ROLE AND IMPORTANCE OF USING MODERN INFORMATION TECHNOLOGIES IN TEACHING MATHEMATICS

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ABSTRACT

This article describes in detail the use of modern information technologies in the teaching of mathematics, the competence approach to mathematical education, the presentation of information to students in the form of computer multimedia in graphic mode with the help of modeling, and the purpose of using modeled programs.

According to experts, a student who has mastered mathematics well has a high analytical and logical thinking ability. It develops the ability to make quick decisions, discuss and negotiate, and do things step by step, not only in solving examples and problems, but also in various situations in life. Mathematical thinking also takes it to the level of predicting what will happen in the future, what will happen in the environment.

The integration of our country into the world community, the development of science and technology requires the modern generation to be competitive in the changing world labor market, to master the sciences thoroughly. This is ensured by introducing standards based on advanced national and international experience into the education system, including teaching mathematics.

Literature analysis and methodology:

A competency-based approach to mathematics education involves the formation and development of practical skills that allow students to act effectively in situations encountered in their professional, personal and everyday life, as well as strengthening the practical, practical directions of mathematics education.

Taking into account the incomparable role of mathematics in our lives, this subject is included in school textbooks from the first grade. great attention is being paid to the introduction of tools and information and communication technologies.

It is important for the student to deeply understand that mathematical knowledge is useful not only in questions and exams to get a grade, but also at home, in the work process, in sports and art, in trade, in trade - in every moment of life. . For this, it is necessary for the teacher of this subject to directly relate the topics covered with life and to teach how to solve an example or problem, tasks using simple situations in life.

The introduction of computer technologies in educational institutions opens a wide path to the optimization of the educational process. In the next decade, the use of computers in mathematics education was carried out in several main directions.

These include computer-aided assessment of knowledge, development and development of various types of educational programs, development of cognitive mathematical games, etc.

Without knowledge of the basic mathematical laws and the ability to use them, it will be very difficult to learn almost any profession in the modern world. Not only financiers and accountants deal with numbers and operations with them.

Without such knowledge, an astronomer cannot determine the distance to a star and the best time to observe it, and he cannot understand how to deal with a molecular biologist. An engineer cannot design a working alarm or video surveillance system, and a programmer cannot find an approach to an operating system.

Mathematics can be divided into two complementary parts. Theoretical science deals with in-depth analysis of structures within mathematics. Applied science presents its models to other sciences. Physics, chemistry and astronomy, engineering systems, prediction and logic make constant use of mathematical apparatus. With its help, discoveries are made, patterns are found, events are predicted. In this sense, the importance of mathematics in human life cannot be overestimated.

Results:

Another aspect of computer convenience in teaching mathematics is the modeling of some educational situations. The purpose of using simulation programs is to facilitate the understanding of material that is difficult to imagine using other teaching methods.

In order to teach mathematics to young people, it is necessary for a teacher to know these subjects well, to be able to skillfully use teaching methods. At the same time, it is necessary to have deep knowledge of pedagogy, psychology and other sciences.

The main goal of the training is to develop students' intellectual abilities, independent choice and decision-making skills, and to acquire the necessary knowledge. Mathematical laws, formulas and methods are one of the fundamental sciences used in other sciences - chemistry, physics, biology and even drawing.

Information provision of the educational process is developing on the basis of modern information technologies, computerization and computer networks. As a result, the process of educational activity also needed innovation. To get out of this situation, organizing lessons based on innovative technologies is the level of preparation of the teacher for this activity.

The solution of innovative problems is important to add to the directions of modern scientific thinking. Study of innovative processes. Solving innovative pedagogical problems consists in studying the characteristics of innovative processes in the field of education.

Mathematical laws allow modeling any actions, predicting and calculating the results of any process using formulas. Even medicine cannot do without mathematics: the effectiveness of any treatment except for the design of medical devices is analyzed using mathematical laws.

Thanks to mathematics, we build buildings and complex structures, explore space, develop various technologies, use computers and mobile phones, and even develop our culture.

The role of mathematics in modern science is constantly growing. This is because, firstly, without a mathematical description of a number of phenomena of reality, it is difficult to hope for a deeper understanding and mastery of them, and secondly, the development of physics, linguistics, technical and some other sciences requires extensive use of mathematical apparatus. In addition, without the development and use of the latter, it would be impossible, for example, to conquer space or create electronic computers used in various fields of human activity.

Discussion:

We will have the opportunity to raise a high intellectual generation only when we develop in step with the times. 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.

This increases the mental load in the mathematics lesson and forces the student to think about the need to increase activity and interest in the material during the lesson. Therefore, new active methods and methods of teaching are taught to activate students' thinking and express their independent knowledge.

Arousing interest in mathematics depends on the quality of the teaching methodology and the level of educational activity. Each student should work actively and with pleasure in the lesson, use the emergence and development of enthusiasm for knowledge as a starting point, and focus on deepening interest in learning.

Thanks to mathematical knowledge and skills, we solve not only arithmetical problems. This science allows you to develop the flexibility of the mind, which is necessary for the objective solution of any problem. These are not only problems of a mathematical nature, but also different life situations that require consideration "from different angles".

To know the essence of the problem, it is necessary to look at it from all sides, which is possible thanks to the imagination. Mathematics is an exact science that does not tolerate mistakes. It is precisely because of this property that mathematical laws have formed the basis of all inventions, from the invention and pendulum-shaped primitives to supercomputers.

In the school mathematics course, the simplest concepts that cannot be defined are conditionally 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. With the help of 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 content of a new term introduced into the science.

Conclusion:

In conclusion, it should be said that for this purpose, in the 90s of the 20th century, mathematical systems, which are very convenient for mathematicians, were created. With the help of these special systems, it is possible to perform various numerical and analytical mathematical calculations, from simple arithmetic calculations to solving differential equations with special derivatives, as well as to create graphs.

The purpose of education is formed in accordance with the needs of society. Therefore, the purpose of education should be suitable and worthy. In this regard, it is necessary to educate the students who come to school not only in mathematics, but also in all other subjects at a high level, and educate them to become the perfect people that our country needs.

References:

1. Kolyagin Y. H. and others teaches mathematics at Metodika secondary school. General methodology. M., Education, 2000.

2. Smolyar A.A. "Methodology of teaching mathematics Minsk. Ruling school" 1993.

3. Alikhanov S. "Methodology of teaching mathematics". T., "Teacher" 1992.

4. Alikhanov S. "Methodology of teaching mathematics" Revised II edition. T., "Teacher" 1997.

5. Sirojiddinov S.H., Mirzaakhmedov M.A. Conversations about the profession of mathematics. T., "Teacher", 2001.

6. Nazarov H., Ostonov Q. History of mathematics. T.: "Teacher", 2002.