МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ

ОДЕСЬКИЙ НАЦІОНАЛЬНИЙ ЕКОНОМІЧНИЙ УНІВЕРСИТЕТ

АКАДЕМІЯ ПРИКЛАДНИХ НАУК ІМЕНІ СТЕФАНА БАТОРІЯ (РЕСПУБЛІКА ПОЛЬЩА)

ПОЗНАНСЬКИЙ УНІВЕРСИТЕТ ЕКОНОМІКИ І БІЗНЕСУ (РЕСПУБЛІКА ПОЛЬЩА)

КЛАЙПЕДСЬКИЙ УНІВЕРСИТЕТ (ЛИТВА)

ЗАБЕЗПЕЧЕННЯ ЯКОСТІ ВИЩОЇ ОСВІТИ: ПРОБЛЕМИ ТА ПЕРСПЕКТИВИ РОЗВИТКУ

(збірник матеріалів VIII Міжнародної науково-методичної конференції)

6-7 березня 2025 р.

Одеса ОНЕУ 2025

УДК 378.046(063)

ЗАБЕЗПЕЧЕННЯ ЯКОСТІ ВИЩОЇ ОСВІТИ : ПРОБЛЕМИ ТА ПЕРСПЕКТИВИ РОЗВИТКУ : збірник матеріалів VIII Міжнародної науково-методичної конференції (м. Одеса, 6-7 березня 2025 р.). Одеса : ОНЕУ, 2025. – 433 с.

Matviienko L. H.
Associate Professor of Germanic and Ukrainian Philology,
Poltava State Agrarian University
Poltava, Ukraine
Khomenko L. H.
Associate Professor,
Associate Professor of the Department of Theory and Methods of Technological Education
National Pedagogical University named after Poltava V.G. Korolenko
Poltava, Ukraine

THE EFFECTIVENESS OF DIGITAL TOOLS IN BLENDED LEARNING

Blended learning combines traditional teaching methods with the use of digital tools. It is a modern response to the challenges of education in the context of digital transformation. The use of such tools has become particularly relevant during the COVID-19 pandemic and the war in Ukraine, when the need for distance learning has changed approaches to the organisation of the educational process. Digital technologies provide accessibility, flexibility and the ability to adapt learning to individual student needs, but their effectiveness depends on many factors [1]. Digital tools create new opportunities for organising the educational process. They provide access to learning materials in a convenient format, promote interactivity and allow students to learn at their own pace. For example, learning management platforms (LMS) such as Moodle or Google Classroom allow for centralised posting of materials, testing and communication with students.

The use of interactive applications such as Kahoot or Quizizz adds game-like elements that increase student motivation [3]. Video conferencing platforms (Zoom, Microsoft Teams) allow for synchronous classes, providing feedback between the teacher and students. Advantages of digital tools [1]:

- flexibility. Students can study at a time and place that is convenient for them, which is especially important for those who combine their studies with other responsibilities.
- interactivity. Digital tools allow you to create tasks that require active participation of students, such as tests, surveys or simulations.
- individualisation. Adaptive learning systems, such as Smart Sparrow, adjust the content to the student's level of knowledge, which increases the efficiency of learning .
- progress monitoring. LMS platforms provide teachers with tools for analysing student performance and timely adjustments to the learning process.

In order to evaluate the effectiveness of digital tools in blended learning in practice, it is important to integrate them into real-life educational tasks. Such exercises not only test students' knowledge, but also stimulate their active participation, increase their motivation and promote critical thinking skills.

1. An interactive test using Kahoot or Quizizz.

Objective. To test students' basic knowledge of the topic.

Description of the task. The teacher creates a test in the format of a game on the Kahoot or Quizizz platform. Questions can be multiple choice, matching, or fill-in-the-blank. Students join the test via their devices. The one who gives the most correct answers in the shortest time wins.

Effect. Students are actively engaged in the process as the game format makes learning fun and competitive.

2. Group project on the Google Workspace platform.

Objective. To develop skills in collaboration and information analysis.

Task description. Students are divided into groups and given the task of creating a joint presentation in Google Slides or a document in Google Docs. For example, they can research a topic, analyse sources, and present their findings. The teacher can track the contribution of each participant in real time.

Effect. The assignment promotes teamwork, the ability to use digital tools for collaborative

activities, and better learning through active discussion.

3. Video lecture with interactive inserts in the Edpuzzle platform.

Objective. To deepen the understanding of the learning material.

Task description. The teacher uploads or creates a video explaining a particular topic on the Edpuzzle platform. Interactive elements are added to the video, such as questions, fill-in-the-blank tasks, or short surveys. Students watch the video at home while completing the assignment.

Effect. The combination of video materials with active elements contributes to better information assimilation and allows the teacher to assess the level of understanding of the material.

4. Discussion in a forum format on Moodle or Padlet.

Objectives. To develop critical thinking and argumentation skills.

Description of the task. The teacher creates a topic for discussion in a Moodle forum or on a Padlet. For example, students can discuss the advantages and disadvantages of a certain phenomenon, analyse an article, or express their opinion on the material they have read.

Effect. This exercise helps to develop analytical skills, the ability to argue one's point of view, and engages students in active interaction with their classmates.

5. Virtual simulation or training simulator.

Objective. To practice practical skills in a safe environment.

Task description. Students complete an activity on a platform that offers virtual simulations, such as PhET Interactive Simulations (for science) or Code.org (for programming). They can model physical phenomena, experiment with chemical reactions or create algorithms.

Effect. Students get the opportunity to apply knowledge in a practical way without risking resources or safety, which is especially important in technical and natural sciences.

6. Reflection through an interactive survey in Mentimeter.

Objective. To assess the emotional state and level of satisfaction with the training.

Description of the task. At the end of the class, the teacher asks students to answer a few questions through Mentimeter: «What did you learn?», «What is still unclear?», «How do you evaluate your participation?». The results are displayed anonymously in the form of graphs or word clouds.

Effect. The teacher receives feedback, and students have the opportunity to reflect on what they have learnt and share their impressions.

The use of such practical exercises, integrated with digital tools, can make blended learning more effective and interesting. They promote active student participation, develop their collaboration and critical thinking skills, and make the learning process flexible and accessible [3]. They also allow teachers to assess how well students are learning and interacting with modern technologies.

Although digital tools have many advantages, their use is fraught with challenges. First of all, not all students have access to quality internet and modern devices, which creates inequality in access to education. Also, both students and teachers need digital literacy to use technology effectively. Excessive use of digital tools can cause fatigue, information overload, and reduced concentration.

Information and communication technologies are an important component of blended learning, contributing to its accessibility, interactivity and individualisation. At the same time, the effective implementation of these tools requires addressing technical and organisational challenges, including ensuring equal access to technology and improving the digital literacy of learners. Further research should be aimed at optimising the integration of digital technologies in education to ensure their effectiveness in the long term.

References:

1. Грищенко О.В. Сучасні виклики змішаного навчання. Київ: Освіта України, 2021. 250 с.

2. Siemens G. Connectivism: A Learning Theory for the Digital Age. *International Journal of Instructional Technology*, 2019. № 12(3). С. 45–56.

3. Петренко В.А. Вплив цифрових технологій на академічну успішність студентів. Київ: НАН України, 2021.180 с.