



DOI: <https://doi.org/10.46502/issn.1856-7576/2024.18.01.11>

Cómo citar:

Lopatynska, I., Bratanych, O., Biletska, I., Cherednychenko, V., & Pustovoichenko, D. (2024). Evaluating the efficacy of Kahoot as a computer-assisted language learning tool in higher education. *Revista Eduweb*, 18(1), 152-163. <https://doi.org/10.46502/issn.1856-7576/2024.18.01.11>

# Evaluating the efficacy of Kahoot as a computer-assisted language learning tool in higher education

## Evaluar la eficacia de Kahoot como herramienta de aprendizaje de idiomas asistida por ordenador en la educación superior

**Iryna Lopatynska**

 <https://orcid.org/0000-0003-4957-9845>

Donetsk State University of Internal Affairs, Kryvyi Rih, Ukraine.

**Olha Bratanych**

 <https://orcid.org/0000-0003-0141-9850I>

Donetsk State University of Internal Affairs, Kropyvnytskyi, Ukraine.

**Iryna Biletska**

 <https://orcid.org/0000-0002-3372-9100>


Pavlo Tychyna Uman State Pedagogical University, Uman, Ukraine.

**Viktoriia Cherednychenko**

 <https://orcid.org/0000-0002-1605-8042>

V.O. Sukhomlynskyi National University of Mykolaiv, Mykolaiv, Ukraine.

**Dariia Pustovoichenko**

 <https://orcid.org/0000-0002-2253-1238>

V.O. Sukhomlynskyi National University of Mykolaiv, Mykolaiv, Ukraine.

Recibido: 16/12/23

Aceptado: 02/03/24

### Abstract

This study aimed to analyse the effectiveness of using the computer tool Kahoot for foreign language learning in higher education, as well as to address the problem of students' lack of motivation in learning English. This study hypothesised that using the Kahoot app in foreign language classes would improve students' motivation through its engaging approach. To test this hypothesis, a survey was conducted among students who had studied English using this tool. The results showed that students who used the Kahoot app in the classroom were significantly more motivated to learn English. This was made possible by the app's ability to vary the learning tool depending on the needs of the students, which encouraged their active participation in the learning process. The effectiveness of Kahoot as a tool in higher education for learning foreign languages is promising. Its engaging and interactive format, instant feedback, and collaborative learning opportunities make it a valuable tool for enhancing language learning. However, it is important for teachers to be aware of its limitations and complement it with other activities to ensure comprehensive language development. Overall, Kahoot can be a valuable addition to the language learning toolkit in higher education.

**Keywords:** assessment, computer tools, distance learning, institutional efficiency, teacher training.



## Resumen

Este estudio pretendía analizar la eficacia de la herramienta informática Kahoot para aprendizaje de lenguas extranjeras en la enseñanza superior, así como abordar el problema de la falta de motivación de estudiantes para aprender inglés. La hipótesis de este estudio era que el uso la aplicación Kahoot en las clases de lenguas extranjeras mejoraría la motivación de los estudiantes gracias a su enfoque atractivo. Los resultados del estudio mostraron que los estudiantes que utilizaban la aplicación Kahoot en clase estaban mucho más motivados para aprender inglés. Esto fue posible gracias a la capacidad de la aplicación de variar la herramienta de aprendizaje en función de las necesidades de los estudiantes, lo que fomentó su participación activa en el proceso de aprendizaje. La eficacia de Kahoot como herramienta en la enseñanza superior para el aprendizaje de lenguas extranjeras es prometedora. Su formato atractivo interactivo, la retroalimentación instantánea y las oportunidades de aprendizaje colaborativo lo convierten en una herramienta valiosa para mejorar el aprendizaje de idiomas. Sin embargo, es importante que profesores sean conscientes de sus limitaciones y complementen con otras actividades para garantizar un desarrollo lingüístico integral. En general, Kahoot puede un valioso complemento para aprendizaje de idiomas en enseñanza superior.

**Palabras clave:** eficacia institucional, evaluación, formación a distancia, formación del profesorado, herramientas informáticas.

## 1. Introduction

The transformation of higher education in Ukraine that took place during the Covid-19 pandemic and subsequently in light of the full-scale war is the main reason for the development of a comprehensive and inclusive assessment of all learning resources (Yuzyk et al., 2019). The forced transition to distance learning requires "quality of education". The Ministry of Education of Ukraine emphasises that "quality refers to all functions and activities of higher education: teaching and curriculum, research, students, computer tools, equipment". In addition, in the context of distance learning, assessment is necessary to improve its quality (Ivaniuk & Ovcharuk, 2020). Thus, to talk about the evaluation of higher education is to improve its quality through internal assessment and external review by independent experts (Ovcharuk et al., 2022). In addition, talking about quality also means talking about the evaluation of learning aids, which, according to Zhorova, Kokhanovska, Khudenko, Osypova & Kuzminska (2022), is considered to be an intentional and socially organised act leading to the development of a value judgement. Ovcharuk (2020) explains that assessment is also a way of positioning ourselves, it allows us to measure the reality of acquisitions for both teachers and students.

