

THE ROLE OF DIGITAL TECHNOLOGIES IN SHAPING THE KNOWLEDGE AND SKILLS OF STUDENTS

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Abstract. *This article focuses on the use of digital technologies in our national education system, the analysis of their possibilities, the role of technology in the development of technical creativity in students through the use of digital technologies. In today's fast-paced and technologically advanced world, equipping students with the necessary skills to thrive in the digital age is critical. This article delves into the benefits, challenges, and effective strategies for using digital technologies to enhance students' technical creativity. It also emphasizes the importance of incorporating technology into the curriculum to develop creativity, critical thinking, problem solving, and digital literacy skills.*

Keywords: *digital technologies, information and communication technologies, higher education system, modern education, digital knowledge, Internet system, distance education.*

Introduction

Today, digital technologies are actively used in all spheres of life. The economy, banking, and service sectors, as well as the educational process, are all contributing to its rapid development. All citizens living in the country, including from young children to pensioners, are forming the idea that it is possible to solve all the problems of society through digital technologies. In addition, the robotization of production and management processes, for example in the banking sector, raises the competition between robots and workers.

This article examines the role of technology in the development of students' technical creativity. The advantages and challenges of using digital technologies, as well as understanding effective strategies, allow teachers to gain insights into how to better utilize these tools to enhance students' technical creativity. Moreover, integrating technology into the educational curriculum has been anticipated to promote digital literacy, critical thinking, and stimulate innovative thinking in students.

Issues related to ethical, personal data protection, legal aspects of competition between robots and employees of organizations are increasingly being taken into account due to the obvious benefits of digital technologies.

In today's rapidly evolving technology era, it is critical to prepare students for a future that relies on digital innovation and technical expertise. The development of technical creativity, which includes the ability to think creatively and innovatively in technical fields, is at the forefront of enabling students to actively contribute to a technology-based society. Using digital technologies, teachers can provide students with opportunities to learn, experiment, and create in a technical context.

RESULT

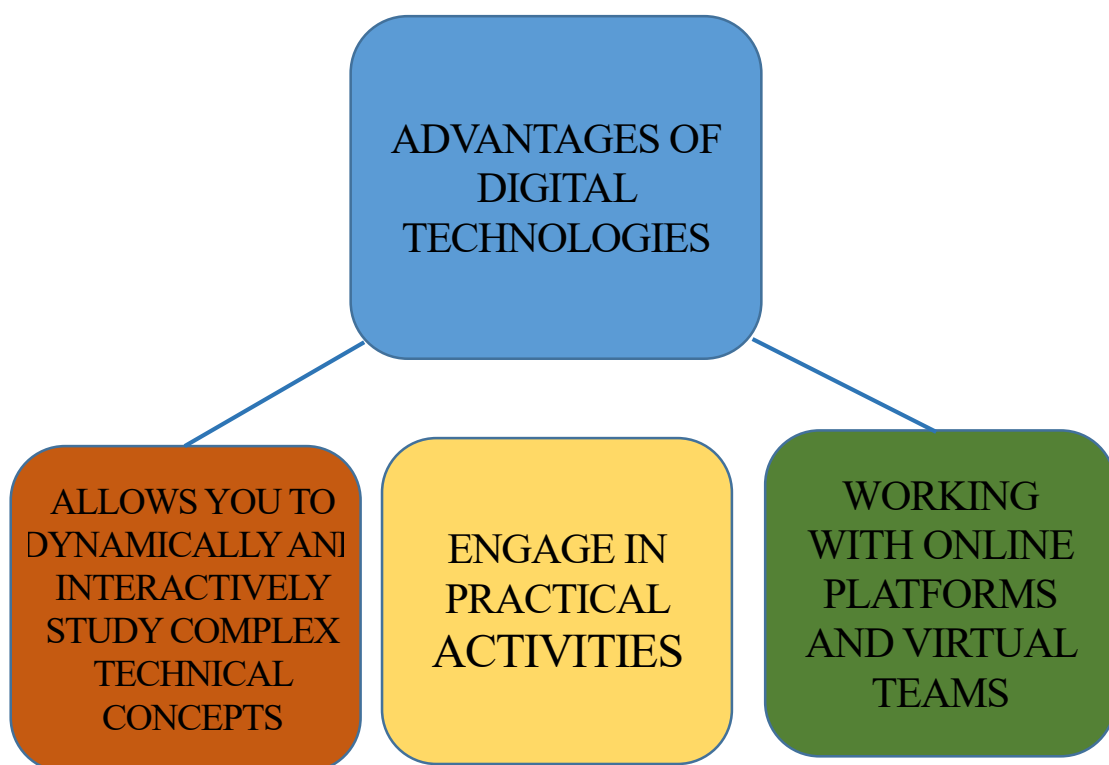
Challenges and Considerations: Although digital technologies have great potential, there are challenges that educators must address when incorporating them into the development of technical creativity. First, there may be a digital divide, where low-income students have limited access to technology, hindering their creative pursuits. This is why it is so important to ensure

