



Perceptions and Dominant Factors of Blooket as a Game-based Learning Tool among Vietnamese Non-English Majored Students

Chau Thuc Quyen¹, Huu Chanh Nguyen²

¹ Ho Chi Minh City University of Foreign Languages – Information Technology

² University of Health Sciences, Viet Nam National University Ho Chi Minh City
quyen.ct@huflit.edu.vn, nguyenhuuchanh06@gmail.com

Received 04 April 2025 | Received in revised form 15 April 2025 | Accepted 24 April 2025

APA Citation:

Quyen, C. T. & Nguyen, H.C. (2025). Perceptions and Dominant Factors of Blooket as a Game-based Learning Tool among Vietnamese Non-English Majored Students. *DINAMIKA ILMU*, 25(1), 123-144.
<http://doi.org/10.21093/di.v25i1.10268>

Abstract

This study examines Vietnamese non-English major students' perceptions of Blooket, a game-based learning tool for English language education. Using a mixed-methods approach based on Asniza et al.'s (2021) framework, researchers collected survey data and conducted interviews to assess factors affecting student engagement. Quantitative results identified classroom control and time allocation as primary influential factors, with peer interaction and class size having moderate impact. Qualitative findings revealed students preferred blended learning approaches that integrate Blooket with traditional teaching methods. Students valued Blooket for enhancing engagement and motivation but expressed concerns about its limited ability to reinforce knowledge and its varying effectiveness across learning contexts and individual preferences. The study emphasizes that while game-based tools can improve engagement, their implementation requires careful consideration of both pedagogical and logistical factors. For optimal outcomes, educators should adopt a balanced approach that integrates digital tools with traditional methods while accounting for student preferences, classroom dynamics, and content requirements.

Keywords: Blooket, game-based learning, student engagement, English language learning, Vietnamese students

1. Introduction

In recent years, the integration of digital tools in education has become a central focus in enhancing student engagement and improving learning outcomes (Benmouhoub & Boukhedimi, 2019; García-Martínez et al., 2020; Mucundanyi & Woodley, 2021; Haleem et al., 2022; Akindele et al., 2023; Al-Tamimi & Bin-Hady, 2024). Among these digital tools, Game-based learning (GBL) has gained significant attention in recent years as an innovative approach to education, offering engaging and interactive experiences that enhance student motivation and learning outcomes (Säljö, 2010; Greener & Wakefield, 2015; Mellit & Idri, 2019; Meirbekov et al., 2022; Tarigan et al., 2023). Among the many game-based platforms available, Blooket has emerged as a popular tool that combines elements of quizzes and games to facilitate learning in a fun and competitive environment. This approach has been especially effective in language education, where traditional methods may struggle to maintain student engagement, particularly among non-English majored students.

Viet Nam, a country where English proficiency has become a key factor in academic and professional success, has seen an increasing demand for the integration of modern teaching methods, especially in English language learning. Non-English majored students, who often have limited exposure to English language immersion, face unique challenges in mastering the language (Chanh, 2021a, 2023). Traditional language learning methods may not fully address the need for engaging and interactive experiences that could motivate students to actively participate in their learning process (Chanh, 2021b; Akindele et al., 2023; Al-Tamimi & Bin-Hady, 2024). Blooket, as a game-based tool, presents a potential solution to these challenges, offering a novel way for non-English majored students to practice and reinforce their English skills in a dynamic setting.

Blooket, like many other educational games, operates on a framework that combines learning objectives with game mechanics (Peralta et al., 2025). This combination encourages students to actively participate in the learning process while also promoting healthy competition and collaboration among peers (Mohammadi Zenouzagh et al., 2025). Given that the platform offers various game modes, students can experience different types of challenges tailored to their learning pace, which may positively influence their attitudes toward learning English (de Almeida Junior et al., 2024). However, there is a need for a deeper understanding of how students perceive this tool and what factors might contribute to their overall experience and effectiveness of the platform in a non-English learning context, such as in Viet Nam.

