Topical Problems of Teaching Mathematics in Schools

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ABSTRACT

The article discusses the goals and objectives of teaching mathematics in general secondary schools, modern methods, as well as the current problems in this area. The article also discusses the various objectives of teaching mathematics and ways to improve their mathematical literacy as a student.

Keywords:	Human thinking, mathematical knowledge, visual aids, tables, competencies, logical thinking, equations, development, skills

Introduction

Economic, political and legal conditions have been created for the continuous development of secondary schools in our republic. In particular, a number of measures have been initiated in the field of raising the quality of education to a new level in a number of normative documents adopted by our government. In particular, special attention is paid to teaching in primary education, training of future primary school teachers as qualified personnel based on the requirements of the times is considered one of the urgent problems of today. Taking this into account, the President of Uzbekistan Sh.M. Mirziyoyev emphasizes the following: "Improving school curricula based on advanced foreign experience, revising the curriculum and subjects, adapting them to international standards, textbooks and it is necessary to improve the quality of literature.

We need to clearly define the priority directions in the field of science for our country. No country can develop all fields of science in one way. That is why we support the development of several priority areas of science every year.

It is known that mathematics is an abstract science. Its content is the product of human imagination and logical thinking from beginning to end. Such an abstract structure of science, self-enrichment, that is, the ability to create new mathematical concepts and their properties from known properties, has served to develop human intellectual abilities since ancient times. Even mathematical problem-solving competitions have been a means of testing human intelligence in the past. From this, it becomes clear that the main task of mathematics is to teach students to think, to think correctly, to think logically, and to observe. No subject can make students think and think like mathematics. By solving various problems, problems and puzzles in mathematics lessons, students learn to think correctly and think logically.

The main task of teaching mathematics at school is to ensure the conscious and solid acquisition of mathematical knowledge and skills, which are used in daily life and work activities in accordance with the age of the student, and which 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.

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. Researches the structure of real existence and its laws. It makes different models about the real existence. If the natural sciences are based on experiments in their research, mathematics is not based on experiments. It is possible to refer to experience in understanding and imagining problems related to connecting theory with practice in mathematics. However, the experimental method is not accepted for proof in mathematics. While natural sciences conduct research to find unknown properties of real existence, mathematics finds new properties in the considered models of the material world and creates new models. An example of this is mathematical modeling that allows for a holistic interpretation of existing phenomena. Mathematics belongs to this group of specific sciences, and its study and research has its own characteristics that differ from other sciences. Including:

1) studies the abstract properties of mathematical subjects. Mathematical objects are studied in isolation from the content, that is, properties such as taste, smell, hardness or softness of the object are not taken into account. Because these properties of a mathematical object are generalized, abstracted, and a mathematical theory is created with its help. Otherwise, the theory cannot be created.

2) mathematical conclusions (results) are mainly obtained by making logical conclusions. The result obtained by the experimental method is not considered correct for mathematics.

3) mathematical conclusions are irrefutable conclusions.

4) emerging abstractions in mathematics develop in a pagan way, that is, they move from abstraction to abstraction.

Mathematical results are universal in nature, and this applies to other areas as well.

The purpose of teaching mathematics in secondary schools is determined by the following three factors:

1. The general educational goal of teaching mathematics.
2. The educational purpose of teaching mathematics.
3. The practical purpose of teaching mathematics.

The general educational goal of teaching mathematics sets the following tasks:

a) Providing students with a system of mathematical knowledge based on a specific program. This system of knowledge should provide students with sufficient information about mathematics, and thus prepare them for studying higher branches of mathematics. In addition, on the basis of the program, students should learn to check the reliability of the knowledge they have acquired during their studies, that is, they should acquire the basic methods of proof and control.

b) Developing oral and written mathematical knowledge of students. Studying mathematics should help students to master the skills of speaking in their mother tongue without mistakes, being able to express their thoughts clearly, clearly and succinctly. This word means that students should be able to speak each mathematical rule correctly in their native language, as well as thoroughly form the ability to correctly write the mathematical expression of this rule using formulas.

c) To teach students to know real facts based on mathematical laws. Here, it is intended to provide students with knowledge that will allow them to understand the spatial forms and the quantitative relationship between them, from the simplest to the most complex phenomena that occur in the real world. By imparting such knowledge, students' spatial imagination is formed and their logical thinking develops further.

The educational goal of teaching mathematics is:

a) Forming a scientific worldview in students. This idea is developed on the basis of the theory of knowledge.

Cultivating students' interest in learning mathematics. We know that in mathematics classes, students learn to draw conclusions independently from the first days of their studies. They draw conclusions first as a result

of observations, and then as a result of logical reasoning. These conclusions are confirmed by mathematical laws. The task of a mathematics teacher is to develop the ability of independent logical thinking in students, as well as to nurture their interest in learning the laws of mathematics.

c) Formation of mathematical thinking and mathematical culture in students. Every mathematical conclusion studied in mathematics classes requires rigor, which in turn is represented by many mathematical concepts and laws. During the students' gradual study of these laws, their logical thinking develops, the culture of making mathematical conclusions is formed. Mathematical culture is formed in students by teaching them to be able to correctly express the thoughts that they want to express a mathematical law in a symbolic language and, conversely, to be able to express a mathematical law expressed in a symbolic language in their native language.