equal access to digital tools and resources for all students. Additionally, teachers must have a balance between using technology and fostering hands-on experiences, since an overreliance on digital tools can limit students' tactile and physical interactions with materials and prototypes.

Effective strategies for integrating digital technologies: Teachers can adopt a variety of strategies to effectively use digital technologies to foster technical creativity. First, the introduction of project-based learning approaches allows students to apply their technical knowledge and skills in real-world settings, and develop creativity and problem-solving skills. Encouraging students to explore interdisciplinary connections between technology and other disciplines such as art and design encourages innovative thinking and the integration of diverse perspectives. Providing opportunities for self-directed learning where students can explore digital resources, online communities, and tutorials also encourages autonomy and increases their technical creativity. In addition, combining open-ended problem-solving and design thinking methodologies allows students to approach problems with creative and innovative thinking, provide the opportunity to promote diverse thinking and unique solutions.

Discussion

Benefits of digital technologies for technical creativity: Many studies have demonstrated the benefits of digital technologies in developing technical creativity among students. Digital tools allow students to engage in hands-on activities and learn complex technical concepts in a dynamic and interactive way. Digital technologies also facilitate collaboration and knowledge sharing among students. Online platforms, virtual communities, and social media networks allow students to connect with their peers, share ideas, and receive feedback on their technical projects. This collaborative environment fosters creativity by sharing diverse perspectives and co-creating innovative solutions (Yang, 2013).



Furthermore, digital technologies offer access to many online resources and tutorials, allowing for self-directed and independent research. Students can use these resources to deepen their understanding of technical concepts, acquire new skills, and learn about emerging technologies. This self-directed learning empowers students to take the ownership of their creative processes (Peppler, 2013).

Professional knowledge and skills of managing complex systems in students are formed during the period of production practice in real systems or directly in an educational institution by training on special simulators. In one case or another, the student must clearly describe the processes taking place in the system, understand and know its components, the essence of the results of work, clearly and directly evaluate his capabilities and tasks for managing the system in various conditions of the situation. Therefore, until the student receives practical knowledge and skills in real systems or simulators, he must study the structure and functional structure of the system, deeply understand the essence of the processes taking place in it, and know information and management channels. It is in these subjects that electronic textbooks give high results as optimal means of education.

Challenges and considerations: The integration of digital technologies into technical education, despite its advantages, is not without challenges. One significant problem is the digital divide, manifesting as inequality among students in accessing technology initially. Warschauer (2014) emphasizes the importance of addressing this issue to provide equitable opportunities for creative and technical engagement, supported by research findings that advocate for fair resources for all students. Another challenge is finding the right balance between digital tools and hands-on experiences. While digital technologies offer unprecedented possibilities, they must not overshadow the importance of physical interaction with materials and prototypes. Educators should recognize the potential for students to address real-world challenges through the synergy of working with physical objects and utilizing digital tools (Fleming, 2016).

Conclusion

In conclusion, the significance of developing technological innovation among students through digital technologies today is crucial for preparing them for future opportunities, problem-solving, innovation development, advancing digital literacy, enhancing critical thinking skills, and fostering activity and motivation. Embracing technology as a means of fostering creativity enables educators to actively engage students in the digital era, contributing to their integral role in the evolving technological landscape.

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