Despite the growing interest in game-based learning and the promising potential of platforms like Blooket, there are several key research gaps that remain unaddressed. Most studies on game-based learning have focused on English language learners or students in Western contexts, leaving a significant gap in understanding how non-English majored students, particularly in non-English speaking countries like Vietnam, perceive and interact with such tools. Additionally, while there is ample research on the general effectiveness of game-based learning in increasing student engagement and motivation, there is limited research on the specific factors that influence students' perceptions of platforms like Blooket in terms of cultural, educational, and technological contexts. Factors such as accessibility, familiarity with digital tools, and the impact of localized game designs on student engagement in countries with distinct educational structures like Viet Nam remain largely unexplored. Furthermore, little is known about how non-English majored students in Viet Nam perceive the integration of game-based tools within a language learning curriculum, especially regarding their attitudes toward learning English in a competitive

gaming environment. This study seeks to fill these gaps by providing an in-depth exploration of the perceptions and dominant factors influencing the use of Blooket among Vietnamese non-English majored students, offering a localized perspective on game-based learning in a non-English language learning context. Understanding these perceptions and factors is crucial for optimizing the use of game-based tools in classrooms, particularly in contexts where student engagement and motivation are critical.

2. Literature Review

2.1. The Effectiveness of Game-Based Learning Tools

Game-based learning has been recognized as a valuable pedagogical approach, contributing to student engagement, motivation, and active learning. Various studies have demonstrated the positive impact of game-based learning tools (Iman et al., 2021), Braincept (Aynsley et al., 2018), and Socrative (Perera & Hervás-Gómez, 2021) on student learning outcomes. These tools engage students through elements of fun, competition, and interactive assessments, which foster student participation and deeper learning. For instance, Iman et al. (2021) found that game-based tools enhanced students' motivation by offering immediate feedback and providing an engaging learning environment. Additionally, Asniza et al. (2021) highlighted the role of interactive platforms in improving student engagement, particularly through fostering communication and collaboration among peers. These studies collectively suggest that game-based learning tools, particularly in the form of competitive and cooperative games, can significantly enhance student participation and motivation in diverse educational settings. However, much of the research has focused on fields like chemistry and biology, leaving a gap in understanding how such tools impact language learning.

2.2. Perceptions of Game-Based Learning Tools in Non-English Language Contexts

While the effectiveness of game-based learning in enhancing engagement has been well-documented, there remains a significant gap in understanding how such tools are perceived by students, especially non-English major students in non-Western countries. Most existing research has been conducted in contexts like pharmacy or biology (Iman et al., 2021; Dawie et al., 2021), where game-based tools have been explored to varying extents. However, there is limited research on the perceptions of game-based tools like Blooket among non-English major students in Viet Nam or other countries with similar educational contexts. Previous studies (e.g., Wang et al., 2019) have shown that students' perceptions play a crucial role in shaping their engagement with game-based learning tools, suggesting that understanding these perceptions is key to successful tool integration. Additionally, the effectiveness of these tools is often influenced by students' attitudes towards them, which can vary significantly based on factors such as cultural context and the specific subject being taught (Lu & Lien, 2020).

2.3. Dominant Factors Influencing Game-Based Learning in Language Education

Beyond students' perceptions, several factors influence the success of game-based learning tools, including classroom management, interaction quality, and resource availability. As noted by Asniza et al. (2021), the level of interaction and communication between students and instructors plays a significant role in fostering student engagement during game-based learning sessions. Additionally, Sun et al. (2021) found that scaffolding strategies in digital games have a substantial impact on students' learning outcomes, yet this aspect remains underexplored in the context of

English language learning using tools like Blooket. Factors such as adequate time allocation, classroom environment, and the availability of resources are also crucial to ensuring that game-based learning tools are effective in engaging students (Hartt et al., 2020). However, studies focusing specifically on language learning and game-based platforms like Blooket have been scarce, particularly in non-English major classrooms. This gap underscores the need for further research to identify the specific factors that can enhance the effectiveness of game-based learning in English language classrooms for non-English major students in countries like Viet Nam.

While the literature provides valuable insights into the general effectiveness and influence of game-based learning tools, there is a notable lack of research focused on their use in English language classrooms for non-English major students, particularly in non-Western countries like Viet Nam. The gap also extends to understanding the specific factors that make tools like Blooket effective for improving language learning outcomes. These gaps lead to the formulation of the following research questions for this study:

1. How do Vietnamese non-English majored students perceive the integration of Blooket as a game-based learning tool in their language learning classrooms?
2. What are the dominant factors influencing the use of Blooket to improve English language learning among Vietnamese non-English majored students?

