

Development of skills for working with online whiteboards in hybrid learning in higher education institutions

Desenvolvimento de habilidades para trabalhar com quadros brancos online na aprendizagem híbrida em instituições de ensino superior

Desarrollo de habilidades para trabajar con pizarras en línea en el aprendizaje híbrido en instituciones de educación superior

Olha Tamarkina¹
Liudmyla Baidak²
Oksana Berezhniak³
Iurii Atamanchuk⁴
Larysa Bidenko⁵

Resumo: *The aim of the research is to determine the effectiveness of skills in working with virtual boards during hybrid learning in higher education institutions (HEIs). The research employed the following methods: observations, calculations of normative coefficient, Student's t-test, Cronbach's alpha. The research established that it is possible to develop the skills of working with virtual boards as a result of the development of students' independence. AWW board (for Group 1) and WhiteboardFox (for Group 2) were used for learning. They contributed to the development of practical oral and written speech, features of translation into a foreign language, linguistic analysis of texts of various styles and genres. Students of Group 1 believe that the biggest advantage is the use of group work with the possibility of tracking results. Students of Group 2 believe that the biggest advantage of virtual boards is independent work, the possibility of updating knowledge. It was found that students of both groups, who studied remotely and in the classroom, were able to achieve high academic results. The practical significance of the work consists in finding effective virtual boards that contribute to learning a foreign language.*

Keywords: *Educational technologies. Interactivity. Linguistic skills. Student motivation. Virtual boards.*

Resumo: O objetivo da pesquisa é determinar a eficácia das habilidades no trabalho com quadros virtuais durante o aprendizado híbrido em instituições de ensino superior (IES). A pesquisa empregou os seguintes métodos: observações, cálculos de coeficiente normativo, teste t de Student, alfa de Cronbach. A pesquisa estabeleceu que é possível desenvolver as habilidades de trabalho com quadros virtuais como resultado do desenvolvimento da independência dos alunos. O quadro AWW (para o Grupo 1) e o WhiteboardFox (para o Grupo 2) foram usados para o aprendizado. Eles contribuíram para o desenvolvimento da fala prática oral e escrita, características da tradução para uma língua estrangeira, análise linguística de textos de vários estilos

1 Candidate of the Pedagogical Sciences, Associate Professor, Foreign Languages Department, Biotechnological Faculty, Sumy National Agrarian University, Sumy, Ukraine, olhatamarkina@gmail.com

2 Senior Teacher, Foreign Languages Department, Biotechnological Faculty, Sumy National Agrarian University, Sumy, Ukraine, baidakli@ukr.net

3 Senior Teacher, Foreign Languages Department, Biotechnological Faculty, Sumy National Agrarian University, Sumy, Ukraine, berezhniakoksana@ukr.net

4 Doctor of Pedagogical Sciences, Professor, Department of Education and Educational Institution Management, Institution of Management, Classical Private University, yuriatamanchuk23@ukr.net

5 PhD (Education), Associate Professor, Department of Journalism and Philology, Sumy State University, Sumy, Ukraine, larysa@drl.sumdu.edu.ua

e gêneros. Os alunos do Grupo 1 acreditam que a maior vantagem é o uso do trabalho em grupo com a possibilidade de rastrear os resultados. Os alunos do Grupo 2 acreditam que a maior vantagem dos quadros virtuais é o trabalho independente, a possibilidade de atualização de conhecimentos. Foi constatado que os alunos de ambos os grupos, que estudaram remotamente e em sala de aula, conseguiram obter altos resultados acadêmicos. O significado prático do trabalho consiste em encontrar quadros virtuais eficazes que contribuam para o aprendizado de uma língua estrangeira

Palavras-chave: Habilidades linguísticas. Interatividade. Motivação do aluno. Quadros virtuais. Tecnologias educacionais.

