

FOREIGN EXPERIENCE OF USING DIGITAL TECHNOLOGIES IN EDUCATION

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ABSTRACT

In the article 'Foreign experience of using digital technologies in education' modern approaches to the introduction of information technologies in the educational process abroad are considered. The author analyses significant aspects such as massively open online courses (MOOCs), use of virtual and augmented reality (VR/AR), gamification, application of artificial intelligence (AI) and adaptive learning.

Keywords: digital technologies, education, online courses, virtual reality (VR), augmented reality (AR), artificial intelligence (AI), adaptive learning.

INTRODUCTION

In recent decades, digital technologies have become an integral part of the educational process worldwide. Progress in information and communication technologies (ICT) has changed approaches to teaching, learning and organisation of the learning process. The development of digital tools provides new opportunities for both students and teachers, improving the quality and accessibility of education. In this article, examples of foreign experience of introducing digital technologies in education and their impact on the learning process will be discussed.

1. Online education and Massive Open Online Courses (MOOCs)

One of the most significant innovations in the educational sphere is the development of Massive Open Online Courses (MOOCs). Platforms such as Coursera, edX and FutureLearn offer a wide range of courses from the world's leading universities such as Stanford, MIT, Oxford and Harvard.

MOOCs have significantly increased access to education for millions of people around the world. For example, the edX platform, founded by MIT and Harvard University, provides access to courses in fields ranging from engineering and medicine to the arts and humanities. Courses can be taken anytime and anywhere, making education more flexible and accessible. The benefits of MOOCs include the ability to receive a quality education without having to physically attend university, and access to world-class faculty. However, there are also a number of challenges. One of them is the high dropout rate of students, which is due to the need for strong self-discipline and motivation [1].

2. Use of Virtual and Augmented Reality (VR/AR)

Another important aspect of digitalisation in education is the use of Virtual and Augmented Reality (VR/AR) technologies. These technologies allow students to immerse themselves in interactive learning environments, making learning more visual and engaging.

One prominent example of the use of VR in education is the Google Expeditions project, which allows students to 'travel' into virtual worlds. Using VR glasses, students can explore historical

sites such as the Great Wall of China or Antarctica and gain knowledge through hands-on interaction. This helps develop critical thinking and visualisation of complex concepts such as historical events or the structure of the human body.

Augmented reality (AR) has also found its application in educational institutions. For example, the QuiverVision app uses AR to bring traditional textbooks to life. Students can see three-dimensional models directly on their tablets, interact with them and learn the materials in an interactive way [2].

3. Artificial intelligence and adaptive learning

Artificial Intelligence (AI) is becoming an increasingly popular tool in education due to its ability to automate and personalise the learning process. AI-enabled software such as Knewton or Smart Sparrow offers adaptive learning programmes that adjust to each student's individual needs and proficiency level.

Adaptive learning allows students to learn at their own pace, receiving instant feedback and personalised guidance. An example of a successful application of AI in learning is the Chinese platform Squirrel AI, which uses artificial intelligence to create personalised learning courses in maths and other subjects. The platform analyses each student's progress and recommends individual assignments based on the data, resulting in significantly improved learning outcomes [3].

4. Gamification in education

Gamification is the use of game mechanics in non-game contexts such as learning. Foreign educational institutions are actively introducing game elements into the educational process to increase student motivation and make learning more engaging.

One of the most successful examples is the Kahoot! platform, which allows the creation of interactive quizzes and competitions. Learners can compete against each other in real time, which increases their engagement and interest in the subject. According to the study, the use of gamification improves students' academic performance and memory, as well as teamwork skills.

Finland, known for its innovative approaches in education, is actively using the Seppo app, which combines game elements with real-life educational tasks. Students can complete tasks outdoors, using mobile devices to search for information and solve problems, making the learning process more dynamic and interactive [4].

5. Digital platforms for collaborative learning

One of the key areas of digital education is the development of collaborative learning platforms. Platforms such as Microsoft Teams, Google Classroom and Slack allow students and teachers to interact in real time, share materials, hold discussions and work together on projects.

Google Classroom, for example, gives teachers and students access to tools to organise classes, create assignments, administer tests and grade results. This is especially relevant in the COVID-19 pandemic, with many schools and universities moving to distance learning. Such

platforms help to maintain a level of interaction between those involved in the learning process, even at a distance.

Universities in the UK, such as the Open University, have long utilised digital platforms to support distance learning. This allows students from different parts of the world to receive quality education, participate in discussions and receive support from lecturers through online platforms [5].

6. Digital literacy and cybersecurity

The digitalisation of education requires the development of digital literacy among students and teachers. An important part of this process is teaching the basics of cybersecurity. Foreign experience shows that curricula in countries such as the US, Australia and Germany include mandatory digital literacy courses that teach students how to use the internet safely, work with data and protect their personal information.

An example is the Digital Citizenship programme in Australia, where students are taught digital skills, ethics and safe online behaviour. This helps to develop responsibility and informed use of digital technologies.

Foreign experience of using digital technologies in education shows that innovative tools and platforms can significantly improve the quality of learning and make it more accessible to a wide audience. Online courses, virtual and augmented reality, artificial intelligence, gamification and digital collaboration platforms help students to better absorb the material and develop the skills needed for successful careers in the 21st century. However, it is important to consider challenges such as digital inequality and the need to train teachers to work with new technologies. Integrating digital technologies into education is not only a matter of technology, but also of approaches that foster critical thinking, creativity and collaboration among students [6].

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