By addressing these gaps, this study aims to provide valuable insights into the perceptions and factors that influence the use of game-based learning tools in English language classrooms for non-English major students. This research will contribute to the broader understanding of how game-based learning can be effectively utilized in language education, particularly in non-Western contexts.

3. Research Methodology

3.1. Research Design

This study adopts a mixed-methods design to examine the perceptions of Vietnamese non-English majored students regarding the integration of Blooket as a game-based learning tool in their language classrooms. The research also investigates the dominant factors influencing the use of Blooket in enhancing English language learning. A combination of quantitative and qualitative data collection methods was employed to provide a comprehensive understanding of the students' experiences and attitudes toward the tool. Besides, the current study employed the framework from Asniza et al. (2021) to identify the students' perception of the use of Blooket based on two aspects, including overall perceptions and dominant factors. For the overall perceptions, 10 areas were addressed such as social interaction, engagement in learning, valuing existing knowledge, preference for combined approaches, responsibility for learning, adequacy of lesson content, suitability for learning topics, suitability for all students, suitability for different learning styles, and preference for blooket in lectures. For the dominant factors, other 8 areas were discussed, including classroom control and structure, time allocation, peer interaction, class size and learning environment, access to resources, infrastructure and facilities, responsibility for learning, and lecture room layout.

3.2. Participants

The participants in this study consisted of 100 Vietnamese non-English majored undergraduate students from various disciplines enrolled at a university in Viet Nam. The selection

of participants was done using convenience sampling, ensuring a diverse group of students from different majors. All participants were currently enrolled in a general English course, where Blooket was integrated as a learning tool. By selecting non-English majored students, the study aimed to focus on a group whose primary exposure to English is through general education courses rather than specialized English programs. This group provides a unique perspective on the effectiveness and appeal of Blooket as a game-based learning tool for improving English language skills in a non-English-focused academic context.

3.3. Research Instruments

A structured online survey was developed to collect quantitative data on students' perceptions of Blooket and the factors influencing its use. The survey included 20 questions categorized into 2 sections, including overall perceptions of Blooket and dominant factors that influence the students' engagement with the platform. The survey used a Likert scale (1 = strongly disagree to 5 = strongly agree) for students to express their level of agreement with each statement. The study adhered to ethical standards, and ethical approval was obtained from the university's ethics committee. Participants were informed that their involvement was voluntary and that they could withdraw at any time without penalty. Informed consent was obtained from all participants, and confidentiality was maintained by anonymizing all responses. Audio recordings of interviews were kept secure, and participants' identities were not linked to their data.

3.4. Data Collection Techniques

Data were collected through two phases. Firstly, the online survey was distributed to all 100 participants, who completed it independently. The survey was conducted during the second half of the semester after students had used Blooket in their English language classrooms for a sufficient period, allowing them to form informed opinions. Secondly, a total of 15 students were selected from the survey respondents to participate in follow-up interviews. The students were invited based on their willingness to share detailed feedback. The interviews were conducted in person or via video calls, lasting between 15 to 20 minutes. All interviews were audio-recorded and transcribed for analysis.

3.5. Data Analysis Techniques

The survey data were analyzed using descriptive statistics, including the calculation of means and standard deviations to summarize students' perceptions of Blooket. A factor analysis was conducted to identify the key factors influencing the use of Blooket for language learning. The data were analyzed using statistical software (SPSS). In addition, the interview transcripts were analyzed using thematic analysis to identify patterns and recurring themes in students' responses. The analysis was conducted in several stages: initial reading, coding significant phrases, and identifying key themes related to the research questions. NVivo software was used to assist in the coding and categorization process.

4. Results

4.1. Perceiving the Integration of Blooket in their Language Learning Classrooms

The survey results revealed Vietnamese non-English majored students' perceptions of Blooket as a game-based learning tool. Analysis of means and standard deviations across survey items provided insights into student engagement, social interaction, learning responsibility, and

the tool's contextual appropriateness in different learning environments. For the overall perceptions, 10 areas were addressed such as social interaction, engagement in learning, valuing existing knowledge, preference for combined approaches, responsibility for learning, adequacy of lesson content, suitability for learning topics, suitability for all students, suitability for different learning styles, and preference for Blooket in lectures, as described in Table 1.