Resumen: *El objetivo de la investigación es determinar la eficacia de las habilidades en el trabajo con pizarrones virtuales durante el aprendizaje híbrido en instituciones de educación superior (IES). La investigación empleó los siguientes métodos: observaciones, cálculos del coeficiente normativo, prueba t de Student, alfa de Cronbach. La investigación estableció que es posible desarrollar las habilidades de trabajo con pizarrones virtuales como resultado del desarrollo de la independencia de los estudiantes. Para el aprendizaje se utilizaron los pizarrones AWW (para el Grupo 1) y WhiteboardFox (para el Grupo 2). Contribuyeron al desarrollo del habla oral y escrita práctica, las características de la traducción a una lengua extranjera, el análisis lingüístico de textos de varios estilos y géneros. Los estudiantes del Grupo 1 creen que la mayor ventaja es el uso del trabajo en grupo con la posibilidad de seguimiento de los resultados. Los estudiantes del Grupo 2 creen que la mayor ventaja de los pizarrones virtuales es el trabajo independiente, la posibilidad de actualizar los conocimientos. Se encontró que los estudiantes de ambos grupos, que estudiaron a distancia y en el aula, pudieron lograr altos resultados académicos. La importancia práctica del trabajo consiste en encontrar pizarrones virtuales efectivos que contribuyan al aprendizaje de una lengua extranjera.*

Palabras clave: *Competencias lingüísticas. Interactividad. Motivación del alumnado. Pizarras virtuales. Tecnologías educativas*

1 INTRODUCTION

Hybrid learning is a modern approach to provide specialized training of students in unforeseen situations (pandemic, emergency, etc.). It is necessary to ensure communication between students for high-quality and continuous hybrid learning, which will allow to cover issues under research in detail. Online whiteboards can be used to solve the problems of hybrid learning for facilitating the exchange of information (Ma, 2023). Therefore, the relevance of the research issue is determining the mechanisms of working with virtual boards during hybrid learning.

Hybrid learning involves a combination of traditional and interactive tools for easier understanding of the material during traditional and remote classes (Herring Watson, Perkins, Rockinson-Szapkiw, 2024). Hybrid Learning promotes the possibility of students' independent development, interaction with qualified consultants, selection of appropriate educational resources. The hybrid approach changes

traditional learning, which requires not only the use of interactive technologies, but also the need to develop independence (Pozzi, Ceregini, Ivanov, Passarelli, Persico, Volta, 2024). The development of students' independence affects the possibility of conscious perception of materials (Tashkentovna, 2024). Such training enable students to continuously interact with the working content, which ensures continuity in the perception of information. The quality of hybrid learning depends primarily on the preparatory stage, which provides for setting up the necessary equipment (Ren, 2020). Attention should also be paid to communication between students who are in the classroom and students who study remotely. During hybrid learning, it is necessary to provide an assessment of the effectiveness of the acquired knowledge, which will allow understanding the level of students' training (Raes, 2022; ZHAO, 2023).

Hybrid learning can be implemented with the help of interactive technologies that contribute to the joint perception of materials and affect the availability of constant access to

them. Virtual boards are an effective tool for the hybrid learning, which facilitate students' interaction with each other (Nussli, Oh, 2024). Online whiteboards are a tool for collaboration, which is reflected not only in the provision of communication, but also in the editing of materials. So, corrections or additions can be made during the completion of tasks during the study of various subjects, including a foreign language (Burnett, 2024). These boards contribute to the discussion of academic materials, making notes, which promotes a better understanding of the topic.

The theoretical study of hybrid learning approaches showed its effectiveness in the perception of information due to the use of interactive technologies. But reference to a particular specialization of students and the possibility of implementing a high-quality educational process with the help of online whiteboards is poorly covered in the existing studies. The aim of the work is to determine the possibilities of developing skills for working with online whiteboards during hybrid learning in HEIs. The aim involves the fulfilment of the following research objectives:

- a) Determine approaches for developing skills of working with online whiteboards during hybrid learning;
- b) Develop the possibility of involving AWW board and WhiteboardFox online whiteboards in the educational process focusing on the proposed learning mechanisms;
- c) Identify the advantages of virtual boards for learning a foreign language among students and teachers;
- d) Evaluate the performance of students of both groups taking into account the peculiarities of their studies (distance or classroom).