Today, digital technologies are an integral part of our environment (Martynenko et al., 2023).

However, the use of digital technologies in educational institutions is still quite marginal (Tao & Zou, 2023). Thus, the purpose of this paper is to analyse the effectiveness of Kahoot as a computer-based tool for learning foreign languages in higher education and to address the problem of students' lack of motivation in learning English.

The opportunity provided by the Kahoot app to vary the learning tool during English classes improves students' motivation in the context of English language learning (Tsekhmister, Kotyk, Matviienko, Rudenko & Ilchuk, 2021). From this perspective, it was hypothesised that using the Kahoot app in foreign language classes would improve students' motivation due to its engaging approach.

## 2. Literature review

According to research in the field of education, the term 'routine' is often used to refer to a set of organised, defined, and stable means that form the basis for repetitive actions in response to a recurring problem

(Cárdenas-Moncada, Veliz-Campos & Veliz, 2020). Devices are tools created to respond to a problem. A distance learning system is typically characterised by the separation or physical distancing of the teacher and student during teaching (Kasap, 2023).

Orhani (2023) emphasizes the significant shift towards integrating technology to meet contemporary educational demands. Kahoot is situated within a broader trend of innovative educational practices. This context enriches the discussion around Kahoot, underlining its role as a bridge between traditional and modern learning paradigms. It supports its potential to enhance language learning through engaging and interactive methods.

However, the term 'distance learning' is much more difficult to define (DeMatthews, Reyes, Solis Rodriguez & Knight, 2023). According to research, the term distance learning is being used less and less and is gradually being replaced by the term e-learning (Lin et al., 2023). The latter term reflects the desire to consider both distance and e-learning in order to explore the process and devices that are related to it (Vasylyuk-Zaitseva, Kosenyuk, Tanasiichuk & Boyko, 2023). However, since in our study, we are interested in the impact of Kahoot's effectiveness in improving foreign language skills, regardless of how the user uses the device (in person or at a distance), we will use the term "distance learning".

The research by Iskakova (2023) on using electronic technologies for individualized education aligns with evaluating Kahoot's efficacy as a language learning tool. Iskakova (2023) findings emphasize the importance of digital tools in accommodating diverse learning needs, mirroring the potential of Kahoot to enhance language education through interactive and accessible methods. This connection underscores the broader educational value of implementing versatile technologies like Kahoot in higher education, especially for students with special needs, advocating for adaptive learning environments.

Measuring the effectiveness of a particular learning tool can be difficult, as many people have different ideas about the meaning of the measurement (Ovcharuk, 2020). However, we believe that in a broad sense, it is possible to formulate a hypothesis that the distance learning system is more effective than the traditional system due to new technological capabilities and tools (Zhorova et al., 2022). In our opinion, since the assessment of efficiency depends on the personal perception of the person measuring it, this efficiency can be very diverse. Often, the evaluation is limited to the ease of measurement and achievement of the goal for each instrument (Yolida & Marpaung, 2023). In fact, evaluating effectiveness means examining the extent to which the goals of a "process" are achieved.

Alharthi (2020) distinguishes between two types of Kahoot effectiveness: institutional effectiveness and individual effectiveness. Individual efficacy implies that the user is in the centre of attention and becomes an active agent in achieving their goal. The study of individual efficacy involves analysing the impact of various factors, such as available information about the device, learning strategies, optimal use, and satisfaction, on the user's achievement of their own goals (Mgonja & Kambuga, 2023).

The research conducted by Martynenko et al. (2023) provides a foundational understanding of the broader applications and implications of digital technologies, offering valuable perspectives for the incorporation of tools like Kahoot in higher education. It underscores the need for a comprehensive strategy that embraces current and future digital tools to improve engagement and learning efficacy, reflecting a shared trajectory between marketing and education towards greater digitalization and personalization.

The findings from Rakhimov & Mukhamediev (2022) reinforce the value of investigating and implementing digital solutions like Kahoot within higher education to leverage technology's full potential in enriching educational experiences.

On the other hand, the institutional effectiveness of a system is the effectiveness that is of interest to

designers, policy makers, or system owners in order to achieve their defined goal (Kıyançıçek & Levent, 2022). It assesses the extent to which learning objectives are achieved. The peculiarity of institutional effectiveness is that it concerns the impact of the learning mechanism itself on the goals set by the educational institution. It also decides whether these goals are achieved by the device rather than the user. Institutional effectiveness is determined based on five indicators, which include:

1. Internal effectiveness, which is traditionally measured by success rates or knowledge assessment results.
2. External effectiveness, which reflects the relationship between the diploma and the possibility of successful integration into the labour market.
3. Equity, as measured by the access and performance of students from different social and economic groups compared to the general population.
4. Efficiency, which compares financial efforts, such as tuition costs per student, with expected outcomes, such as the ratio of successfully completed courses to all courses.
5. Quality of learning and teaching, which is assessed based on the satisfaction of users such as students and alumni (Tsekhmister et al., 2022).