Regarding the social interaction, students generally agreed that learning through Blooket promotes social interaction among peers, with a mean score of 3.66 (SD = 0.89). This suggests that students perceive Blooket as a tool that fosters communication and collaboration during lessons. S2 shared:

"I like using Blooket in class because it helps me talk and work with my classmates. It makes learning more fun, and I feel like I understand better when we all help each other."

Regarding the engagement in learning, the majority of students felt that Blooket has the potential to engage many students in the teaching and learning process. However, with a mean score of 2.13 (SD = 0.88), this perception was less favorable, indicating that not all students found Blooket equally engaging or effective in maintaining their attention in class. S7 mentioned:

"While some of us enjoy using Blooket because it makes learning more interesting, not everyone feels the same. Some students, including me, find it hard to stay focused during the game, and it doesn't always keep our attention like other activities might."

Regarding the valuing existing knowledge, when asked whether Blooket helps to further value students' existing knowledge and opinions, the mean score was low (M = 1.88, SD = 1.02). This suggests that students felt Blooket did not significantly help in recognizing or building upon their prior knowledge during language lessons. S5 stated:

"Blooket is fun, but I don't feel like it really helps me build on what I already know. It's more about testing what I remember rather than expanding on my understanding of the topic."

Regarding the preference for combined approaches, students showed a strong preference for classes that use a combination of Blooket and traditional lectures, with a mean score of 4.01 (SD = 0.98). This suggests that the integration of game-based learning with traditional teaching methods is well-received, highlighting the effectiveness of a blended learning approach. S2 pointed out:

"I like it when we use both Blooket and regular lectures in class. The mix of games and traditional teaching helps me stay engaged and understand the material better."

Regarding the responsibility for learning, the students generally agreed that Blooket encourages them to take responsibility for their own learning, as indicated by a mean score of 3.33 (SD = 0.91). While this score is moderately positive, it implies that students felt some level of independence but perhaps not as much as could be expected in a fully student-directed learning environment. S4 shared:

"Blooket helps me take more control of my learning, but I still feel like I need more guidance to fully take charge of my studies."

Regarding the adequacy of lesson content, on the question of whether Blooket provides adequate lesson content, the mean score was 3.01 (SD = 0.93). This suggests that, while Blooket

was viewed as a useful tool, some students felt that it might not fully cover the depth or breadth of content needed for comprehensive learning. S9 highlighted:

"Blooket is fun and helpful, but sometimes I feel like it doesn't cover all the details I need to fully understand the topic."

Regarding the suitability for learning topics, the students expressed mixed opinions about the suitability of Blooket for all learning topics, with a mean score of 2.30 (SD = 0.89). This suggests that students believe Blooket may be more appropriate for certain subjects or topics but not universally applicable across all areas of study. S1 explained:

"Blooket works great for vocabulary or grammar, but I'm not sure it would be as helpful for more complex topics or lessons that need deeper thinking."

Regarding the suitability for all students, Blooket was generally considered suitable for students of all ages, with a mean score of 4.50 (SD = 0.88). This indicates that students felt the platform was flexible and could be beneficial to a wide range of learners, regardless of age. S4 clarified:

"Blooket seems like a tool that can work for anyone, whether you're younger or older. It's flexible and easy to use for everyone in class."

Regarding the suitability for different learning styles, there was less consensus on whether Blooket caters to diverse learning styles, as reflected by a lower mean score of 2.00 (SD = 0.95). This suggests that students felt Blooket may not accommodate all types of learners equally well, potentially limiting its effectiveness for some individuals. S8 highlighted:

"I like Blooket, but it may not be good for everyone. It's mostly about fast answers and playing against others. Some students who learn by talking or doing might not like it. It would be better if it had more ways to learn."

Regarding the preference for blooket in lectures, when asked about their preference for attending lectures or tutorials that incorporate Blooket, the mean score was 2.07 (SD = 0.99), indicating that students did not overwhelmingly prefer lectures that included the tool. This suggests that while Blooket has some appeal, it may not be the preferred method of learning for all students. S6 emphasized:

"I think Blooket is fun, but I don't always want to use it in class. Sometimes, I prefer just listening to the lecture or reading the material. It's okay as a break, but not for every lesson."