2 LITERATURE REVIEW

Interactive whiteboards (IWBs) are an effective tool for student motivation that can be used to teach English to German students. The results showed that conducting a 45-minute lesson using IWBs made it possible to achieve better results in learning words. The results

were related to the clear educational materials that aim to provide the necessary knowledge and exclude incorrect information (Kühl, Wohinsland, 2022). The use of virtual platforms for the educational process contributes to the students' immersion in the process. This approach affects the achievement of quality results and the faster acquisition of professional skills. For the development of virtual classrooms, teachers constantly need to acquire new knowledge, which will contribute not only to technical support, but also to students' purposefulness to perceive new experiences (Manegre, Sabiri, 2020). Blended learning is implemented with the help of Internet resources, which contributes to wide spread. The Blended Learning application makes it possible to provide a combination of classroom and distance learning, which contributes to the creation of accessible educational courses. The advantage of the application is the possibility of communicative activities that contribute to the discussion of educational topics. Blended Learning is aimed at the use of additional educational material (schemes, images), which provides an expanded perception of the topic (Turchyn, Zaitseva, Rudenko, Saienko, Kuzemko, Denefil, 2023).

Virtual reality (VR) enables learning words from a foreign language, focusing on a combination of the theoretical basis of vocabulary learning and practical tasks. VR promotes the use of authentic content for learning, combining multimodal technologies with traditional approaches. This forms the basis for students to take an active part in learning, which affects the development of language skills (Chen, Yuan, 2023). The Seewo IWB was tested through training was conducted for five weeks among 16 groups. Nvivo software was also used for the educational process. Technologies have provided an opportunity to focus students' attention on the definition of key concepts (Luo, Tan, He, Wu, 2024).

Augmented reality (AR) and VR contribute to the professional training of future teachers. It was established that the educational potential of modern technologies develops under the influence of increased student motivation, a variety of multimedia modes, and the possibility of

using visualization elements. The learning process is aimed at expanding vocabulary, principles of sound formation, correct pronunciation of words, improving writing and communication skills (Rudnik, 2023). The hybrid educational process requires the use of synchronous approaches and a combination of interactive and traditional educational approaches. Interactive technologies affect the ability to analyse and edit educational materials. Using the NASA-TLX model affects the amount of workload measurements. This made it possible to develop the potential of the educational process and focus on improving students' knowledge (Carruana Martín, Alario-Hoyos, Delgado Kloos, 2023). Hybrid learning should be based on measuring student activity. The process can be implemented with the help of the MS Teams model, which can determine the students' opinion in the educational process with the help of a questionnaire. This approach affects the understanding of the principles of changing educational tools for easier perception of information by students (Baker, Spencely, 2023). In hybrid learning, it is necessary to focus on the possibility of using various digital platforms when implementing research projects (Zoom, Padlet, Moodle). Hybrid learning spaces will allow continuous academic writing workshops, communication and individual tutoring from teachers. Synchronous interaction of students can reveal their potential in research activities (Jusslin, Hilli, 2023).

The existing studies focus on the implementation of the educational process with the help of virtual technologies. But most studies focus on the use of virtual applications rather than online whiteboards. This approach creates gaps in these studies and expands the research issues in our paper. This research will identify the most appropriate online whiteboards for the educational process, focusing on their functions.

3 METHODS AND MATERIALS

3.1 RESEARCH DESIGN

The first stage of the research included the search for mechanisms for developing skills for

working with online whiteboards during hybrid learning. The process was aimed at finding opportunities to use virtual whiteboards to ensure quality education during foreign language learning. In our research, English was accepted as a foreign language, as it is a foreign language for Ukrainian students. The second stage of the research involved the selection of specific online whiteboards for the possibility of implementing particular teaching methods. The third stage of the study was conducted after three months of learning. This made it possible to identify the advantages of online whiteboards during hybrid learning, focusing on the gained experience. The performance of students who studied in distance format and offline was also evaluated at the third stage of the study.

3.2 SAMPLING

The study involved 176 students from Sumy National Agrarian University studying at the Department of Foreign Languages. The criterion for selecting students was their specialization and year of study. The respondents of the 2nd-3rd years of study were selected, as they had certain knowledge of a foreign language. This was necessary for the possibility of improving professional knowledge, focusing on already gained experience. It was planned to involve first-year students in the study, but the lack of a certain level of knowledge required the development of additional educational mechanisms, which could affect the final results of the study. The level of knowledge of the respondents was in the range from medium to high, which was confirmed by the corresponding academic grades. The students were evenly distributed into two groups of 88 people, which provided for the same number of students with the appropriate level of knowledge (medium, sufficient, high). Equal conditions were ensured for all respondents during the research for the purposes of academic ethics.