In related work, von Lautz-Cauzanet (2018) evaluates IFADEM to measure its impact on the evolution of English language skills. Thus, the author refers to institutional effectiveness as the organisational interest in the impact of learning on skills, with internal effectiveness as an indicator. Indeed, when we study the contribution of a pedagogical device to improving learning, knowledge, or skills evolution, we measure its internal efficiency. This indicator is usually assessed based on testing (Zhorova et al., 2022) and evaluated "in terms of improving students' academic performance" (Ovcharuk et al., 2022).

In terms of effective devices, Kahoot is an online application for creating interactive quizzes. It is free (but there are paid versions with more options) and requires the teacher to create an account (Bakhmat & Smorgun, 2022). Quizzes are in the form of MCQs, with questions and answers. Answers are created by the teacher. To make full use of this app in the classroom, the classroom should be equipped with a computer with a projector and an internet connection, as the quizzes are projected onto the board by the teacher from the classroom computer. While students can answer questions using a tablet, smartphone, or computer. Teachers can set different parameters depending on their learning objectives (Alharthi, 2020).

In addition to offering a fun way to learn in real-time, the app also allows teachers to assess each student's level of learning by using an end-of-class quiz that displays each student's performance. Using the Kahoot app at the end of a class allows the teacher to conduct formative assessment (Wang & Tahir, 2020). It also gives students the opportunity to evaluate themselves by seeing live how well they and their peers did on the task.

### 3. Methodology

An experiment was conducted by questionnaire among 140 students studying at different higher education institutions of Ukraine and in different specialties (among students of law and law enforcement, among future specialists for police units, and Germanic philologists). However, since the purpose of the experiment was to prove the effectiveness of Kahoot for learning foreign languages, namely to prove its impact on motivation, the paper describes only the experiment conducted among students of future police officers.

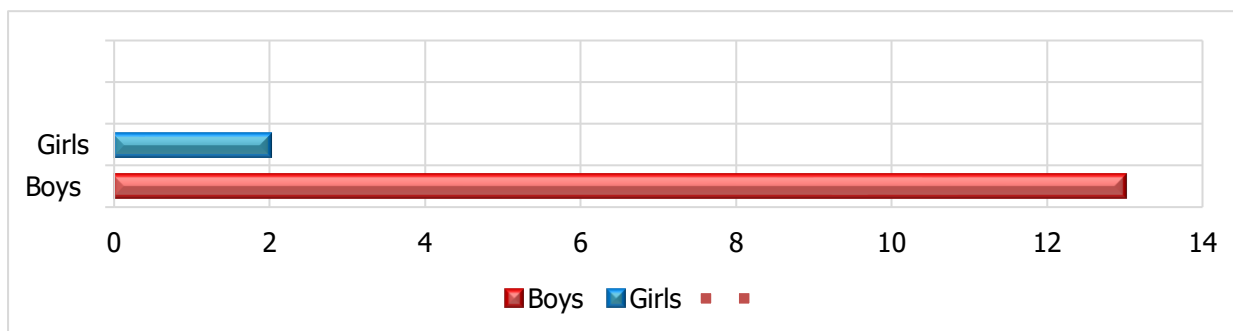
#### *Data Collection*

Statistical methods such as chi-square tests were used to analyze the relationship between different variables, such as gender, age, mobile phone ownership, and motivation to use digital tools. These tests helped to determine if there were significant differences between groups in terms of their motivation levels.

The responses from the questionnaire were coded and entered into a statistical software program for analysis. Each response was given a numerical value for ease of analysis. The binary responses (yes/no) were coded as 1 for yes and 0 for no. The open-ended questions where students had to justify their choices were categorized and analyzed qualitatively to gain a deeper understanding of their motivations. The experimental group consisted of 15 first-year students. The group consisted of 2 girls and 13 boys with an average age of 16.5 years. All students in this group had smartphones. Their general level of English at the time of the experiment was A2 (fig. 1):

**Figure 1.**

*Participants age-sex data*



Source: author's development.

Validity and reliability of the data collection instrument were ensured through several means. The questionnaire used was designed based on the research objectives and was pilot tested to ensure clarity and relevance of the questions. The questions were also reviewed by experts in the field of language learning and motivation to ensure their validity. The anonymity of the survey ensured that participants were comfortable providing their honest opinions without fear of judgment. The reliability of the study was also enhanced through the use of standardized procedures for data collection and analysis. The experimental group was predominantly male, with only 2 female students. The majority of students in the group had smartphones, which may have influenced their familiarity with technology. Additionally, their English level was at an A2, indicating a basic understanding of the language.

### *Study Instrument*

Although a foreign language is considered a professional subject in their curriculum, they are often reluctant to learn it. And, as a result, it is quite difficult to interest and motivate these students to study this subject, which is why it was important to conduct a field study with a not the strongest group. To answer the research question, we observed students' behaviour during Kahoot quizzes.