Table 1. Students' perceptions about the use of Blooket as a Game-based Learning Tool

No.	Items	Min	Max	Mean	SD
1	In my opinion, learning through Blooket build students social interaction.	1	5	3.66	.89
2	In my opinion, learning through Blooket can attract/engage many students to engage in teaching and learning sessions.	2	5	2.13	.88
3	By learning through Blooket, students 'existing opinions and knowledge are further valued.	2	5	1.88	1.02
4	In my opinion, students love attending classes that use a combination of learning approaches through Blooket and lectures.	1	5	4.01	.98

5	In my opinion, when using Blooket, students are responsible for their own learning.	1	4	3.33	.91
6	In my opinion, learning through Blooket is able to provide adequate lesson content.	1	4	3.01	.93
7	In my opinion, learning through Blooket is only suitable for certain learning topics.	1	5	2.30	.89
8	In my opinion, learning through Blooket is suitable for all students regardless of age limit.	2	5	4.50	.88
9	In my opinion, learning through Blooket is suitable for all students regardless of the type of learning style of their choice.	2	5	2.00	.95
10	In my opinion, the students prefer to attend lectures/tutorials that use Blooket.	1	5	2.07	.99

4.2. The dominant factors influencing the use of Blooket to improve English language learning among Vietnamese non-English majored students

The analysis of dominant factors influencing the use of Blooket to improve English language learning provided important insights into the elements that shape students' active learning experiences. The responses across various factors were examined, and the results are summarized below based on the mean scores and standard deviations of the survey items, as described in Table 2.

In terms of the peer interaction and communication, students reported that good interaction and communication with peers encouraged their involvement in active learning, but with a mean score of 2.67 (SD = 0.92), this factor had a moderate influence. While peer interaction was viewed as important, it did not appear to be the most dominant factor in driving active learning among the participants. S2 shared:

"Talking to classmates during Blooket is helpful, but it doesn't always keep me focused. It's nice to share ideas, but I think other things also help me learn better."

In terms of the classroom control by the lecturer, effective classroom management was identified as a significant factor influencing active learning, with a mean score of 4.09 (SD = 0.88). This suggests that students perceive a well-controlled classroom environment, where the lecturer maintains order and structure, as crucial for their active involvement in learning activities. S3 stated:

"When the teacher keeps the class organized, it's easier to focus and join in the activities. I like it when everything is clear and runs smoothly during lessons."

In terms of the time allocation, the amount of time allocated for activities was another important factor, with a mean score of 3.61 (SD = 0.91). Students felt that sufficient time for Blooket-related tasks positively affected their participation and engagement in active learning, though it was not the most highly rated factor. S10 mentioned:

"Having enough time to finish the tasks in Blooket helps me stay focused and do my best. If there's not enough time, I feel rushed and don't enjoy it as much."

Perceptions and Dominant Factors of Blooket as a Game-based Learning Tool among Vietnamese

In terms of the class size, the number of students in a class was seen as a factor that affects active learning involvement, with a mean score of 2.89 (SD = 0.94). While this factor had a moderate impact, students indicated that larger class sizes might hinder their active participation in learning, suggesting the importance of smaller, more manageable class environments for game-based learning activities. S5 pointed out:

"In a big class, it's harder to get involved and interact with the game. Smaller classes would make it easier to participate and feel more connected."

In terms of the lecture room size, the appropriateness of the lecture or tutoring room size was a contributing factor, with a mean score of 3.89 (SD = 1.11). This suggests that students felt the physical learning environment, particularly the size of the classroom, influenced their ability to engage with active learning activities, with larger rooms possibly presenting challenges for interaction. S1 clarified:

"When the classroom is too big, it's harder to interact with the game and with classmates. A smaller room makes it easier to focus and join in the activities."

In terms of the discussion of existing knowledge, engaging students in discussions based on their existing knowledge was identified as a key factor influencing their active learning, with a mean score of 4.00 (SD = 0.93). Students strongly agreed that connecting new learning with prior knowledge encouraged their involvement in activities, highlighting the importance of a knowledge-building approach in game-based learning. S7 explained:

"I find it easier to learn when the teacher connects new ideas to what I already know. It makes the lesson feel more useful and helps me get involved in the activities."

