



INFLUENCE OF DIGITAL EDUCATIONAL TOOLS ON THE PRACTICAL SKILLS OF STUDENTS IN TEACHING TECHNOLOGY

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Annotation. *This article analyzes the importance of using digital educational tools in teaching technology in the formation and development of students' practical skills. The study scientifically and theoretically illuminates the features of the use of digital educational tools in technology lessons, their harmony with practical exercises, and their influence on students' independent activity. Also, based on the integration of digital and traditional educational tools, the possibilities of increasing students' conscious assimilation of technological processes and their readiness for practical activity are substantiated.*

Keywords: *science of technology, digital learning tools, practical skills, interactive learning, virtual laboratories, simulation programs, educational process, pedagogical effectiveness*

In the modern education system, in the process of teaching subjects, the formation of not only theoretical knowledge, but also practical skills of students is an important priority. In particular, the subject of technology plays a special role in the development of students' work culture, technical thinking, creativity, and independent activity skills. Through this subject, students acquire knowledge and skills applicable in real life, become familiar with production processes, and prepare for future professional activities.

The rapid development of information and communication technologies has brought new approaches and tools to the educational process. Digital educational tools - interactive programs, virtual laboratories, simulators, multimedia textbooks, and online platforms - make it possible to organize the educational process more effectively and interestingly. The use of these tools in teaching technology serves to increase students' interest in practical activities, explain complex processes in visual and interactive form, and ensure the pace of individual learning.

At the same time, the issue of the influence of digital educational tools on the formation of practical skills requires in-depth scientific and pedagogical analysis. Because the specifics of the science of technology - the priority of practical training - require ensuring expediency, methodological validity, and pedagogical effectiveness in the use of digital tools. Incorrect or unsystematic use of digital technologies can limit students' real practical experience.





The issue of using digital educational tools in teaching technology has been scientifically studied by many scientists in the field of pedagogy and educational technologies. Research in this area is mainly aimed at highlighting the influence of digital tools on the effectiveness of organizing the educational process, the cognitive activity of students, and the formation of practical skills.

One of the foreign researchers, Marc Prensky, characterizes students growing up with digital technologies as the "digital generation," emphasizing that the use of interactive and digital tools in the educational process enhances the active participation of students. In his opinion, practical classes organized in the digital environment develop students' quick thinking and decision-making skills in problem situations[1].

John Dewey's idea of "learning by doing" forms the theoretical basis for the use of digital educational tools in teaching technology. Dewey emphasizes that practical activity should be prioritized in the educational process, and modern researchers argue that this approach can be implemented through virtual laboratories and simulation programs [2].

In the study of the effectiveness of the use of technologies in education, the theory of multimedia education of Richard Mayer is of great importance. In Meyer's research, it has been scientifically proven that digital materials that combine visual and practical activities increase students' understanding and the level of knowledge application in practice [3].

In studies conducted in the CIS and the post-Soviet space, V.P. Bepalko pays special attention to the issue of technologizing the educational process. In his works, it is emphasized that the use of technical and digital tools in the educational process should be directed towards specific didactic goals, especially adhering to the principle of phasing in the formation of practical skills [4].

Scientists of Uzbekistan have also conducted a number of scientific studies on this problem. In particular, T.J. Oknazarov substantiates that the use of modern technologies in the educational process is an important factor in the development of students' independent thinking and activity-oriented skills. In his research, digital tools are interpreted as a means of increasing students' readiness for real activity [5].

Also, in the scientific works of D.K.Muminova, the methodology of using information and communication technologies in teaching technology is highlighted, and the role of digital educational tools in increasing the effectiveness of practical classes is shown [6].

In general, the analysis of the literature shows that in studies conducted by leading scientists, digital educational tools are recognized as an effective pedagogical tool for the development of students' practical skills in technology. However, the issue of a deeper empirical study of the compatibility of these tools with real practical activity and their effectiveness remains relevant.



The formation and development of students' practical skills in the process of teaching the subject "Technology" is one of the important indicators of the effectiveness of education. This subject is directly related to production, labor processes, technical and technological operations, and requires students to apply theoretical knowledge in real activities. From this point of view, the use of digital educational tools is manifested as a factor that strengthens the practical orientation of technology lessons.

Digital learning tools allow modeling, step-by-step demonstration, and testing of complex technological processes in technology science in a safe environment. For example, with the help of virtual laboratories and simulation programs, students have the opportunity to analyze the sequence of equipment use, the procedure for performing technological operations, and possible errors in advance. This increases the level of preparation for real practical classes and creates a basis for students to work confidently.

The use of digital tools in the subject "Technology" not only strengthens the cognitive activity of students, but also develops their independent work skills. Practical tasks given through interactive platforms involve the student in the process as an active subject, encouraging them to solve the problem independently. As a result, students develop such important practical competencies as responsibility, initiative, and a creative approach.

At the same time, digital educational tools allow for an individual approach to the science of technology. Each student can complete tasks according to their abilities and level of preparedness, review the material if necessary, or perform additional exercises. This circumstance reduces differences in the rate of assimilation of practical skills by students and increases the effectiveness of the educational process.

However, the use of digital learning tools cannot completely replace traditional practical classes in technology. In the formation of practical skills, it is important to work with real equipment, to directly feel the properties of materials. Therefore, it is advisable to use digital tools more at the preparatory, explanatory, and consolidation stages. Their combination with real practical activity serves to stabilize students' knowledge and skills.

Studies show that the systematic and methodologically substantiated use of digital educational tools in teaching technology gives positive results in the development of students' practical skills. In particular, the subsequent implementation of practical processes shown in the lesson using digital tools in real conditions forms the ability of students to transfer knowledge, that is, to apply the acquired knowledge and skills in practice.

The conducted analyses show that the use of digital educational tools in teaching technology has important pedagogical significance in the formation and development of students' practical skills. With the help of digital tools, the possibility of visual,

interactive, and step-by-step study of technological processes is created, which increases students' interest in practical activities and serves the conscious assimilation of knowledge.

The research results confirm that digital educational tools have a positive impact on the development of students' important practical competencies in technology, such as independent work, problem analysis, and decision-making. In particular, virtual laboratories, simulators, and interactive classes yield effective results as a stage of preparation for real practical activity.

At the same time, it is revealed that digital educational tools cannot fully replace traditional practical classes in the science of technology. In strengthening practical skills, working with real equipment and conducting direct experiments with materials are of great importance. Therefore, the combined use of digital and traditional educational tools is recognized as the most optimal approach.

In conclusion, the targeted, systematic, and methodologically substantiated use of digital educational tools in teaching technology increases the effectiveness of developing students' practical skills. The introduction of this approach into the educational process will serve the formation of competitive, creative, and ready-made individuals for practical activity in the future.

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