



ПЕДАГОГІЧНА АКАДЕМІЯ:
НАУКОВІ ЗАПИСКИ

ІНФОРМАЦІЙНО-КОМУНІКАЦІЙНІ ТЕХНОЛОГІЇ В ОСВІТІ

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Utilizing virtual interactive platforms during educational process at higher educational establishment

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Abstract. *The **purpose** of the article is to reveal the methodological potential of virtual interactive platforms in organizing the educational process in higher education, which contributes to the active learning and development of higher education applicants. The **research methods** are analysis and generalization of theoretical material based on the study of literary sources on the problem under stud, deduction; description, comparison, systematization and generalization. In the **results** of the study particular attention is paid to the current problem of teachers - organizing effective two-way communication between participants in the educational process in distance learning conditions.*

This article analyzes various possibilities for using virtual interactive platforms, such as Padlet, Jamboard and Miro, in order to optimize the educational process in distance learning and organize two-way communication between all participants in the educational process. The author highlights and thoroughly explores the concept of virtual interactive whiteboard and provides comparable analysis of various virtual



*interactive platforms. It is argued that the use of virtual interactive platforms, in particular virtual interactive whiteboards, can solve this problem. Among the advantages of using virtual interactive platforms are the involvement of all participants in joint activities, increased participation and cooperation of teachers with education applicants. However, the article also reflects some of the disadvantages of using virtual interactive platforms, such as high costs, technical requirements and the need to develop skills in using them among all participants in the educational process. The author emphasizes the importance of preparing teachers to use virtual interactive technologies in the educational process. The **conclusions** indicate that active development of skills in using virtual interactive platforms among teachers and their implementation in the educational process helps not only to improve the organization of distance learning but also to enrich both distance and full-time educational processes in higher education. The author of the article also determines the direction of current research aimed at studying the impact of the use of virtual interactive platforms on the educational process.*

Keywords: *organization of education; distance education; interactive teaching method; virtual board.*

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Використання віртуальних інтерактивних платформ під час освітнього процесу у ВНЗ

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***Анотація.** Мета статті – розкрити методичний потенціал віртуальних інтерактивних платформ в організації освітнього процесу у вищій школі, який сприяє активному навчанню та розвитку студентів. **Методами** дослідження є аналіз та узагальнення теоретичного матеріалу на основі вивчення літературних джерел з досліджуваної проблеми, дедукція, опис, порівняння, систематизація та узагальнення. У **результатах** дослідження особливу увагу приділено актуальній проблемі педагогів – організації ефективного двостороннього спілкування між учасниками навчального процесу в умовах дистанційного навчання. У цій статті аналізуються різні можливості використання віртуальних інтерактивних платформ, таких як Padlet, Jamboard та Miro з метою оптимізації освітнього процесу при дистанційному навчанні та організації двостороннього зв'язку між усіма учасниками освітнього процесу. Автор виділяє та докладно досліджує поняття віртуальної інтерактивної дошки, а також проводить порівняльний аналіз різних віртуальних інтерактивних платформ. Стверджується, що використання віртуальних інтерактивних платформ, зокрема віртуальних інтерактивних дошок, може вирішити цю проблему. Серед переваг використання віртуальних інтерактивних платформ – залучення всіх учасників до спільної діяльності, розширення участі та співпраці викладачів із здобувачами освіти. Однак у статті відображено деякі недоліки використання віртуальних інтерактивних платформ, такі як висока вартість, технічні вимоги та необхідність формування навичок їх використання у всіх учасників освітнього процесу. Автор наголошує на важливості підготовки вчителів до використання віртуальних інтерактивних технологій в освітньому процесі. Зроблено*



висновки, що активний розвиток у викладачів навичок використання віртуальних інтерактивних платформ та впровадження їх у навчальний процес сприяє не лише вдосконаленню організації дистанційного навчання, а й збагаченню як дистанційного, так і очного освітнього процесу у вищій школі. Автор статті також визначає напрямок сучасних досліджень, спрямованих на вивчення впливу використання віртуальних інтерактивних платформ на освітній процес.

***Ключові слова:** організація освіти; дистанційна освіта; інтерактивний метод навчання; віртуальні дошки.*

A general statement of the problem and its connection with important scientific or practical tasks (Introduction). One of the requirements for a modern higher education teacher is the use of advanced methods and forms of teaching, which are based on the active involvement of higher education applicants in the learning process [7]. Previously, the basis of a successful educational process was the interaction between students and teachers, a high level of communication between all participants in the educational process. The general development of technologies in the field of communication affects the process of ensuring effective educational interaction and requires participants in this activity to search for new technological methods and means of teaching. The question arises about attracting new interactive learning tools that facilitate the organization of active interaction between all participants in the educational process [15].

Another aspect that influences the trend of attracting virtual interactive platforms in Ukrainian education is the introduction of martial law, which requires teaching staff of educational institutions to widely use distance learning tools.