To obtain observable and concrete signs of motivation among students, a questionnaire was conducted. The questionnaire was designed to gather the opinions of all students about the effectiveness of Kahoot and to analyse the factors that influence their motivation. The questionnaire was in the form of statements to which the student had to tick "yes" or "no" and then justify their choice by indicating why they ticked the box. Students had to explain why they chose that particular answer. The survey was anonymous so that students felt free to answer and did not fear being judged. This type of questionnaire seemed appropriate because it made it easier to process the results because of the binary responses.

### *Statistical Management*

The study design was an experimental study that focused on the impact of Kahoot on motivation among

students studying to become future police officers. The variables measured included gender, age, mobile phone ownership, motivation to use digital tools, and attitudes towards using Kahoot in class. Analyses were performed to determine the relationships between these variables and the impact of Kahoot on student motivation. The statements in the proposed questionnaire were chosen for a specific purpose. The first four statements were related to gender, age, parental occupation, and mobile phone ownership. Their purpose is to shed light on whether there are differences in students' personal contexts that could explain differences in their motivation to use digital tools. Statement 5 "Using my personal phone in English motivates me" and statement 6 "I need help to use my mobile phone when doing digital tests in class" are analysed in parallel. The statements are aimed at finding out whether it is the use of the digital tool, i.e. the phone itself, that affects motivation. This influence can be both a driving force and a hindrance to student motivation.

Statement 5, "I prefer a more traditional class without the use of the Kahoot platform, such as an oral survey," should be analysed in relation to statements 7, 8, and 9 ("I feel more motivated to work in a class with Kahoot," "I enjoy the class with Kahoot," "Time passes faster in a class with Kahoot"). This time, the goal was to find out whether the use of the Kahoot app affects student motivation. With statements 12 "I am afraid that my mistakes will be visible on the screen when I use Kahoot in class" and 13 "When I use Kahoot in class, the fact that my grade is projected in front of everyone motivates me", we tried to find out whether this can affect students' motivation, whether in the form of fear or pride.

To collect responses, a questionnaire was distributed to students after an English class.

To avoid bias, including imitation due to novelty, as well as frustration due to lack of proficiency, the questionnaire was distributed after two months of Kahoot sessions with students.

### *Ethical Considerations*

The study followed rigorous research methodology to ensure the validity and reliability of the findings. The data analysis techniques used were appropriate for the research questions, and the study design allowed for replicability in future research. The ethical considerations taken into account also ensured that the rights and well-being of the participants were protected throughout the study. The researcher followed all the necessary ethical considerations for this study. Ethical approval was granted after obtaining permission from the management of the higher education institution. In addition, the study participants were informed that there were no risks associated with participating in this study. Participation in the study was also anonymous. A full explanation was provided to all participants before completing the questionnaire and they were asked to give their voluntary consent before filling in the questionnaire.

## **4. Results and discussion**

Before presenting the results, it is important to note that some students did not take the questionnaire seriously, as they did not try to answer all the questions or justify their answers as suggested in the questionnaire. The results are presented in percentages for ease of reading (the number of students who took part in the survey was 11 (as 4 of them were ill at the time of the survey), so it is easy to convert the percentage to the number of students if necessary, i.e. 9% equals one student). The first four statements were general information that helped us to get to know the students who answered the questionnaire to facilitate the analysis of the results.

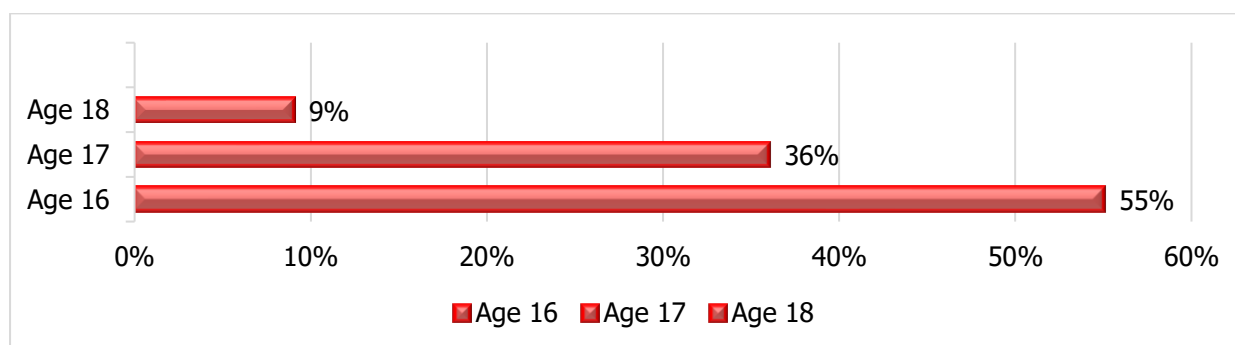
The aim of this study was to highlight differences in students' personal contexts that might explain differences in their motivation to use digital tools. The first statement was used to identify the gender of the participating students.

100% of the students who responded were male, due to the absence of 4 students. Therefore, in this study, we are not able to make a comparison with the female gender to see if any gender-specific factors may affect motivation. The second statement concerned their age.