In terms of the access to resources, the availability of easily accessible resources and reference materials was viewed as a moderate influence on active learning, with a mean score of 2.50 (SD = 1.02). While access to additional learning materials was seen as important, it did not appear to be a primary factor in motivating students to engage with Blooket. S2 shared:

"It's helpful to have extra materials, but I don't really rely on them when using Blooket. The game itself is fun and engaging enough on its own."

In terms of the infrastructure facilities, the adequacy of the infrastructure and facilities was another factor influencing active learning, with a mean score of 3.41 (SD = 0.89). This suggests that students believed having appropriate technical support and a conducive physical environment for learning contributed to their engagement in Blooket-based activities. S8 commented:

"Having good tech and a comfortable classroom helps me focus when using Blooket. It makes the learning experience smoother and more enjoyable."

In terms of the sense of responsibility for learning, the students' sense of responsibility for their own learning had a relatively low influence on their active learning involvement, with a mean score of 1.80 (SD = 0.91). This suggests that, while students may acknowledge the importance of taking responsibility for their learning, other factors such as classroom management or peer interaction were perceived as more influential in promoting active engagement. S2 shared:

"Blooket is fun, but it doesn't really make me feel like I'm in charge of my learning. I think things like the teacher's rules or working with classmates help me get more involved."

In terms of the lecture room layout, the layout of the lecture or tutoring room was the least influential factor, with a mean score of 2.00 (SD = 0.89). This suggests that the physical arrangement of the classroom, such as seating arrangements or space for group activities, had a minimal impact on students' active learning experiences with Blooket. S2 highlighted:

"The way the classroom is arranged doesn't really change how I feel about using Blooket. I think other things, like the teacher and how much time we have, are more important."

Table 2. Dominant Factors of Using of Blooket to Improve English Language Learning

No.	Items	Min	Max	Mean	SD
1	Good interaction and communication between peers encouraged my involvement in active learning.	1	5	2.67	.92
2	Effective classroom control by the lecturer influenced my involvement in active learning.	1	5	4.09	.88
3	Adequate time allocation while conducting activities influenced my involvement in active learning.	1	5	3.61	.91
4	Too many students in a class affects my involvement in active learning.	2	5	2.89	.94
5	The appropriateness of the size of the lecture/ tutoring room influenced my involvement in active learning.	1	4	3.89	1.11
6	Discussion of issues based on existing knowledge influences student engagement in active learning.	1	5	4.00	.93
7	Easily accessible resources and reference materials can encourage my involvement in active learning.	2	5	2.50	1.02
8	The complete infrastructure facilities influenced my involvement in active learning.	2	5	3.41	.89
9	A sense of responsibility for learning influenced my involvement in active learning.	1	5	1.80	.91
10	Appropriate lecture/ tutoring room layout influenced my involvement in active learning methods.	1	4	2.00	.89

5. Discussion

5.1 Perceiving the integration of Blooket in their language learning classrooms

The findings from this study provide valuable insights into how Vietnamese non-English majored students perceive the use of Blooket as a game-based learning tool in their English language classrooms. The survey results, as presented in Table 1, reveal a mixture of positive and more neutral or mixed perceptions regarding Blooket's effectiveness in enhancing student engagement, motivation, and learning outcomes.

Regarding social interaction and engagement, a key positive perception identified in the study is that Blooket fosters social interaction and collaboration among students. This suggests that students view the tool as an effective platform for communication during lessons, supporting the idea that game-based tools can stimulate interaction and foster a collaborative classroom dynamic (Iman et al., 2021; Haleem et al., 2022; Mohammadi Zenouzagh et al., 2025). This finding aligns with Fernández-Río et al. (2022), who found that game-based learning platforms significantly improved social interaction skills among university students, particularly those from

diverse cultural backgrounds. Their research demonstrated that gamified learning environments created opportunities for meaningful peer-to-peer exchanges that traditional teaching methods often failed to facilitate. Similarly, Khan et al. (2021) reported that digital game-based tools effectively bridged communication barriers in multicultural educational settings, particularly benefiting non-native English speakers who felt more comfortable participating in an engaging, gamified format.