The respondents participated in the educational process with the use of online whiteboards. They were selected on the ba-

sis of a functional test of about 50 different options. The test involved orientation to the conduct of a part of the lesson and the coverage of various functions of a particular online whiteboard. The interactive tool was chosen for the training taking into account the criteria, which provided for the development of skills for working with online whiteboards. So, online whiteboards AWW board, WhiteboardFox were used in the study on the basis of an experimental approach. The use of online whiteboards provided for separate educational mechanisms, which consisted of three basic stages. This included practice in speaking and writing; study of translation features; conducting linguistic, literary, philological analysis of texts. The students of Group 1 used the virtual AWW board during training; while the students of Group 2 – WhiteboardFox.

The teachers and students of both groups were involved to determine the advantages of online whiteboards in hybrid learning. The criteria determined on the basis of the answers of students and teachers, which were indicated after each lesson. After three academic months, the authors grouped all criteria, and their final options were presented in the research results.

3.3 METHODS

Observation as a general theoretical method allow approaches that best contribute to the understanding of the principles of using online whiteboards. The comparison of different approaches, found how the criterion of impact on information assimilation, the necessary term of information perception, was selected. The effectiveness of approaches to understanding the principles of using online whiteboards was determined with the help of a normative coefficient developed by the authors.

$$b = \frac{n(u,m)}{k_a(u,m)} \quad (1)$$

$n(u, m)$ – the largest value that is accepted as normative;

$k_a(u, m)$ – a normative value depending on a particular parameter.

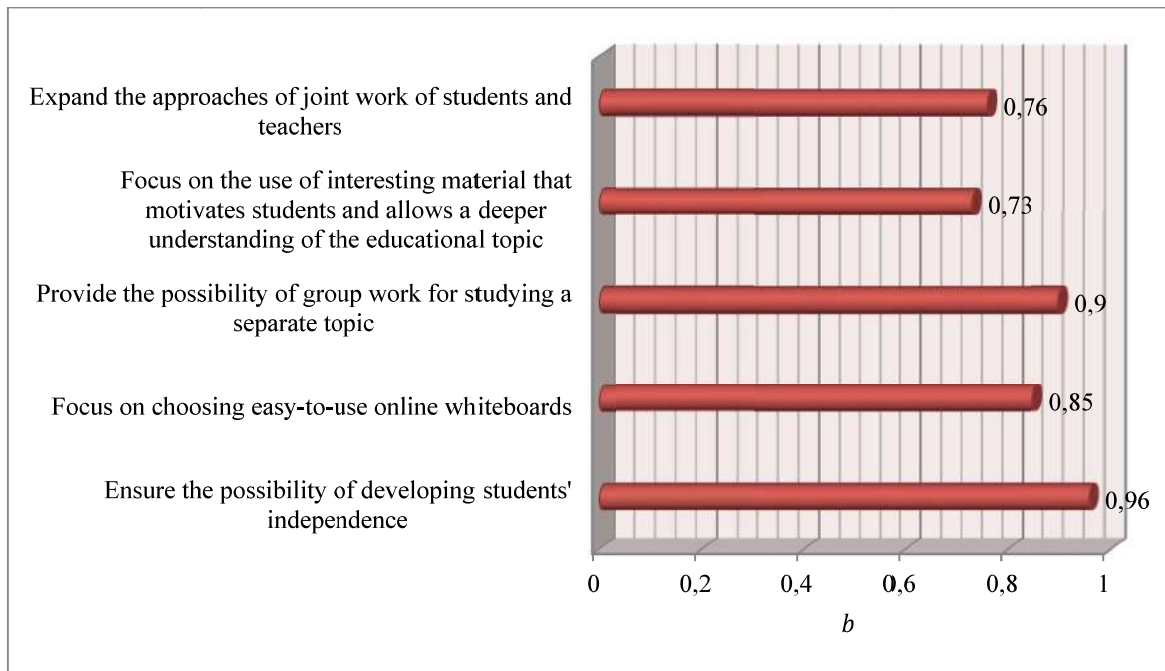
The criteria that had the greatest advantages for the use of online whiteboards in the educational process were determined after three months of training. The electronic mailboxes made it possible to determine which of the advantages was more significant for the respondents. Calculations involved the use of *Cronbach's alpha* (Raes, 2022). This coefficient assessed the internal consistency of the indicators with the help of inter-item correlation. This enables confirming the reliability of the calculated indicators, which contributes to the assessment of the relationship between the values. If the value of the Cronbach's alpha is >0.9 , a strong influence of a separate coefficient is observed. If the value is <0.5 , the influence of a separate coefficient is low.