One of the distance learning tools is virtual interactive whiteboards, which are not a new digital tool, but are still not widely used in the educational space. The use of



interactive whiteboards in teaching is an increasingly popular tool for enhancing collaboration among all participants in the educational process. Interactive whiteboards allow you to use new digital technologies to improve student comprehension and develop students' skills [1].

Analysis of recent research and publications. The methodology for using interactive virtual platforms as a learning tool is based on the general theoretical and methodological principles of interactive learning developed over the past 30 years. S. Honcharenko, T. Nazarova, I. Hevko, A. Martynets and others worked in this direction [4].

The use of interactive virtual whiteboards in the educational process was studied by H. Henseruk, N. Morze, N. Khmil, M. Hladun, S. Martyniuk, T. Mostipaka and many others [5], [11]. In particular, N. Khmil explores ways to develop students' learning competencies using the Padlet service [12]. M. Hladun considers virtual interactive whiteboards as a technology of collaboration [6]. N. Morze studied the issues of organizing formative assessment using digital technologies, in particular virtual interactive platforms [10].

Highlighting previously unresolved parts of the overall problem. Analysis of the works of Ukrainian scientists shows that digitalization processes occur in all areas of human life including the field of education. However, the issue of using virtual interactive platforms during the educational process at higher educational establishments remains not fully disclosed. Further in the article, we will look closer at distance learning technologies, namely, virtual interactive platforms, and analyze them through the prism of online learning conditions.

Formulation of the article goals (setting the task). The article aims to reveal the methodological potential of virtual interactive platforms in organizing the educational process in higher education, which contributes to the active learning and development of higher education applicants.



Presentation of the main material of the study with a full justification of the obtained scientific results (Results of the study). Since the birth of information technology, learning has been undergoing an evolution, becoming more interactive and accessible to all participants in the educational process. In the modern world, where technology is rapidly developing, the use of interactive virtual resources is becoming an important component of the educational process, especially in higher education. Such resources, including websites, applications and platforms, provide higher education applicants and educators with new opportunities to effectively organize and conduct classes [2].

A virtual whiteboard is a digital tool that can be used for interaction, collaboration and information exchange between users in both synchronous and asynchronous modes. This tool allows users to collaborate on projects, take notes, brainstorm, share files, visualize ideas, and more.

Currently, there is a large number of platforms (osvitanova.com.ua, naurok.com.ua) that offer descriptions and information about virtual interactive whiteboards, trainings and other similar tools. This indicates that interest in these educational technologies and teaching methods is growing. However, you need to be careful and evaluate the quality and usefulness of these resources before applying them.

The use of virtual interactive platforms goes beyond the traditional classroom giving students the opportunity to learn at a time and place that suits them. They provide access to a large amount of educational material in various formats including video lessons, interactive tasks, specialized courses, and more. This gives students the opportunity to learn at their own pace and according to their needs and interests. The advantages of using virtual interactive whiteboards are obvious. They provide an opportunity to involve all participants in the educational process in joint activities, stimulate active participation and cooperation with education applicants [3]. Such interactive tools make it possible to implement an activity-based approach to the



educational process as a whole, where higher education applicants can independently research the material, solve problems and interact with all participants in this process.

It is important to take into account the quality and reliability of the materials, examine user reviews and opinions, and understand that the result depends not only on the technology used but also on the skill and competence of the teacher [9, p. 7]. As a result, the presence of many resources describing interactive virtual boards, trainings, etc., indicates a fundamental interest in such teaching methods. In addition, virtual interactive platforms open up new ways of collaboration between students and teachers. They provide the opportunity for distance communication, exchange of ideas and experiences, and contribute to the formation of virtual learning communities. This creates a more dynamic and engaging learning environment where students can use their creativity and work on projects and tasks with others [13, p. 97].

There are many types of virtual interactive platforms that can be used in teaching. Based on their general purpose, virtual interactive whiteboards can be divided into the following categories:

- for drawing (IDroo, Draw Note, Scribblar, etc.);
- for storing notes (Padlet, Conceptboard, Scrumbler);
- for organizing collaboration (Jamboard, Miro, Twiddla, etc.);
- for creating interactive posters (Wikiwall, Glogster) [14].

However, this classification is quite arbitrary because more and more new interactive resources are appearing.

In educational activities, we classify virtual interactive whiteboards according to the tasks that arise in the professional activity of a teacher and the educational activity of an education applicant:

- storage environment for educational content;
- platform for planning and reporting;
- a means of presenting methodological and educational developments;



- a tool for organizing feedback and self-study;
- a digital social community, which may include departments, clubs and other forms of associations.

The digital technology market provides a wide variety of virtual interactive whiteboards for various purposes. Thanks to this, users are given the opportunity to choose the board that best suits their needs and requirements. These virtual boards can be used not only in education, but also in business, creativity and many other areas of activity.

