



TEACHING MATHEMATICS IN PRIMARY GRADES USING INFORMATION AND COMMUNICATION TECHNOLOGIES

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Article history:	Abstract:
Received: July 10 th 2021 Accepted: August 20 th 2021 Published: September 27 th 2021	The use of information-communication technologies and e-learning resources for mathematics in primary grades increases the motivation of students to study, and also affects the quality and efficiency of the educational process. The article describes the main problems and didactic issues of using information and communication technologies in teaching mathematics to primary schoolchildren.
Keywords: Information and communication technologies, electronic teaching aids, rational use of information technologies in primary grades, interactive whiteboard, didactic possibilities of using electronic teaching materials in mathematics.	

Education is declared a priority in the field of social development of the Republic of Uzbekistan [1]. Using modern information technology, it is possible to identify effective ways to teach mathematics to primary school students. Today, the computer is included in the "teacher-student-textbook" scheme, that is, computer education is introduced into the minds of schools.

"If we teach like this today, we will steal from our children tomorrow, as we taught yesterday," said the American philosopher and educator John Dewey.

The use of modern pedagogical and information technologies in the system of continuing education increases the effectiveness of the student's acceptance and mastery of educational materials. That's why personal computers are becoming an educational tool. Of course, this does not mean that the personal computer takes over all the functions of a teacher. Perhaps the student's use of a personal computer will help to organize the learning process more effectively.

Practice shows that a modern school is unimaginable without new information technologies. It is worth noting that the rational use of information technology in primary school:

- Strengthening positive motivation for learning, increasing the cognitive activity of students;
- allows to conduct lessons at a high aesthetic and emotional level, attracts a large amount of didactic material and provides visibility;
- Increase the amount of work done in the classroom by 1.5-2 times, provide a high level of stratification of teaching;
- expanding the opportunities for independent work, the formation of real research skills;
- provides access to various information systems, electronic libraries and other information sources.

All of this, of course, helps to increase the page of education. [7]

The use of modern information technology in the teaching of mathematics in the primary grades has been widely studied by researchers in recent years. This is because these technologies can perform all the functions that traditional teaching aids can perform at a higher quality level than they do, and will undoubtedly enrich the content and form of the lesson and make it more interesting. Exploring the causes and methods of this is one of the most pressing issues in the methodology.

Today, much attention is paid to the use of computer technology in the formation of computational skills from the earliest stages of education. This is determined by such parameters as the ability of computer technology to reflect the development of education, their dynamics, the ability to offer learning materials to students in a certain way, the individualization of education, the ability to manage the acquisition of knowledge. They can develop children's desire for knowledge, increase the emotional interest of students in the educational process when certain conditions are developed, allow the comprehensive formation of images, ensure the thorough assimilation of knowledge, scientific allows you to understand the relationship of knowledge to life, and in the process can save the teacher time.

The emotional impact of the use of information technology in the educational process allows students to focus on one place, that is, on the learning material that is planned to be studied, increases children's interest, allows them to learn. It evokes positive emotions. It is well known that one of the most important problems in pedagogy is to keep

children's attention in the whole educational process. Here the Russian scientist, the founder of scientific pedagogy K.D. As Ushinsky put it, "Student attention is a critical factor in the success and effectiveness of education and upbringing." He showed the necessary means to concentrate the children's attention and keep it for a certain period of time: to enhance the impressions, to attract direct attention, to make the lessons fun. measures against distraction.

Teaching math is a daunting task, and working with a computer is always a special interest for children. In this regard, the use of information technology in the classroom allows to change the methods of teaching mathematics in practice. "It is fun for a child to make reading as easy as possible, and don't make it a joke - one of the most difficult and important tasks of didactics," said K.D. Ushinsky [6]. According to psychologists, the use of modern information technology in the classroom also helps to increase the involuntary attention of children.

It is necessary to use information technology in the teaching of mathematics in primary school: to teach 1st grade students to number, to teach 2nd grade students arithmetic, to solve simple problems, to introduce geometric figures, to create a programming language teaching programs, numbering and arithmetic operations through the presentation of slides prepared in Power Point, e-learning tools, animated videos, etc. For example, when teaching numbering, slide pictures of different objects (apples, pears, toys: bears, rabbits, etc.) that are familiar to children, place numbers in ascending (or descending) order and number them. teaching, etc.