It turns out that 55% of students are 16 years old, 36% are 17 years old and 9% are 18 years old. The average age is 16.5 years. The students are quite close in age, which is normal as they study in the same group. Again, this study did not allow for comparisons with students of different ages to see if motivational factors change depending on the maturity of the students (fig. 2):

**Figure 2.**

*Data with percentage distribution of age among students*



Source: author's own development.

The third statement was an open-ended question about the parents' occupation to determine the social background of the students who answered the questionnaire. All students who answered the questionnaire came from modest social backgrounds. Thus, it is possible to compare them with more affluent families to see whether the family's standard of living affects motivation.

The fourth statement was about having a mobile phone. "If so, do you use it for work at home? Please specify what activities" and "If yes, do you use it for work during English classes? Please specify the activities you do". The aim here is to find out whether the acquisition of Kahoot skills is related to previous, traditional experiences, which could lead to bias in the study.

All students who answered the question have mobile phones 100%. However, all the questionnaires show that mobile phones are used only in English classes.

Thus, the use of mobile phones in the classroom still seems to be rather marginal. The survey also showed that 10 out of 11 students use their mobile phones to work at home, including 8 to search for information on the Internet and 3 to watch videos of classes. We can see that almost all of them use their phones as a working tool when they are at home.

The following statements were no longer relevant to the students' personal context, but they all related to the use of Kahoot in the foreign language classroom. Statement 5 "Using my mobile phone in class motivates me" and statement 6 "I need help to use my mobile phone when we do digital quizzes in class" were to be analysed in parallel. The aim was to find out whether the use of a digital tool influences students' motivation.

The results show that almost three-quarters of students are motivated to use their phones and 9% are not motivated to use their phones, with no answer. Most of the students who answered yes did not give a reason for their answer, with the exception of one student who said it was because she could help herself

and another because "it improves the atmosphere". Thus, it can be said that in general, it is the use of the digital tool Kahoot, whether on a computer or on a mobile phone, that motivates students. This may also be due to the fact that they feel freer to use an object that helps them, but also because the foreign language class takes on a less traditional aspect.

The sixth statement aimed to find out whether students had difficulties using their phones that could interfere with their learning.

It turns out that more than half of the students do not need help, 27% did not answer the question and 18% need help. None of the students gave a reason for answering "no". As for the "yes" answer, one student said it was because he was "not sure of the answer". So, we can say that overall, the use of Kahoot during the class was very positive.

For statements 7, 8, and 9 ("I feel more motivated to work during class using Kahoot", "I have more fun during class using Kahoot", "Time passes faster during class using Kahoot"), the aim was to find out whether the Kahoot app itself influences students' motivation in learning English.

Students unanimously preferred using the Kahoot platform in class to more traditional learning tools by 100%. This can be attributed to the motivation associated with using their phone, as well as what they gain from using the Kahoot app itself. This is exactly what the hypothesis of the paper highlights.

The results show that all students answered "yes" to this question. The reasons given by students were: "it motivates me" (3), "it's a change from the usual classes" (2), "it's fun" (1), "time passes faster" (1), "it's interesting" (1), "we can see our knowledge and our mistakes better" (1), "it's a good way to have fun" (2), "it makes me want to answer and understand more" (2). Students' willingness to learn a foreign language is clearly increasing thanks to the use of Kahoot. It allows students who are intimidated by traditional teaching methods to have fun and discover a desire to be more engaged in their learning.

With the help of statements 10, 11, and 13 ("I am more interested in English during classes using Kahoot", "I understand grammar better during classes using Kahoot digital tests" and "When I use Kahoot in class, even if I have difficulties or if I cannot answer a question, I continue"), we tried to demonstrate the impact of the Kahoot app on students' motivation to learn foreign languages.

All students answered "yes" to 10 statements. The reasons given by students were not related to the subject. Their interest was reinforced by the impression that "it's easier" (1), that "it helps to remember new words" (1), as well as the desire to be a leader in the group (1) and enjoyment of the tool (1). It can be assumed that by using a game-based learning method such as the one offered by this app, students will be able to overcome their aversion to the subject.

To summarise the results of this survey, for the majority of students, the use of mobile phones and the Kahoot app has improved their motivation in biology class. They seem to appreciate the fact that the digital skills they demonstrate in their everyday use of their mobile phones are useful to them at university. All the students clearly prefer using the Kahoot app to more traditional learning because it takes a more unconventional and interesting turn for them. The fun aspect of Kahoot's digital quizzes makes the activity less boring in their eyes, despite their rejection of the subject matter being taught. In fact, they have more fun during the quiz: it takes less time and encourages them to work harder. Kahoot quizzes are an educational approach that is both fun and modern. Kahoot is the only tool that can identify what is preventing a student from understanding the material.

The entertainment aspect of Kahoot means it can be used to encourage competition between students and the motivational factor of pride. The motivating factor is the sense of pride a student feels as a result of



being admired by others.

