On the use of Computer Technologies in Studying Mathematics

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ABSTRACT

A mathematics lesson using ICT is visual, colorful, informative, interactive, saves the teacher and the teacher's time, allows the teacher to work at his or her own pace, allows the teacher to work with students in a differentiated and individual manner, and allows for quick monitoring and evaluation of learning outcomes. The computer can be employed at any point in the learning process, such as when introducing new content, consolidating, repeating, or monitoring ZUN, while it can also serve as a teacher, a working tool, a learning object, a collaborative team, or a leisure (game) means for students. The characteristics of the employment of computer technology in the study of mathematics are revealed in this article.

KEYWORDS: *mathematics, information and communication technologies, computer, mathematics lesson, presentations, media resources, computer support, electronic teaching aids, computer simulators.*

A mathematics lesson using ICT is visual, colorful, informative, interactive, saves the teacher's and students' time, allows the teacher to work at his or her own pace, allows the teacher to work with students in a differentiated and individual manner, and allows the teacher to quickly monitor and evaluate learning outcomes.

The formation of skills to work with information, the development of communication skills; training the personality of the "information society"; the ability to give the child as much educational material as he can learn; the formation of research skills, the ability to make optimal decisions are the goals of ICT in the process of teaching mathematics.

The computer can be used at any point during the learning process, including while introducing new content, consolidating, repeating, and monitoring ZUN. He serves as a teacher, a working tool, a study object, a cooperating team, and a leisure (play) setting for the learner at the same time.

A computer as a universal information processing device; a printer - a device that allows you to record on paper information found and created by students or a teacher for students; a computer as a universal information processing device; a computer, so a screen using a signal from a computer, VCR, CD or DVD player, video camera, or television tuner, dramatically increasing the level of visibility in the teacher's work and allowing students to present their work to the entire class; a device for displaying an image from a computer onto a screen; an interactive whiteboard is a touch screen connected to a computer, the image from which is projected onto the whiteboard by a projector, special software for which allows you to work with texts and objects, audio and video materials, Internet resources, make handwritten notes right on top of open documents and save information, as well as devices for recording (input) visual and sound

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information (scanner, photo camera, video camera), which enables you to direct the flow of information.

The use of ICT tools is a must in today's educational process, where the focus is on the development of creative abilities and the provision of possibilities for individuals to realize their full potential, rather than the transmission of essential knowledge. ICTs are not employed as a goal, but rather as a pedagogical tool that aids in the achievement of the lesson's aim.

The use of media resources as a source of information (disks); computer assistance for the teacher's actions at various stages of the lesson; utilizing a computer to execute technical mapping; portfolio development are all examples of computer use in the classroom.

The use of multimedia in the classroom enhances the efficacy of students' knowledge acquisition. The term "multimedia" is a transliteration of the English word "multimedia," which means "multiple habitats" (from multi - a lot and media - environment). Multimedia technology enables the simultaneous presentation of data in a variety of formats, including numbers, text, graphics, animation, video, and sound.

Basically, several forms of multimedia products are used when learning mathematics: this is a computer presentation, which is generated using the Power Point application, is a sequence of slides, and a presentation is created with the help of this program to study new content.

The following are some of the benefits of giving information as a presentation rather than as a speech: The computer allows a complex experience to be displayed safely, to explain its essence, but this should complement, not replace, student recording; the computer allows a complex experience to be shown safely, to explain its essence, but this should complement, not replace. The presentation substantially simplifies the management of the lesson and the organizing of the students' work, but it does necessitate the teacher's confidence in the technique, understanding of the programs, and willingness to work as usual.

If necessary, the student can independently return to that part of the information that he has not learned without distracting the teacher, for example, if the formula has been erased from the blackboard and the student did not have time to write it down, the teacher will have to interrupt the story and return to the formula. The teacher, on the other hand, can elaborate on key areas by commenting on the content on the slides. You can use a presentation to introduce pupils to the building of Eratosthenes' sieve when studying the topic "Prime and Composite Numbers." This will pique the pupils' interest, and they can construct Eratosthenes' sieve in their notebooks.

Presentations-surveys: questions, assignments, and other activities that encourage students to continue working in the class create a positive environment. As a result, when repeating the topic "Ordinary Fraction" at the beginning of the lesson, you can use the presentation to repeat the theoretical content while checking the validity of the implementation.

Presentations that can be used to organize both frontal and group work. You can also design paths for students using presentations, in which the end outcome of their work is obvious. Making a journey map or playing by station, for example.

Presentations allowing students to analyze their own knowledge, skills, and abilities. You can undertake independent work at any time utilizing the presentation, and the students can quickly verify it. Students can trade notebooks after completing the study and conduct a mutual check of the work. Presentations in the classroom are beneficial because they save time in the classroom and allow students to see the results right away; they demonstrate to students neat, clear design patterns for solutions; they demonstrate completely abstract concepts and objects; they allow students to work at their optimal pace; they increase visibility during training; they study more material; they show

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students the beauty of geometric drawings; they increase cognitive interest; they add elements of entertainment.

The advantages of using electronic teaching aids: digital educational resources: screen-sound aids; technical training aids are

- > the ability to repeatedly repeat, stop, which allows the teacher to focus the attention of students;
- > refer to theoretical material, make historical references, work with definitions and laws;
- > visibility of processes, clear images of installations and models, uncluttered;
- modeling of processes and phenomena;
- > obtaining and analyzing graphical dependence.

In mathematics lessons, computer simulators can be utilized both in the classroom and at home. They are an electronic version of the instructional materials that represent a set of tasks organized by topic. Simulators have the following advantages and disadvantages: programs with reference materials and a large number of tasks, exercises, and questions; modeling of real processes, laboratory experiments; liberation of the teacher from routine work; feedback, error detection, hints, problem solving examples; students can work from home; students feel less constrained and thus "try themselves"; the ability to objectively assess the student's progress; the ability to objectively assess the student's progress; the ability.

Outside of school hours, ICT can be utilized for virtual excursions, creative homework (e.g., creating a crossword puzzle, anagrams, puzzles, or a question); exam preparation; and student conferences.

Computer technology in the classroom helps you to differentiate instructional activities, ignites students' cognitive curiosity, improves their creative ability, and stimulates mental activity.

Based on the foregoing, we may conclude that computer technology is one of the most effective tools for acquiring and applying knowledge. It also allows you to design situations that will help you learn more effectively. And if the student is involved in the process of developing a presentation or a project, the effect of gaining new knowledge is multiplied. As a result, it is vital to integrate information technology into the educational process on a greater scale in order to improve educational quality.

The use of ICTs helps teachers build their professional abilities by enhancing the efficiency of learning autonomous search, processing, and presentation skills, as well as developing students' personalities and preparing them for a comfortable existence in an information society.

As a result, the primary directions for enhancing the quality of mathematical education are: developing teacher professional competence; integrating material and cognitive activity of students in the educational process, i.e. active approach: a) to develop skills; b) to use computer technology, modern pedagogical technologies, problem teaching methods, research and design technologies; it is recommended to carry out control using ICT at three levels: basic (reproductive), increased, and high (productive and creative); to increase students' motivation to get a good education using ICT.

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