THE USE OF INFORMATION AND DIGITAL TECHNOLOGIES IN DESIGN EDUCATION

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Abstract

These scientific theses focus on the issues related to the use of information and digital technologies in the educational process of students in creative professions. These issues should be considered when developing and implementing educational programs for the specialization in Design (022). The paper analyzes existing technologies, noting their advantages and disadvantages. In particular, attention is drawn to problems associated with accessibility to cutting-edge technologies, data security, and privacy, as well as the lack of personal contact. Additionally, the theses describe the benefits of using information and digital technologies to enhance educational processes in design education. It is noted that modern information and digital technologies can contribute to increased efficiency and the development of new skills, as well as the ability to learn remotely. The total volume of the theses is 3 pages.

Key words: *educational programs, design education, online tools, multimedia resources, information and digital technologies.*

Introduction

The modern educational landscape is marked by the rapid development of information and digital technologies, which play a key role in the formation and improvement of the processes of obtaining design education, which provides the opportunity to solve various educational tasks. The use of these technologies in education undoubtedly has its advantages and disadvantages, which should be carefully considered when developing and

implementing educational programs. In these theses, we will consider the key aspects of this issue, having analyzed the advantages and disadvantages of using information and digital technologies in the modern educational process.

There are certain trends in the implementation of technologies in design education, allowing for continuous development and adaptation to modern requirements. However, they also face certain challenges that complicate their application.

The widespread use of artificial intelligence algorithms makes it an integral component of many web applications for designers, making them a convenient tool in everyday routine work. However, existing systems do not always provide sufficiently accurate results.

This work has identified a number of issues in the use of information and digital technologies in design education. All these problems need to be taken into account when developing educational programs for the field of Design (specialty 022).

Overview

The field of design education is constantly evolving and adapting to modern requirements, creating favorable conditions for the emergence of certain trends in the integration of technologies into design education. These trends indicate the increasing importance of technologies in design education and demonstrate how they contribute to the development of creative and technical skills among students in this field [1].

This study investigates the main trends, identifies solutions, and proposes strategies to ensure effective teaching for future designers.

Key trends in the use of information and digital technologies in design education:

1. Virtual (VR) and Augmented Reality (AR) Usage: These technologies enable students to create and explore three-dimensional models, collaborate on projects in virtual environments, enhancing understanding of design and collaboration.

2. Modeling and Simulation: Students can learn specialized modeling programs and optimize their design ideas before implementation through simulations.

3. Collaboration and Project Work: Online collaboration tools allow students to work together on projects, regardless of their physical location.

4. Interactivity and Gamification: Implementing gamification in education creates engaging and motivating learning experiences where students compete and receive rewards for achievements.

5. Online Courses and Resources: Platforms like Coursera, Udemy, and specialized websites provide access to numerous educational resources and courses.

6. Specialized Tools: Using design-specific software and tools like Adobe Creative Suite, Sketch, Figma, makes learning more practical and prepares students for real-world tasks in the industry.

7. Industry Collaboration: Collaboration with design companies and internships help students gain practical experience and industry connections.

8. Adaptation to Mobile Platforms: With the increasing use of mobile devices, design education courses and resources are increasingly adapting to smartphone and tablet formats.

One of the main challenges of using information and digital technologies in education is the inequality of access. Not all students have equal access to the necessary technologies and the Internet, which can create barriers to accessing education [2].

Additionally, there may be distractions and decreased attention span observed. Increased reliance on digital technologies raises concerns regarding data privacy and security.

Dependency on technology, lack of access to it, or technical issues can lead to disruptions in learning and stress for both students and educators [3]. Moreover, there is an issue of the absence of personal contact between students and teachers, which adversely affects the development of social skills.

Solution

There are several ways to address the issues associated with the use of information and digital technologies. Some of them include:

– These technologies help educators create engaging lessons that encourage active student participation and make learning more enjoyable. They enable students to choose individual learning paths, visualize complex concepts, and provide convenient access to education, even in remote areas.

– Online resources and graphic tools facilitate the dissemination of knowledge and allow educators to use current materials to support their lessons. Moreover, these technologies simplify assessment and distance learning, offering opportunities for interaction and learning anytime, anywhere. Implementing these technologies creates many opportunities to enhance learning and improve the quality of education, fostering active and interactive learning.

– Interactivity and gamification have become important components of education, encouraging students to actively participate. Gaming elements

such as challenging tasks and reward systems make learning more engaging and fun. Students show greater interest in the material and more motivation to achieve better results when learning becomes an enjoyable game [4].

Conclusions

The current study addressed the challenges of information and digital technologies and proposed solutions. Despite the rapid advancement of such technologies, participants in the educational process still face issues such as insufficient accuracy, access to learning, distractions, reduced attention span, lack of personal contact between students and instructors, and deterioration of social and communication skills.

However, the development and adaptation of information and digital technologies to educational needs, individualized approaches, and the use of gamification may help address these issues in the future. Consequently, research in this area remains relevant and could have significant implications for further collaboration and successful implementation in design education.

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