The results were separately found among students who studied remotely and students who studied in classrooms. Performance was established on the basis of a control exam, which provided for the performance of practical tasks in translation, speech, and linguistic analysis of texts. Calculations were obtained using *Student's t-test* (Dede, Lidwell, 2023). The Student's t-test compares values with each other and ensure reliable results. A coefficient can only be used to test for equality between two values.

4 RESULTS

Online whiteboards are an effective process of implementing hybrid learning in HEIs. The quality of perception of the material depends on the developed skills of working with online whiteboards, which were implemented at the first stage of the study. The approaches to the development of skills for working with online whiteboards were elaborated for students studying a foreign language (Figure 1).

Figure 1-The importance of the developed approaches to work with online whiteboards



Source: Developed by the authors (2024).

It was established that that it is necessary to ensure the possibility of independent processing of individual educational materials for the possibility of developing the skills of using the online whiteboard in the educational process. The process involved completing tasks in the form of adding specific words in a sentence, selecting linguistic forms, as well as the preparation of individual tasks, which involves the use of the functions of online whiteboards. Group work in the educational process made it possible to understand the mechanisms of combining the functions of virtual boards. Group work enhanced interest in the subject

and focused on the diversity of student interaction approaches.

Hybrid learning in HEIs involves the choice of easy-to-use online whiteboards. This contributes to a better understanding of the principles of the educational process, the specifics of performing tasks in the classroom, and the principles of using educational materials. Students are focused on a deeper understanding of the educational topic and perform various tasks that are associated with the use of a wider functionality. The authors developed teaching methods focusing on the principles of using online whiteboards (Figure 2).

Figure 2- Mechanisms of implementation of the educational process using online whiteboards



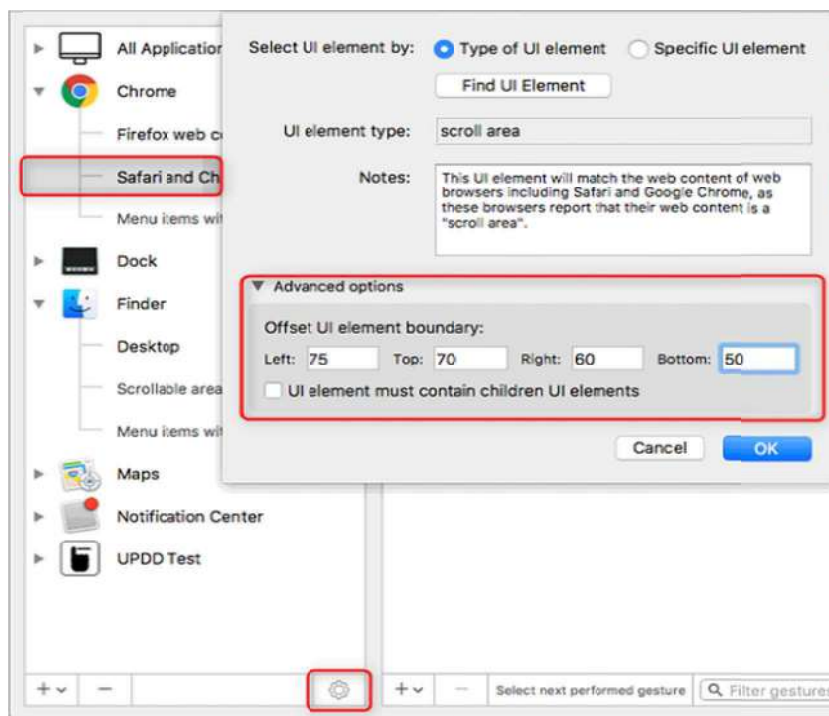
Source: Developed by the authors (2024).

