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Improving the Competence of School Students in Teaching Mathematics

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Abstract: Today, the competence approach in the educational process implies the formation and development of practical skills that allow students to act effectively in situations encountered in professional, personal and everyday life, as well as strengthening the practical, applied directions of mathematical education.

Key words: mathematics, interactive lessons, innovative technologies, modern methodology, pedagogical technologies, quality of education.

Introduction

In the context of a modern educator's role in society, the following information and communicative competencies are considered vital in preparing for work: Competence in working under the conditions of information disclosure to the society. Computer-based teaching involves organizing, managing, and monitoring the interaction between students and computers. Organizing computer-based teaching means establishing a connection between the student and the educational material through computer tools. Educational planning is conducted to establish the connection between the student and the educational material. The organization of students' learning activities is modeled based on relevant tools, which enhance their activities. Various electronic learning materials have been developed for use in the educational process, such as electronic textbooks, e-learning manuals, and teaching software. They offer features like manageability, interactive methods, artificial intelligence elements, emotional compatibility, and more, which contribute to the effectiveness of education. The educational process involves pedagogical, computer, and information technologies, preparation, provision with scientific and methodological materials, improvement of the educational process, and assessment of the quality of educational outcomes within a well-established system.

Main Section

In the modern era, the use of new technological tools for teaching mathematics, including computers and other information technologies, is one of the effective ways to ensure subject mastery. Applying computer technologies to educational institutions greatly optimizes the teaching process. Over the past decade, the use of computers in teaching mathematics has been pivotal in several ways.

These include evaluating knowledge through computers, developing and enhancing various types of educational software, creating mathematical games for learning, and more. Another significant aspect of using computers in mathematics education is modeling different learning situations. The purpose of using modeled programs is to help students understand and grasp difficult materials that may be challenging when presented through other teaching methods. Through modeling, it's possible to present information to students in a graphical multimedia format.

As a result, students can learn mathematics deeply and gain a high level of independence in the learning process.

In many situations, solving mathematical problems that arise frequently and with precision requires the knowledge of a professional mathematician who is skilled in a particular algorithmic language and programming. With this goal in mind, in the 1990s, special mathematical systems that provided significant conveniences for mathematics were created. Through these specialized systems, various numerical and analytical mathematical calculations, starting from basic arithmetic, and even beyond solving differential equations with specific solutions, it became

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possible to create graphics. Utilizing modern information technology methods in teaching mathematics. Using new technical tools in teaching mathematics, including computers and other information technologies, is one of the current goals to enhance the level of education in mathematics.

Applying computer technology to educational institutions greatly facilitates the optimization of the teaching process. Over the past decade, the use of computers in teaching mathematics has advanced in several essential directions. This includes assessing knowledge using computers, developing and improving various types of educational software, creating mathematical games for educational purposes, and more. Another significant aspect of using computers in teaching mathematics is modeling various educational situations. The purpose of using modeled programs is to present information graphically in a computer multimedia format, making it easier for students to understand complex material that is difficult to grasp when presented through other teaching methods. Through modeling, students can gain a deep understanding of mathematics and demonstrate a high degree of independence in the learning process.

While electronic spreadsheets are primarily used to solve economic issues, the tools they encompass are also useful for addressing problems related to other fields. They provide significant assistance in tasks such as performing calculations, for example, working with formulas, creating charts and graphs. Using an electronic spreadsheet, it is possible to solve problems based on an algorithm, create various formats based on values in the spreadsheet, and perform tasks like printing. Excel, with its automatic filling feature, simplifies the entry of numeric values and text elements. This capability is especially beneficial when it comes to organizing function values. The process of calculating function values involves several mathematical steps in many areas of mathematics. Using these capabilities, students in the mathematics faculty can create function graphs and easily visualize the characteristics of more complex functions. Excel's function wizard assists in semi-automatically entering the function and its arguments. The function wizard ensures the correct syntax when writing functions and entering all of their arguments in the right order, which, in turn, greatly aids students in grasping the peculiarities of functions quickly.

In summary, the primary task of a math teacher is to teach each student logical reasoning. Furthermore, it is essential to instill qualities like overcoming learning difficulties, understanding and working independently with textbooks, and carrying out homework assignments responsibly. It is of great importance to shape crucial competencies in students in math classes.

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