After analysing the results of the survey, it is worth returning to the central question of the study, whether the use of the Kahoot app in foreign language classes is effective. In this aspect, the answer is definitely positive, as Kahoot primarily improves students' motivation to learn. According to Nguyen & Yukawa (2019), by using Kahoot, teachers can make classes more interactive and challenging. Students are more motivated to participate and learn because they are actively involved in the learning process. In addition, Kahoot can be used in different subjects and at different levels, making it a versatile tool. The opposite opinion is expressed by Lin, Tsai & Hsu (2023) in their work. According to the scientist, Kahoot has some disadvantages. He believes that using Kahoot can be time-consuming, as it takes time to create tests and questions. In addition, some students may feel excluded or depressed if they answer questions incorrectly. In contrast, Ivaniuk & Ovcharuk (2020) conclude that Kahoot is an interactive platform that offers many benefits for learning. It allows teachers to make classes more engaging and students to enjoy learning (Yuzyk et al., 2019). However, it is important to consider potential drawbacks and manage them appropriately to ensure a positive learning experience for all students. It is also worth noting that Kahoot can be used in other contexts, such as corporate training or interactive events (Tsekhmister, Malatsai, Nechitailo, Emelianova, Korol & Statsenko, 2022). Its ease of use and ability to make presentations more interactive make it a popular tool in various fields (Garvasiuk et al., 2023). However, Namestiuk (2022) recommends not to overuse Kahoot and to incorporate it into classroom activities in a balanced way. Ensuring that questions are relevant and aligned with learning objectives can help to maximise the use of this platform, minimising distractions and promoting a positive learning experience for all students.

Despite the scientific controversy, the results of the presented work show that all the answers to the questionnaire clearly demonstrate that using Kahoot in English classes is a way to improve students' motivation. Using the indicators of motivation proposed by Dobrovolska, Moroz, Shpak, Tsekhmister & Vovchenko (2021), it is clear that motivation increases when:

- students prefer to invest themselves in a Kahoot quiz as opposed to more traditional activities;
- students' cognitive activity seems to be better balanced in this activity, as most of them have a better understanding of grammar thanks to Kahoot;
- students persevere with tasks despite setbacks or difficulties.

Increased motivation is associated with the implementation of certain regulatory factors that generate extrinsically motivated behaviour (Chernova, Nemesh & Togachynska, 2023). Firstly, it is related to the understanding by most students of the importance of the subject for their professional future. But the entertainment aspect of Kahoot means that it can support another regulatory factor, as activities that are perceived as a game make it possible to make students want to succeed, or to outdo themselves, or to be recognised by others (Tsoli, 2023). Thus, it can be argued that the hypothesis of the paper is relevant and validated in this limited context.

However, there are still some limitations to this study. First, this study presented a sample of only 11 students from one group. To obtain more conclusive results, a much larger sample from different higher education institutions would be needed. In addition, all participants were boys, but it would be interesting to see what the results would be for girls. Since adolescence is a time of great upheaval, it would also be wise to look at the results of second and fifth-year students to see if developing maturity might have a different effect on motivation. Second, the environment in which this study is conducted also has its limitations. The educational institution needs equipment to be able to use Kahoot. The quizzes were administered at the end of the session as a formative assessment for the students. It is possible that the results could have been different if the ways in which Kahoot was used were changed. Third, the survey instrument used also had its limitations. When filling out the questionnaire, many students found the questions too long. Therefore, there was a bias in the actual comprehension of the sentences. Interviews

might have shed more light on the research questions.

Despite the limitations of this study, the results of the research have shown that the use of Kahoot is an effective tool for learning foreign languages in higher education institutions.

## 5. Conclusions

The generation of students currently enrolled in higher education institutions has grown up with digital technologies as an integral part of their daily lives. However, despite the adaptation of the education system to this tool, not all educational institutions use it to its full potential due to financial constraints and sometimes a lack of experience on the part of teachers. Therefore, the purpose of this study was to analyse the effectiveness of Kahoot as a computer-based tool for learning foreign languages in higher education and to address the problem of students' lack of motivation in learning English.

The results of the study showed that the opportunity provided by the Kahoot app to vary the learning tool during English classes improves students' motivation in the context of English language learning. To this end, it was hypothesised that the use of the Kahoot app in foreign language classes would improve students' motivation due to its engaging approach.

The results of the study showed that students who used the Kahoot app in their English classes were significantly more motivated to learn. The app provided an opportunity to vary the learning tool depending on the needs of the students, which stimulated their active participation in the learning process.

Using Kahoot added interest and fun to English classes as students were able to play various interactive games, answer questions, compete with their classmates, and get instant results. This approach to learning made the classes more engaging and brought out more energy and enthusiasm from the students to learn English.

Thus, the hypothesis that using the Kahoot app in a foreign language classroom would improve students' motivation was confirmed. The app not only provided students with entertainment and a fun approach to learning but also stimulated their desire to explore more English and improve their skills.