In hybrid learning, students' attention was paid to the practice of oral and written speech, which involves the development of communication skills. The process is aimed at understanding the principles of communication processes, choosing the right oriented words. It is also necessary to take into account the peculiarities of conversational intonation, which affects the more accurate rendering of the tone of communication. When taking into account the peculiarities of translation into a foreign language, it was planned to take into account syntactic and morphological changes that contribute to a better translation. During the translation, the need to find expressive elements that contribute to the creation of contrasting techniques shall be determined. The

peculiarities of the translation are related to the use of the most apt words, lexical modulations for rendering individual topics more precise. Conducting linguistic, literary, philological analysis of texts of various styles and genres enriches students' vocabulary. This provides an in-depth understanding of language, morphological transformations, pragmatic orientation of students in a certain genre.

The first group of students used the AWW whiteboard, the second group — WhiteboardFox. AWW whiteboard provides an opportunity to virtually call students to the board, display not only text, but also various drawings, lines for creating educational schemes. The whiteboard enables exchanging materials, copy links, enter text, etc. (Figure 3).

Figure 3- Features of using the AWW whiteboard

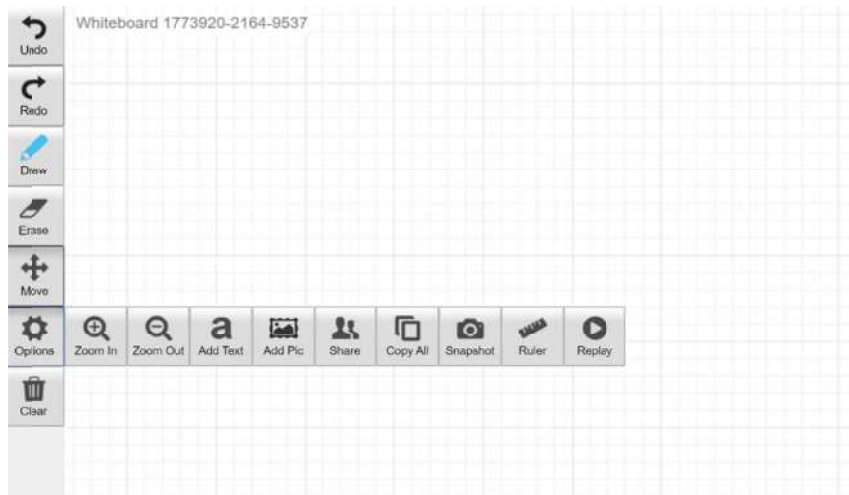


Source: Educational platform «LEARN» (2024).

The WhiteboardFox online whiteboard is easy to use and facilitates the editing of information by students. Conducting joint work between students is associated with the use of educational materials, selection of impor-

tant elements. The interface in English facilitates deeper immersion in a foreign language environment. The ability to add handwritten text facilitates the performance of tasks in the classroom (Figure 4).

Figure 4 – Features of using the WhiteboardFox



Source: Educational platform «LEARN», 2024

The advantages of online whiteboards for the purposes of hybrid learning were determined during the study. The benefits were evaluated by teachers and students in order

to compare the results from different perspectives. Calculations were obtained using Cronbach's alpha (Table 1).

Table 1 - The advantages of virtual boards during the implementation of the educational process have been established

Identified advantages	Teachers			Group 1			Group 2		
	M	SD	Cronbach's alpha	M	SD	Cronbach's alpha	M	SD	Cronbach's alpha
Using group work with the ability to track results	47.4	8.2	0.774	50.2	7.1	0.831	46.8	8.3	0.772
The possibility of accumulation of professional knowledge	51.4	6.3	0.845	44.3	9.0	0.692	42.6	9.4	0.683
Ability to update knowledge	42.3	9.7	0.529	47.3	8.2	0.771	49.8	7.5	0.824
Clarity of perception of materials	42.1	9.8	0.527	48.1	7.8	0.783	43.2	9.2	0.690
Preservation of the educational atmosphere	50.3	6.9	0.815	40.3	9.8	0.541	40.2	9.9	0.539
The possibility of independent work	44.5	8.7	0.698	42.0	9.9	0.523	50.9	7.2	0.849
The possibility of providing a clear proportion of educational materials	40.3	6.2	0.504	41.1	9.8	0.518	41.0	9.8	0.517
No advantages were found	-	-	-	-	-	-	-	-	-

Source: Developed by the authors (2024).