Logical visualization (written speech classification schemes in the form of text displayed on the screen, schemes representing concepts and the relationship between them, pie charts, classification trees) is also carried out with the help of information technology subject and illustrative visual aids. The importance of such visualization is to give an image of the concept, idea and logical elements. Information technology tools are able to express textual representation in a dynamic way and in the mode of individual learning. So, in conclusion, the appropriate and effective use of modern information technology has a positive effect at any stage of the pedagogical process:

- providing educational information materials to students;
- at the stage of mastering educational materials through interactive interaction;
- at the stage of repetition and consolidation of the passed materials (formation and development of skills and abilities);
- determining, stratifying and systematizing the values of educational information, using its results in the process of correction and making adjustments to the educational process, etc. in stages.

It should be noted that the use of computers and modern information technology in education can lead to a number of negative consequences. This is due to the fact that students, especially young children, stay in front of the screen for a long time. To prevent this, it is necessary to strictly follow the ergonomic standards of computer use in education.

The use of modern information technology in the teaching process, ie in the teaching of mathematics in the primary grades, allows you to effectively address the following issues:

- increases the effectiveness of the educational process;
- Increases the creative activity of students.

Today, the widespread development of computer technology, joint information and telecommunication technologies is giving rise to new directions of informatization of society in education. An important task of modern science is to preserve its essence and provide quality education that meets the current and future capabilities of mankind.

The most important task of a teacher in today's education is to increase the student's interest in the subject being studied. Each topic is designed to stimulate students' knowledge and creativity. Modern computer technology is used to encourage students to take an active part in the learning process.

Today, computer technology, including e-learning manuals, is changing the nature, methods and repository of teaching mathematics in a high quality and defined environment to identify, maintain and develop students' personal abilities, personal preferences, cognitive abilities and has all the potential for a desire for self-improvement.

Electronic textbooks used in the teaching of information technology, including mathematics, must meet the pedagogical didactic conditions: highly scientific, open, clear, systematic, problem-based and complete presentation, information, self self-sufficiency and work dynamics, power of knowledge acquisition, integrity of education, development and education functions.

It is useful to use e-learning tools in different situations at different stages of math lessons:

- study new material;
- combine the knowledge and skills acquired in the course;
- knowledge management.

Interactive and multimedia presentations allow the teacher to feel comfortable in the classroom: ready-made, well-structured drawings, well-thought-out and orderly questions, differentiated assignments, the ability to use the main points of the presentation in later lessons to update the material, and more. Presentations can also be saved and used. It is then possible to work with another class to reduce correction, adjustment, and preparation time in later years, taking into account the characteristics of a particular class.

Currently, the only way to develop a teacher's interaction with the audience is through an interactive whiteboard. It combines projector technology with a touch device. The interactive whiteboard allows you to not only display objects, but also control the presentation process: using colors and videos using an electronic marker, or adding comments and corrections through pre-made presentations.

The variety of colors on the interactive whiteboard allows the teacher to focus students on the most important and significant things. In particular, an integrated lesson can broaden one's horizons, increase students' curiosity, and encourage them to use the lessons learned in real life, outside of the learning process. The didactic materials provided in electronic form and the hypertext are combined into a certain logical structure. Didactic materials also include curricula for solving mathematical problems. Knowledge management systems software allows you to process results quickly, easily, objectively, and automatically.

The task of a math teacher is to demonstrate the important capabilities of computer and e-learning tools as a powerful tool for receiving, processing, and presenting a variety of information.

E-learning tools in mathematics can be used at all stages of the lesson, including explaining, fixing, reviewing, and observing new material. The task of a math teacher is to demonstrate the important capabilities of computer and e-learning tools as a powerful tool for receiving, processing, and presenting a variety of information.

The use of e-learning tools in mathematics provides students with the following didactic opportunities [5].

- communication between students and e-learning tools allows for interactive communication;
- automation of computing and information retrieval processes;
- computer simulation of studied objects, events, processes;
- realization of possibilities of modern means of visual representation of objects, events, processes, and also their models, computerization of educational information, including their dynamic representation;
- automation of the learning process and monitoring of learning outcomes.

The use of e-learning tools in mathematics lessons allows the teacher to solve a variety of problems: increase motivation and visualization in reading, make students more informed, interesting, visual and effective, as well as more for students. attractiveness.

In conclusion, the use of information technology in mathematics lessons is important for the forms and methods of presentation of teaching materials, the nature of the relationship between student and teacher, and, accordingly, the methodology of teaching in general. has a positive effect.

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