



"USING MODERN TECHNOLOGIES IN TEACHING TECHNOLOGY SUBJECT IN GENERAL SECONDARY SCHOOLS"

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Annotation. *This article discusses the topic of using modern technologies in teaching the subject of technology in general secondary schools. It is demonstrated, based on experiments, that the application of modern technologies such as STEM and SMART methods increases students' knowledge by 20-30%.*

Keywords: *technology, modern technology, interactive methods, basics of programming, STEM system, SMART, multimedia.*

Introduction

Providing education and upbringing to students, that is, preparing them as highly qualified specialists who meet the requirements of state educational standards, is one of the urgent tasks of our country.

Based on the action strategy, the Cabinet of Ministers of the Republic of Uzbekistan adopted the Resolution No. 140 dated March 15, 2017, "On Approval of the Regulations on General Secondary Education," and the Resolution No. 187 dated April 6, 2017, "On Approval of the State Educational Standards of General Secondary, Secondary Specialized, and Vocational Education." The adoption of these resolutions indicates that the education system is being further improved and its continuity is being ensured.[1] The adoption of the resolution on the approval of state educational standards for general secondary, secondary specialized, and vocational education indicates that the education system is undergoing fundamental modernization. Today, information and communication technologies are widely used in the teaching of almost all subjects. The teaching of technology as a subject in schools has its own unique characteristics in addition to general didactic principles applied in other subjects. Students are not only engaged in cognitive activities but

also in creative activities. Technology serves not just as a tool but also as a means of labor, where students study processes through practical engagement. This helps activate their skills and abilities. It also serves as a visual aid, didactic material, and a technical means of education. The use of modern methods in teaching technology, as well as the integration of pedagogical and information technologies, has its advantages.

The role of innovative technologies in organizing the learning process is increasing day by day. The use of modern technologies is further expanding the opportunities for today's education. Nowadays, it is possible to study anytime and anywhere using modern technologies, regardless of location. This, unlike traditional education, helps to reduce both time and costs, leading to significant development in the educational process. The use of innovative pedagogical methods in teaching technology can enhance the effectiveness of education by utilizing the following modern methods.

1. Interactive Teaching Methods: These methods are used to engage students in active discussions, exchange ideas, and collaboratively find solutions. They help students develop problem-solving skills for real-life issues, guide them in project creation, and support their presentation skills.

2. Multimedia Tools: Nowadays, the use of information and communication technologies in technology lessons in general education schools has yielded highly positive results. Previously, teachers demonstrated the process of making objects step by step, which led to time-consuming repetition in some cases. Today, using information and communication technologies, labor operations can be recorded as videos and shown to students, allowing them to observe the process multiple times, repeat the work independently, and thoroughly master the material. The use of multimedia tools offers several advantages: reducing the time required for learning, eliminating unnecessary costs, increasing student interest, and organizing the learning process more effectively. By speeding up learning, reducing time wastage,

and enhancing visualization during lessons, multimedia contributes to a deeper understanding and better assimilation of educational content.

Through multimedia tools, students can perform virtual laboratory work on computers. These virtual experiments allow students to simulate industrial and technological processes using modern technical devices. Under teacher supervision, students can apply their knowledge in practice, demonstrate creative abilities, and gain real-world experience. Unlike traditional practical lessons, these simulations enable students to repeat processes without restrictions and adapt to different situations more easily. Computer technologies are also used for assessing student knowledge. This system ensures transparency and objectivity in evaluating student performance. The use of computers in student assessment allows teachers to create test exams faster and saves time. Moreover, it provides an opportunity to monitor the testing process efficiently and fairly.

Thus, integrating modern information technologies into the learning process significantly modifies the traditional education system and creates competitive professionals. The role of modern information technologies in education is growing as they expand students' learning and creative opportunities, enhance teachers' efficiency, and provide more convenient access to educational resources. The implementation of advanced information and communication technologies in the education sector makes learning more engaging, increases efficiency, and contributes to the development of highly qualified specialists.

3. Teaching Technology Based on the Modern STEM (Science, Technology, Engineering, Mathematics) Education System: Teaching technology based on the STEM education system plays an important role in developing students' technical knowledge and skills. Through this approach, students can connect theoretical knowledge with practice and gain a deeper understanding of engineering and technological processes.

Advantages of STEM Education in the Technology Subject:

Interdisciplinary Integration: STEM education integrates various subjects and provides students with a comprehensive approach. This enhances their ability to solve problems.

Development of Practical Skills: Through project-based and experimental activities, students learn to solve real-life problems, which strengthens their creative and critical thinking abilities.

Career Orientation: STEM education increases students' interest in technical and engineering fields, helping them prepare for future career choices.

Recommendations for Organizing Lessons:

1. Applying a Project-Based Approach: Provide students with the opportunity to work on specific projects in small groups. For example, using simple materials to create robots or designing technical devices will help them gain practical experience.
2. Conducting Practical Activities: Organize laboratory work to reinforce theoretical knowledge. For instance, in learning the basics of electronics, students can assemble simple electrical circuits and test them.
3. Using Digital Technologies: Utilize computer programs, simulations, and virtual laboratories in lessons to increase student engagement and make complex concepts easier to understand.
4. Integrating Subjects: Link technology lessons with mathematics, physics, and biology to provide students with a broader understanding of technical knowledge.
5. Encouraging Creative Thinking: Give students the opportunity to solve problems independently, propose new ideas, and test them in practice.

Thus, teaching the technology subject based on the modern STEM education system plays a crucial role in improving students' technical literacy, developing practical skills, and preparing them for future careers. The use of modern technologies in teaching technology makes the learning process effective and interactive. In this regard, SMART technologies contribute to the advancement of teaching methods.

Creating an Interactive Learning Environment: SMART boards and other devices allow students to interact directly, making lessons more engaging and dynamic. Supporting Distance Learning: SMART technologies facilitate online lessons, virtual laboratories, and the use of online learning platforms. Using Robotics and Electronics in Teaching: SMART technologies help develop students' technical creativity.

Similarly, the use of SMART technologies in teaching robotics elements plays an important role in developing students' technical creativity. The use of the SMART system in teaching technology significantly increases the effectiveness of the learning process. This approach offers the following advantages:

Increasing students' interest in learning: The use of information and communication technologies expands students' thinking scope and enhances their interest in acquiring knowledge. Developing independent working skills: SMART technologies help students develop independent working skills, which positively impact their intellectual growth.

Improving lesson effectiveness: The use of information and communication technologies in technology lessons enhances students' intellectual thinking, curiosity, creativity, and research skills. Creating an interactive learning environment: SMART technologies enable students to engage in interactive learning, making the learning process more engaging and effective.

In general, the integration of SMART technologies into teaching technology subjects increases students' interest in knowledge and helps develop their independent working skills.

Conclusion.

Based on the above ideas, if modern information and communication technologies are widely used in technology lessons, students' technical-technological and technological process-related knowledge, skills, and competencies gained through performed operations can be applied in independent

practical activities, career selection, and social interactions based on national and universal values. This helps shape their competencies in engaging with society. As a result, the quality of technology education lessons improves. Additionally, experiments have proven that the application of SMART and STEM teaching methods has increased students' knowledge and skills by 20-30%.

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