and cybernetic techniques, as well as modeling techniques in the study of mathematics, has been noted.

The mathematical methodology answers the following three questions related to the educational process:

1. Why do you need to study mathematics?

2. What to learn from mathematics?

3. How to learn mathematics?

As we know, the subject of the methodology of teaching mathematics is a certain branch of pedagogical science, which is engaged in the study of the rules for teaching mathematics. The methodology of teaching mathematics in the process of studying the laws of teaching mathematics is inextricably linked with the disciplines of pedagogy, logic, psychology, mathematics, linguistics and philosophy. In other words, the problems of teaching mathematics at school are solved in close connection with the disciplines of logic, psychology, pedagogy, mathematics and philosophy. The methodological basis of the methodology of teaching mathematics is based on the theory of cognition. The subject of mathematical methodology studies the purpose, content, form, style and the laws of the implementation of mathematical education in the course of the course. Mathematics physics. drawing is also inextricably linked with the sciences of chemistry and astronomy. The inextricable connection of mathematics with other subjects is carried out in the following two ways:

Adaptation of the programs of the subjects of reading without violating the integrity of the mathematical system.

In other disciplines, the use of materials related to the study of the laws of mathematics, formulas of theorems, in the course of mathematics. Currently, the issue of matching the mathematics program with other disciplines has been solved quite successfully. It is difficult to clearly show the issue of using other subjects in mathematics lessons in the program, this is done by the teacher himself, that is, he must take into account when planning the educational material and when preparing for the lesson. For example, during the study of equations, one can also solve equations that reflect the connections between physical quantities, namely the heat balance equation, the equation of linear expansion from heat, and similar equations.

1. General methodology of teaching mathematics. In this section, the methodological system of the purpose, content, form of methodology, methods and means of mathematics is revealed on the basis of pedagogical, Psychological Laws and didactic principles.

2. Special methodology of teaching mathematics. This section outlines ways to apply the laws and regulations of the general methodology of teaching mathematics to concrete subject materials.

3. Concrete methodology of teaching mathematics. This section consists of two parts:

Thus, the methodology of teaching mathematics uses techniques used in the achievements of pedagogical Technology, Information Technology in the entire pedagogical research.

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