

The use of Modern Information Technologies in Teaching Mathematics in Elementary School

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ABSTRACT

The article discusses the benefits of using information and communication technologies in mathematics lessons in elementary school. It is difficult to imagine a modern mathematics lesson without the use of an interactive whiteboard, multimedia presentations. The effective use of information and communication technologies in mathematics lessons will help to improve the level of education of younger students and develop their ICT competence.

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Information technology is a process that uses a set of tools and methods for collecting, processing, and transmitting data to obtain information of a new quality about the state of an object, process, or phenomenon.

The purpose of information technology is the production of information for human analysis and decision-making on its basis to perform any action.

21st century - the age of high computer technology. The modern child lives in the world of electronic culture. The role of the teacher in the information culture is also changing - he must become the coordinator of the information flow. Therefore, the teacher needs to master modern methods and new educational technologies to communicate in the same language with the child. Particular attention to this issue should be on the part of training specialists to work in this new information environment.

In connection with the rapid development of time, the rapid development of new information technologies and the introduction in our country have left their mark on the development of the personality of a modern child. Today, a new link is being introduced into the traditional "teacher-student-textbook" scheme - computer and computer training is being introduced into the school consciousness. One of the main parts of the informatization of education is the use of information technology in the education of information technology in educational disciplines. The modern school is developing by the new laws of Uzbekistan, introducing innovative teaching methods, and is gradually being equipped with modern computer technology. All this makes it possible to integrate traditional pedagogical technologies with new ones based on multimedia information tools, making it possible to choose and implement an individual trajectory in an open educational space.

Benefits of using information technology in elementary grades:

- open up opportunities for the variability of educational activities, its individualization, and differentiation,

- organize the interaction of all subjects of learning,
- build an educational system in which the student would be an active and equal participant in educational activities.?
- activate the learning process,
- implement the ideas of developmental education,
- increase the pace of the lesson,
- ability to independently acquire new knowledge,
- increase the amount of independent work of students, i.e.:

For an elementary school, this means a change in priorities in setting the goals of education: one of the results of education and upbringing at the first stage of school should be the readiness of children to master modern computer technologies and the ability to update the information obtained with their help for further self-education.

Pupils in the lessons with the use of information technology are always interesting, visual, which contributes to the formation of positive motivation for learning and activation of the cognitive activity of students.

As practice shows, it is already impossible to imagine a modern school without new information technologies.

Using the possibilities of modern information technologies in elementary school contributes to:

1. enhancing cognitive activity, improving the quality of schoolchildren.
2. achieving learning goals with the help of modern electronic learning materials intended for use in lessons in elementary school.
3. development of self-education and self-control skills in younger students; increasing the level of learning comfort.
4. reduction of didactic difficulties in students.
5. increasing the activity and initiative of younger students in the classroom; the development of information thinking of schoolchildren, the formation of information and communication competence.
6. acquisition of computer skills by elementary school students in compliance with safety rules.

Information technologies also make life easier for teachers because they are created much faster and easier than handwritten posters and diagrams, which once created are difficult to change, adapt to the needs of a particular class, and it is not always possible to create aesthetically attractive ones.

One of the types of information technology is multimedia technology based on the simultaneous use of various means of presenting the information. The capabilities of multimedia systems allow combining text, sound, speech, video images, graphic images, and animation (animation) in a computerized system; integrated presentation of any audiovisual information on the computer screen, realizing an interactive dialogue between the user (in this case, the student) and the learning system.

The most common types of multimedia used in school:

- a multimedia board equipped with special programs and simulators, the ability to work directly on it (a calculator for working with multi-digit numbers, a clock for working with units of time, a variety of digital rulers that allow you to clearly show children a meter, decimeter, centimeter and other quantities, screen design in a cage, graph paper, for a convenient sample for the design of work).

When developing computer support for a subject, it is necessary to determine:

1. what topics should be “supported” by computer tasks and for solving which didactic tasks.
2. what software tools should be used to create and perform computer tasks.

3. what preliminary computer skills should be formed in children?.
4. what lessons it is advisable to do computer.
5. how to organize computer classes.

Lessons using a computer are conducted along with regular classes, where it is possible and appropriate to use computers to solve particular problems of the lesson so that the child understands and feels the topic of the lesson more deeply and expresses himself creatively. Each computer lesson is, in principle, integrated - in addition to the subject tasks, the tasks of the informatics course are solved on it.

Types of lessons using information and communication technologies.

The practice of conducting lessons using ICT contributes to the improvement and activation of the educational process, the creation of positive motivation among students to perform mental and practical actions (resulting in the formation of certain specific skills); the development of attention and tactile memory, left-hemispheric and right-hemispheric symmetry, as well as the development of human spirituality, stimulates cognitive activity.