The practical purpose of teaching mathematics has the following tasks:

a) To teach how to apply the theoretical knowledge obtained in the mathematics course to solving elementary problems encountered in everyday life. In this, students are mainly taught to solve practical problems specially designed to develop the ability to connect theoretical knowledge to practice, to form their skills in performing operations on various numbers and mathematical expressions, and to strengthen their skills.

b) Formation of skills in the use of technical tools and visual aids in teaching mathematics. In this, the skills of students to use technical tools, mathematical visual aids, tables and calculation tools in mathematics lessons are included.

c) Teaching students to acquire mathematical knowledge independently. It mainly consists in forming the skills of independent reading of students from textbooks and scientific-popular mathematical books.

As we know, the science of mathematics teaching methodology is a specific branch of the science of pedagogy, which deals with the study of the rules of teaching mathematics. In the process of studying the laws of teaching mathematics, the methodology of teaching mathematics has an integral relationship with the sciences of pedagogy, logic, psychology, mathematics, linguistics and philosophy. In other words, the problems of teaching mathematics at school are solved in an integral connection with the sciences of logic, psychology, pedagogy, mathematics and philosophy. The methodological basis of the mathematics teaching methodology is based on the theory of knowledge. The science of mathematics methodology studies the purpose, content, form, method of mathematical education and the laws of applying its tools to the teaching process. Mathematics is physics. it is closely related to the sciences of drawing, chemistry and astronomy. The integral connection of mathematics with other subjects is carried out in the following two ways:

1) Adaptation of programs of reading subjects without violating the integrity of the mathematics system.

2) Use of materials related to the study of mathematical laws, formulas and theorems in other subjects in the mathematics course.

Currently, the issue of matching the mathematics program with other subjects has been solved quite successfully. For example, students begin to learn some information about functions and their graphic representation used in physics from the 7th grade. A lot of knowledge about geometric constructions given in the VIII grade is a rich material for the science of drawing, the task of drawing is to refine this knowledge by performing various drawing works. difficult, it is done by the teacher himself, that is, he should take into account when planning the educational material and preparing for the lesson. For example, during the learning process, the equation can solve the equations that reflect the connections between physical quantities, that is, the heat balance equation, the linear expansion equation from heat, and similar equations. It is good to use chemistry and physics problems when studying percentages, proportions and other chapters of the program (mixtures, alloys and the like), for example:

1) How much of the soluble substance should be added to 240 g of water to make a 20% solution?

2) 400 g of 5% solution was boiled and brought to 200 g. Now what is the sharpness of the solution?

The use of materials related to neighboring subjects in mathematics lessons will further strengthen the interdisciplinary connection.

It should be noted that in order to study natural phenomena and processes with the help of mathematics, it is necessary to study this process by simplifying it. It is necessary to extract the ones that will be necessary for us from the multiplicity of properties and to ignore some properties. The most important for us are those that are necessary to express the existing phenomenon and process in the language of mathematics. Representation of phenomena and processes in the language of mathematics in such a way is called a mathematical model

Forms the skills of using technical tools and visual aids in teaching mathematics. In this, students' skills to use technical tools, mathematical visual aids, tables and calculation tools in mathematics lessons are included. Teaching students to acquire mathematical knowledge independently. It mainly consists in forming the skills of independent reading of students from textbooks and scientific-popular mathematical books. Therefore, the main task of teaching mathematics in the secondary general education system should be to develop students' abilities (competencies) of logical thinking and correct observation. The general competences related to science are the theoretical knowledge and practical skills that students should know and master in mathematics, and the cognitive competencies related to science are the above-mentioned logical thinking, reading and learning and mastered in science. generally defines requirements for practical application of knowledge and skills.

References:

1. Жабборова, О. М. (2021). SCIENTIFIC RESEARCH LABORATORY" FUTURE TEACHER" AND ITS ACTIVITIES. *Экономика и социум*, (8), 363-366.
2. Жабборова, О. М., & Ташпулатова, Д. (2021). SKILLS REQUIREMENTS FOR PRIMARY SCHOOL TEACHERS. *Экономика и социум*, (5-2), 953-956.
3. Жабборова, О. М. (2021). CLUSTER METHOD OF TEACHING COMPULSORY AND ELECTORAL SUBJECTS IN HIGHER PRIMARY EDUCATION. *Экономика и социум*, (8), 359-362.
4. Жабборова, О. М. (2021). PROFESSIONAL TRAINING OF FUTURE FINE ART TEACHERS IN DIFFICULT CONDITIONS. *Экономика и социум*, (4-2), 1106-1109.
5. Жабборова, О. М., & Ахмедова, Н. Ш. (2021). FACTORS OF EDUCATION OF PRIMARY SCHOOL STUDENTS ON THE BASIS OF NATIONAL IDEA. *Экономика и социум*, (4-2), 1110-1114.
6. Jabborova, O. M. (2021). FUNDAMENTALS OF EXPANSION OF EDUCATIONAL SUBJECTS IN THE CREDIT-MODULE SYSTEM OF TEACHING. *CURRENT RESEARCH JOURNAL OF PEDAGOGICS*, *2*(08), 92-95.
7. Jabborova, O. M. (2003). Values in practical art (pp. 346-348). In *Materials of the scientifically-theoretical and practical-methodical conference of teachers of the Tashkent State Pedagogical Institute*.