Thus, the results of the study showed that the opportunity provided by the Kahoot app to vary the learning tool during English classes improves students' motivation in the context of English language learning. Using the Kahoot app in foreign language classes definitely improves students' motivation due to its interesting approach.

## 6. Bibliographic references

- Alharthi, S. (2020). Assessing Kahoot's Impact on EFL Students' Learning Outcomes. *TESOL International Journal*, 15(5), 31-64. <https://eric.ed.gov/?id=EJ1329509>
- Bakhmat, N., & Smorgun, M. (2022). On the role of digitalization and globalization for the development of mobile video games in the education of the future: trends, models, cases. *Futurity Education*, 2(4), 63-74. <https://doi.org/10.57125/FED.2022.25.12.07>
- Cárdenas-Moncada, C., Veliz-Campos, M., & Veliz, L. (2020). Game-based student response systems: The impact of Kahoot in a Chilean vocational higher education EFL classroom. *CALL-EJ*, 21(1), 64-78. <https://acortar.link/PRLNJs>
- Chernova, T., Nemesh, V., & Togachynska, O. (2023). Digital Approach in Pedagogy and Psychology of the Future: Trends, Globalization Challenges. *Futurity Education*, 3(2), 134-143. <https://doi.org/10.57125/FED.2023.06.25.09>

- DeMatthews, D., Reyes, P., Solis Rodriguez, J., & Knight, D. (2023). Principal perceptions of the distance learning transition during the pandemic. *Educational Policy, 37*(3), 653-675. <https://doi.org/10.1177/08959048211049421>
- Dobrovolska, N., Moroz, L., Shpak, M., Tsekhmister, Y., & Vovchenko, O. A. (2021). Motivational mechanisms of emotional intelligence development in practicing psychologists. *AD ALTA: Journal of Interdisciplinary Research, 11*(21), 54-59.
- Garvasiuk, O. V., Namestiuk, S. V., Tkachuk, S. S., Guz, L. O., Velyka, A. Y., & Lapa, G. M., Vasylyvna, H. O., Valeriivna, N. S., Serhiivna, T. S., Oleksandrivna, O.L., Yaroslavivna, V. A., & Mykolayivna, H. L. (2023). The effectiveness of interactive methods in the educational process. *Clinical and experimental pathology (scientific and medical journal)*. <http://dspace.bsmu.edu.ua/handle/123456789/21509>
- Iskakova, M. (2023). Electronic Technologies to Ensure Individual Learning of Education Seekers with Special Needs. *Futurity of Social Sciences, 1*(1), 4-20. <https://doi.org/10.57125/FS.2023.03.20.01>
- Ivaniuk, I. V., & Ovcharuk, O. V. (2020). The response of Ukrainian teachers to COVID-19: challenges and needs in the use of digital tools for distance learning. *Information Technologies and Learning Tools, 77*(3), 282-291. <https://doi.org/10.33407/itlt.v77i3.3952>
- Kasap, T. (2023). *The effects of using kahoot! as a digital tool on enhancing english vocabulary of secondary school students' learning english as a foreign language* (Doctoral dissertation), Bursa Uludag University, Turkey. <https://www.proquest.com/openview/9a2f841688711af75639fc19bf2f73e2/1?pq-origsite=gscholar&cbl=2026366&diss=y>
- Kharytonov, E., Kharytonova, O., Kolodin, D., Tkalych, M., Larkin, M., Tolmachevska, Y., Rojas-Bahamon, M. J., Arbeláez-Campillo, D. F., & Panchenko, O. I. (2021). Distance learning in the conditions of Covid-19: problems and prospects of their solution. *Amazonia Investiga, 10*(48), 157-169. <https://doi.org/10.34069/AI/2021.48.12.17>
- Kiyancıçek, E., & Levent, U. Z. U. N. (2022). Gamification in English Language Classrooms: The Case of Kahoot!. *Science Education Art and Technology Magazine, 6*(1), 1-13. <https://dergipark.org.tr/en/pub/bestdergi/issue/68795/1063362>
- Lin, H. M., Wu, J. Y., Liang, J. C., Lee, Y. H., Huang, P. C., Kwok, O. M., & Tsai, C. C. (2023). A review of using multilevel modeling in e-learning research. *Computers & Education, 198*, 104762. <https://doi.org/10.1016/j.compedu.2023.104762>
- Lin, J. W., Tsai, C. W., & Hsu, C. C. (2023). A comparison of computer-based and game-based formative assessments: a long-term experiment. *Interactive Learning Environments, 31*(2), 938-954. <https://doi.org/10.1080/10494820.2020.1815219>
- Martynenko, M., Losheniuk, O., Demchenko, H., & Osypenko, N. (2023). Developing and implementing digital marketing strategies of the future: toward improving product quality and competitiveness. *Futurity Economics & Law, 3*(1), 63-84. <https://doi.org/10.57125/FEL.2023.03.25.07>
- Mgonja, M. R., & Kambuga, Y. M. (2023). "Play is Play" and "Learning is Learning": Beliefs and Practices Linked to Pre-Primary Children's Play and Learning in Tanzania. *Futurity Education, 3*(4), 183-197. <https://doi.org/10.57125/FED.2023.12.25.11>
- Namestiuk, S. (2022). On the issue of teaching psychological and pedagogical disciplines at universities using immersive technologies. *Futurity Education, 2*(2), 36-45. <https://doi.org/10.57125/FED/2022.10.11.27>
- Nguyen, T. T. T., & Yukawa, T. (2019). Kahoot with smartphones in testing and assessment of language teaching and learning, the need of training on mobile devices for Vietnamese teachers and students. *International Journal of Information and Education Technology, 9*(4), 286-296. <https://www.ijiet.org/vol9/1214-JR328.pdf>
- Orhani, S. (2023). Philosophy of e-learning vs m-learning. *Futurity Philosophy, 2*(4), 4-23. <https://doi.org/10.57125/FP.2023.12.30.01>