It was established that teachers see the greatest advantage of online whiteboards in the possibility of accumulating professional knowledge and preserving the educational atmosphere. The process is aimed at enabling students to perceive linguistic facts by performing training exercises. The formation of professional knowledge is maintained on the basis of the use of various materials that can be presented in a textual or audio-visual format. Preservation of the educational atmosphere is also one of the priority factors, which is implemented by involving students from the classroom and remotely. Online whiteboards facilitate the completion of tasks by all students, which promotes detailed processing of materials.

Students of Group 1 believe that the biggest advantage of online whiteboards is the use of group work with the possibility of tracking results. The process is associated with the possibility of in-depth study of the topic, exchange of opinions, joint performance of the tasks. Group work provides not only a discussion between students, but also affects the possibility of implementing more complicated educational approaches. For example, brainstorming can be such an approach, as well as the possibility of independent work. Students develop the skills of imitative and reactive pronunciation of words, form phonetic hearing while studying in groups, which affects obtaining higher results.

For students of Group 2, the advantages of virtual boards are the possibility of independent work and updating of knowledge.

Independent performance of tasks under the teacher’s supervision provides the possibility of detecting gaps in the perceived material, taking into account the possibility of their correction on the basis of saved materials. Knowledge updating is associated with the possibility of correcting materials in real time, focusing on the peculiarities of changing the rules in a foreign language.

Clarity of perception of materials has approximately the same value for teachers and students of Groups 1 and 2. The process is aimed at the possibility of ensuring uninterrupted learning, speech development, interaction between teachers and students. The advantages of online whiteboards are the ability to provide a clear proportion of educational materials. The criterion is aimed at the possibility of drawing attention to the necessary information, gradual accumulation of knowledge. Clear proportion of materials is associated with a limited number of linguistic units, constant repetition of materials. This trains the ability to reproduce correct pronunciation, differentiation of tenses. Perception of materials is based of visual, auditory approaches, taking into account students’ pace.

The results of the study showed that the respondents did not find any disadvantages in using online whiteboards during hybrid learning. The students’ performance achieved during the educational process. The results were compared not only among the students of the two groups, but also among those who studied in the classroom and remotely. The scores were obtained after 3 months of training (Table 2).

Table 2- Determined level of performance of students of both groups

Performance level	Group 1					Group 2				
	Offline learning		Distance learning		Student's t-test	Offline learning		Distance learning		Student's t-test
	Mean	SD	Mean	SD		Mean	SD	Mean	SD	
High	2.71	0.718	2.70	0.716	1.720	2.69	0.715	2.73	0.725	1.726
Sufficient	2.59	0.649	2.60	0.651	1.703	2.60	0.620	2.57	0.645	1.692
Medium	2.27	0.436	-	-	-	-	-	2.21	0.429	-
Low	-	-	-	-	-	-	-	-	-	-

Source: Developed by the authors (2024).

A comparison of students' performance showed their achievement of high and sufficient results. Students' distance or in-class learning did not promote the achievement of lower results. Students could qualitatively analyse works of various genres, make appropriate translations. They were able to develop the skills of correct pronunciation of words, focusing on understanding the language material. The development of independence skills influenced the possibility of correction of completed tasks, evaluation of acquired knowledge. The visual perception of materials affected the possibility of interpreting the obtained facts, which affect the solution of complicated problems and are a priority direction for the expansion of professional activity. This contributed to the ability to focus on phonemic representations, which improved the professional command of a foreign language and excluded the creation of communicative barriers based on constant interaction in the educational process.

5 DISCUSSION

Video conferencing technologies facilitate the combination of face-to-face and distance learning, which can facilitate remote student participation based on telepresence technologies. Such training is aimed at the possibility of remote control of materials with which students will interact directly. Multimedia analysis of conversations improves the students' perception of materials in a foreign language and their competence. The process is aimed at active involvement of remote students, which contributes to the solution of pedagogical issues (Jakonen, Jauni, 2022). Synchronous hybrid learning is implemented using the effect of telepresence, which facilitates joint work in the study of educational materials. High-quality education is possible on the basis of reflexive adjustment of students' practical interaction, which is aimed at understanding the educational material and developing students' progressiveness. The creation of hybrid environments should provide equal opportunities for all students (Jakonen, Jauni, Sert, 2024).