The main types of lessons used in the learning process with information support are:

- Combined lesson
- lesson - control and correction,
- A lesson in improving knowledge and skills.
- The use of ICT in various lessons in elementary school allows:
 - to develop the ability of students to navigate the information flows of the world.
 - to master practical ways of working with information.
 - Develop skills that allow you to exchange information using modern technical means.
 - Activate the cognitive activity of students.
 - to conduct lessons at a high aesthetic level; individually approach the student, applying multi-level tasks.

The computer allows the teacher to significantly expand the possibilities of presenting various types of information. With a didactically correct approach, the computer activates the attention of students, enhances their motivation, develops cognitive processes, thinking, attention, develops imagination and fantasy.

The use of computers in school practice contributes to the improvement of the traditional learning process, increasing its effectiveness in the field of modeling the processes and phenomena being studied, managing the learning process, training in educational activities, and automating the control of the level of knowledge.

Classes using computer support can only be held in those classes where students study computer science in parallel with subject courses, or at least 5 introductory lessons must be held in a computer class.

The objects presented using computer technologies are more informative, colorful than the usual standard visual aids and allow you to consider some inaccessible processes in a versatile way, which is especially important in mathematics lessons. After all, mathematics is one of the subjects that simply need visualization, especially for the initial course of mathematics.

The course of mathematics in elementary school contains a large number of abstract concepts that require conscious deep assimilation: size, shape, number, and many others. Here, multimedia with all its possibilities can come to the aid of the teacher: color, shape, proportions, the direction of movement, spatial relationships, collections of sets, and many other concepts to see with your own eyes. Thus, computer technologies provide a high level of visibility in comparison with traditional schemes, tables, models. The use of ICT in a mathematics lesson also contributes to the development of control and self-control skills. Verification of work against the standard is carried out easily and quickly. Testing using a

computer allows you to quickly assess the level of knowledge of students in the class and at the same time helps students master the actions with the mouse and keyboard.

The inclusion of ICT in the educational process makes it possible to organize various forms of educational and cognitive activity in mathematics lessons and make active and purposeful independent work of students, which helps to improve the quality of assimilation of educational material and enhance educational effects.

In elementary grades, in mathematics lessons, I've tested on several topics:

- "Tabular and out-of-table addition and subtraction",
- "Computing skills",
- "Counting speed",
- "Tabular and out-of-table multiplication and division."
- "Methods of oral calculations",
- "Solution of text problems".

Lessons using ICT are especially relevant in elementary school. Pupils in grades 1-4 have visual-figurative thinking, so it is very important to build their education, using as much high-quality illustrative material as possible, involving not only vision, but also hearing, emotions, and imagination in the process of perceiving the new.

Under the condition of the systematic use of information technology in the educational process in combination with traditional teaching methods, it is possible to significantly increase the effectiveness of training.

METHODOLOGICAL RECOMMENDATIONS FOR THE USE OF ICT

The teaching, educating, developing function of the lesson is provided by various means. One of these tools is a computer. In a modern school, a computer is increasingly used not only in computer science lessons but also in mathematics and Russian language lessons. But for the use of a computer in the classroom to give positive results, it is necessary to properly organize the work of the educational process:

Computer tasks should be compiled by the content of the subject and the methodology of its teaching, developing, activating mental activity, and shaping the learning activity of students.

Students should be able to handle a computer at the level necessary to complete computer tasks.

Students must study in a special classroom equipped with the established hygiene standards for elementary schools, according to which the use of a computer is permissible for no more than 10-15 minutes. (Sanitary rules and norms).

In this way,

- ✓ The use of multimedia technologies in mathematics lessons is an effective way to increase the level of cognitive interest and motivation, the desire for self-education, which in the future will become the basis for successful learning, allows you to use the cognitive and gaming needs of students in an accessible form for cognitive processes and the development of individual qualities.
- ✓ The use of computer multimedia technologies in the classroom allows you to diversify the methods and techniques of teaching, develop the interest of students in the educational process, make it attractive, interesting, and, accordingly, increase its efficiency and effectiveness.
- ✓ The use of information computer technologies in the process of teaching mathematics makes significant changes not only in the educational activities of students but also in the activities of an elementary school teacher.

Summing up, I want to say that ICT is the present, it is the future, it is the past. Education, and in general any sphere of life, will be studied and achieved, transferred and assimilated, only with the help of information technologies.

I believe that the use of ICT transforms the teaching of academic subjects, optimizes the processes of understanding and memorizing educational material. I also want to note that no machine can replace the work of a teacher, but a computer can make this work more effective, interesting for both students and teachers.

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