- Ovcharuk, O. (2020, October). Attitude of Ukrainian Educators toward the Use of Digital Tools for Teaching and Professional Development: Survey Results. In *ICTERI Workshops* (pp. 746-755). <https://ceur-ws.org/Vol-2732/20200746.pdf>
- Ovcharuk, O. V., Gurzhii, A. M., Ivaniuk, I. V., Kartashova, L. A., Hrytsenchuk, O. O., Vakaliuk, T. A., & Shyshkina, M. P. (2022, March). The use of digital tools by secondary school teachers for the implementation of distance learning in the context of digital transformation in Ukraine. In *CTE Workshop Proceedings* (Vol. 9, pp. 16-27). <https://acnsci.org/journal/index.php/cte/article/view/96>
- Rakhimov, T., & Mukhamediev, M. (2022). Implementation of digital technologies in the medicine of the future. *Futurity Medicine*, 1(2), 14-25. <https://doi.org/10.57125/FEM.2022.06.30.02>
- Tao, Y., & Zou, B. (2023). Students' perceptions of the use of Kahoot! in English as a foreign language classroom learning context. *Computer Assisted Language Learning*, 36(8), 1668-1687. <https://doi.org/10.1080/09588221.2021.2011323>
- Tsekhmister, Ya., Malatsai, I., Nechitaylo I., Yemelyanova, O., Korol O., & Statsenko, N. (2022). Current trends and current problems of training of education manager. *Financial and Credit Activity Problems of Theory and Practice*, 6 (41), 556-563. <https://doi.org/10.18371/fcaptop.v6i41.251532>
- Tsekhmister, Y. V., Kotyk, T. M., Matviienko, Y. S., Rudenko, Y. A., & Ilchuk, V. V. (2021). The effectiveness of augmented reality technology in STEAM education. *Apuntes Universitarios*, 12(1), 250-267. <https://doi.org/10.17162/au.v11i5.932>
- Tsekhmister, Y., Konovalova, T., & Tsekhmister, B. (2022). Quality control of educational process in the lyceum of medical profile when learning in distance mode during the COVID-19 pandemic. *Amazonia Investiga*, 11(57), 121-132. <https://doi.org/10.34069/AI/2022.57.09.13>
- Tsoli, K. (2023). Perception of Teachers on Entrepreneurial Education Before and After the Implementation of a Pilot Program. *Futurity Education*, 3(3), 182-199. <https://doi.org/10.57125/FED.2023.09.25.10>
- Vasylyuk-Zaitseva, S., Kosenyuk, H., Tanasiichuk, I., & Boyko, J. (2023). Application of Artificial Intelligence in Ukrainian Education of the Future. *Futurity Education*, 3(3), 79-107. <https://doi.org/10.57125/FED.2023.09.25.05>
- von Lautz-Cauzanet, E. (2018). *Mobile supported teacher training in Sub-Saharan Africa. Which contributions and how to analyze them?* (Doctoral dissertation), Paris Saclay University (COMUE). <https://theses.hal.science/tel-01804997/>
- Wang, A. I., & Tahir, R. (2020). The effect of using Kahoot! for learning—A literature review. *Computers & Education*, 149, 103818. <https://doi.org/10.1016/j.compedu.2020.103818>
- Yolida, B., & Marpaung, R. R. T. (2023). The Media Puzzle Assisted Guided Inquiry Model: Its Use of Students' Critical Thinking Skills. *Futurity Education*, 3(1), 117-125. <https://doi.org/10.57125/FED.2023.25.03.09>
- Yuzyk, O., Mazaikina, I., Bilanych, H., & Yuzyk, M. (2019). Quality of higher education in Ukraine and Poland: comparative aspects. *Comparative professional pedagogy*, 9(1), 66-74. <https://doi.org/10.2478/rpp-2019-0008>
- Zhorova, I., Kokhanovska, O., Khudenko, O., Osypova, N., & Kuzminska, O. (2022). Teachers' training for the use of digital tools of the formative assessment in the implementation of the concept of the New Ukrainian School. *Educational technology quarterly*, 2022(1), 56-72. <https://acnsci.org/journal/index.php/etq/article/view/11>