The existing studies focus on the improvement of perception of materials based on the creation of the telepresence effect. This is due to the possibility of reflexive correction of students' mistakes. In our article, attention is paid to the effective combination of learning mechanisms and selected online whiteboards. The authors predicted that the learning process should include the practice of speaking and writing, as well as understanding the peculiarities of translation into a foreign language. In addition, it is important to carry out a linguistic, literary and philological analysis of texts of various styles and genres. Combining the principles of independent and group learning will allow students to achieve higher results in the educational process.

When using multimedia technologies in the educational process, it is necessary to ensure the personalization effect. This will eliminate students' anxiety in the learning process, extraneous cognitive load, and motivate them to achieve better results. This helps to eliminate problematic issues and reduce the burden on students (Lin, Sun, 2024). Online learning should adjust to academic and social integration and be connected to the use of technological factors. Lack of social integration is one of the most common factors of instability in education. However, the high level of quality of the curriculum and technical training contributes to the creation of a harmonious learning atmosphere (Chen, 2022). Artificial intelligence technologies promote self-regulation of students and the provision of active learning using digital capabilities. It was established that the use of the interactive SRL-bot contributed to the support of students in learning, improving academic knowledge, controlling behaviour and motivation (NG, NG & CHU, 2024). Hybrid learning environments can be implemented using the telepresence effect, which involves the use of technological and logistical tools. This approach has been found to have the effect of creating an additional burden on teachers who require more effort to explain the material (Martín, Alario-Hoyos, Moreno-Marcos, Kloos, 2024). In the presented studies, the mechanisms for implementing

hybrid learning are connected with the use of technological factors to create a harmonious atmosphere. In our article, the emphasis was placed on the use of the functions of online whiteboards AWW board and WhiteboardFox, which contributed to the active involvement of students in the perception of academic materials.

The analysis of published studies found that they are aimed at identifying approaches to memorizing more information based on the use of virtual technologies. The issue of studying virtual technology has been considered to a greater extent during distance learning. In our article, attention was paid to hybrid learning, which was implemented with the help of online whiteboards. First of all, the approaches that contribute to the development of students' skills in using online whiteboards were determined. The development of learning mechanisms with the use of online whiteboards made it possible to determine the results obtained by students. The practical use of the obtained results is the possibility of implementing AWW board and WhiteboardFox for learning English as a foreign language. The presented criteria for the development of skills for working with online whiteboards make it possible to provide students with better education.

5.1 LIMITATIONS

The research carried out in this article reveals that the limitations of the work are related to the focus on testing the effectiveness of virtual whiteboards for hybrid learning. In the future, attention will be paid to the comparison of interactive applications and virtual boards for the possibility of learning a foreign language. The identified limitations are not significant, as the authors identified the mechanisms for developing students' skills in using online whiteboards.

6 CONCLUSIONS

The research is aimed at determining effective mechanisms for the implementation

of hybrid learning, which helps to achieve the set goal and determine the relevance of issue under research. The authors established that it is necessary to ensure the development of students' independence in order to develop students' skills in working with online whiteboards. It was found that more attention should be paid to group work, as well as focus on the use of simple virtual boards. Such an approach during hybrid learning will allow a deeper understanding of the functions for studying educational materials.

The educational process included the use of the virtual AWW board for teaching students of Group 1 and WhiteboardFox — Group 2. The focus of the educational process on learning a foreign language involved an emphasis on the practice of oral and written communication, studying the peculiarities of translation. It was also planned to focus on linguistic, literary, philological analysis of texts of different styles and genres during the training. After three months of training, it was established that the greatest advantage of virtual whiteboards for teachers is the possibility of improving professional knowledge. For students of Group 1, the possibility of using group work with the possibility of tracking results is important in the use of online whiteboards. Students of Group 2 noted the opportunity to conduct independent work and update knowledge. It was established that the students mainly achieved a high-level performance during the use of hybrid learning using online whiteboards. For example, students of Group 1 who studied offline obtained high results (Mean 2.71), which are almost equivalent to students of Group 2 who studied remotely (Mean 2.73).

The practical significance of the article is the possibility of choosing effective online whiteboards for conducting classroom and distance learning in hybrid education. Further research may focus on comparing the effectiveness of traditional and hybrid learning using online whiteboards. The results obtained in the future can be used to implement the educational process among a larger number of students.

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