Let us describe the main characteristics of the most popular virtual interactive whiteboards.

1. Padlet. This is a tool for remote collaboration. It's great for adding training materials and general reporting. This online resource has the ability to invite participants to act as an editor. You can load different types of files into padlets: image, links, documents, music or videos. The board can be mailed, exported to PDF, or distributed on social networks.

2. Jamboard. One of Google's tools with which you can view, search and send jam files. The virtual Jamboard is convenient to use for conducting conferences or classes where users can record their ideas and save them in the cloud for later access in synchronous and asynchronous mode. Simultaneous use of GoogleMeet is possible.

3. Miro. The service contains a set of templates that help structure the training material. Perfect for all forms of training sessions. It is possible to download documents, tables and images, and view the board as a video. Integrated with Zoom and Google Drive. You can draw diagrams and graphs.

Since 2020, distance learning in Ukraine has become an integral part of the educational process. In particular, at the Kherson State Maritime Academy, during the 2020-2021 and 2022-2023 academic years, training took place in a distance format, and in the 2023-2024 academic year it was mixed. The problem arose of organizing



two-way communication not only between the teacher and the applicant for higher education but also between other participants in the educational process remotely. This problem has been partially solved by cloud technologies and tools for organizing online video communication. However, these technologies do not allow full feedback from other participants in the process in real time.

For the last three years, at the English Language Department for Maritime Officers (Abridged Programme) of the Kherson State Maritime Academy, the teaching of the Maritime English has been carried out using virtual interactive whiteboards. Among the wide variety of virtual interactive platforms, we selected three of them that fully or partially meet the stated methodological tasks, namely Padlet, Jamboard and Miro.

The selection criteria included:

- clarity in use;
- technical capabilities;
- tariff package.

Based on our experience in using virtual interactive platforms, we have identified the advantages and disadvantages of this tool for organizing distance learning.

We see the following indisputable advantages of using virtual interactive whiteboards:

1. Visualization and demonstration. Virtual interactive whiteboards are a very convenient tool that allows you to display illustrations, charts, graphs, drawings and other visual materials that help education applicants better understand and perceive new information.

2. Understanding and active participation. With the help of virtual interactive whiteboards, applicants can interact with educational material, operate content blocks



and perform various tasks. This stimulates their active participation in learning and promotes the development of clip thinking.

3. Collaborative learning. Virtual interactive whiteboards facilitate collaboration among participants in the educational process where they can jointly solve problems, discuss ideas and share knowledge. This promotes the development of communication skills and cooperation among education applicants.

4. Variety of teaching methods. The use of virtual interactive whiteboards opens up the possibility of using various teaching methods. Teachers can use group assignments, simulation games, visual demonstrations, competitions, and other methods to make learning more interesting and effective.

5. Convenient storage and reuse of materials. Virtual interactive whiteboards usually have the function of storing materials used at the lesson. This allows educational participants to save presentations, tasks or games and reuse them in future.

In general, the educational function of virtual interactive whiteboards is to improve interaction between participants in the educational process, attract applicants for active learning, create interesting and effective educational content, as well as develop communication skills and critical thinking.

At the same time, there are several potential disadvantages of virtual interactive whiteboards:

1. Requirements for technical resources. Using virtual interactive whiteboards requires digital equipment and a fast Internet connection. Inadequate equipment or poor connections can lead to inconvenience and interruptions.

2. Cost. In most cases, the free plan of virtual interactive platforms has limited settings.

3. The need to develop skills in using virtual whiteboards among participants in the educational process.



However, these shortcomings can be solved completely or partially. Due to the difficulties in organizing the educational process that arose due to martial law, the pricing policy of some developers of interactive virtual platforms is quite loyal to teachers in Ukraine. For example, Miro developers can provide free access to an extended version of the platform, provided that the resource user is an employee of an educational institution and has an educational account @edu.ua.

Using virtual whiteboards can be challenging for teachers. The reason for this is an insufficiently developed system of skills and knowledge in the digital sphere, aversion to new technologies, which can lead to the incorrect use of virtual platforms or underestimation of their methodological potential. Therefore, it is important to train teachers in educational institutions to effectively use virtual interactive whiteboards. The latter is fully consistent with the national concept for the development of digital competencies [8]. The use of interactive virtual platforms in higher education also requires careful planning, preparation, and understanding of potential challenges.

Conclusions. Considering the advantages and disadvantages of using virtual interactive whiteboards in teaching, we can conclude that they may improve the organization of not only distance learning but also the full-time educational process of higher education. The methodological potential of virtual whiteboards is to attract applicants to active learning, which in turn affects their academic success. However, effective use of these technologies requires training of teachers, as well as finding an appropriate balance between the use of virtual interactive technologies and traditional teaching methods.

In the future, we consider it relevant to study the influence of the use of virtual interactive platforms on the formation of correct clip thinking among higher education applicants.



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