By incorporating competitive elements, Blooket provides students with opportunities to engage with their peers in a fun and dynamic environment, which can enhance motivation and overall learning engagement. However, the data also show variability in student responses, indicating that while some students find Blooket engaging, others do not. This mixed response may be influenced by individual differences in learning preferences or prior exposure to technology-based tools. This variability is consistent with Demir and Karaarslan's (2023) research examining student responses to various digital learning platforms, which found that personal learning preferences significantly impacted engagement levels with gamified tools. Their study identified a correlation between students' technological self-efficacy and their receptiveness to game-based learning platforms, suggesting that prior digital experiences shape perceptions of educational games. Thus, while Blooket is successful for many, its impact varies depending on the unique preferences and prior experiences of each student, suggesting the need for more tailored approaches to game-based learning.

Regarding perceptions of Blooket's learning value, the findings also reveal mixed opinions on whether Blooket helps students build on their existing knowledge. While Blooket may motivate students through its competitive and engaging nature, it may not be sufficient on its own for achieving deeper learning, particularly in contexts where the primary goal is to expand upon existing knowledge. This aligns with recent research by Prendes-Espinosa et al. (2021), who identified a "gamification paradox" where increased engagement with learning games didn't necessarily translate to deeper conceptual understanding. Their research revealed that while students reported enjoying game-based learning platforms, assessments showed minimal improvements in subject matter retention and application compared to traditional teaching methods. This finding supports Squire's (2005) and Haleem et al.'s (2022) research, which emphasized that while game-based learning can engage students, it must be carefully integrated into the curriculum to address cognitive learning goals.

This perspective is further reinforced by Jin and Zhang (2022), whose comparative analysis of various educational game platforms found that tools like Blooket excel at reinforcement and review but showed limitations in introducing complex new concepts. Their research suggests that game-based tools might be most effective when strategically positioned as reinforcement activities rather than primary instructional methods. As such, Blooket may be seen as a useful tool for review and reinforcing previously learned material, but it may not provide the depth necessary for more complex or higher-order learning. This supports the view that game-based tools, such as Blooket, should complement traditional teaching methods rather than replace them when the focus is on advancing students' understanding and critical thinking skills (Asniza et al., 2021; Meirbekov et al., 2021).

Regarding the preference for blended approaches, the data also indicated a strong preference for blended learning approaches, as evidenced by the positive feedback regarding the integration of Blooket with traditional lecture formats. This suggests that students appreciate the

combination of digital game-based learning with conventional teaching methods. Such blended approaches are consistent with studies on blended learning (Garrison & Kanuka, 2004; de Almeida Junior et al., 2024), which have shown that combining digital and face-to-face learning results in better engagement and learning outcomes. This finding is particularly relevant in light of Ramírez-Montoya et al. (2022), whose extensive review of educational technology integration across 15 countries found that blended models consistently outperformed both fully online and traditional classroom models in terms of student satisfaction and achievement. Their research emphasized that the complementary nature of digital tools and face-to-face instruction creates a synergistic learning environment that appeals to diverse learner preferences. Students value the structure and content of traditional lectures but recognize the supplementary benefits of incorporating Blooket as an interactive, gamified tool (Aynsley et al., 2018).

Regarding student responsibility and content coverage, while students acknowledged that Blooket encouraged them to take responsibility for their own learning, they were more critical of its ability to deliver comprehensive lesson content. This moderate response suggests that while Blooket may support aspects of learning, such as vocabulary or review, it may not be sufficient as the primary method for content delivery. This perspective finds support in Lambert and Moore's (2020) investigation into the effectiveness of gamified vocabulary tools in foreign language acquisition. Their research revealed that while game-based platforms significantly increased engagement with vocabulary practice, students still relied heavily on instructor guidance for conceptual understanding and contextual application of language elements. This echoes findings from Steinkuehler and Duncan (2008), who argued that game-based tools should complement, not replace, traditional instructional methods. As such, Blooket may be most effective as a supplementary tool, enhancing engagement rather than serving as a comprehensive content delivery mechanism (Perera & Hervás-Gómez, 2021).

Regarding suitability for different learning contexts, perceptions were mixed. While Blooket may be effective for specific language practice activities, such as vocabulary or grammar review, it might not be as useful for more complex topics requiring deeper conceptual understanding or critical thinking (Mucundanyi & Woodley, 2021; Meirbekov et al., 2021). This limitation was similarly identified in Kim and Castelli's (2021) analysis of game-based learning platforms across various subject domains, which found that digital games showed significant variability in effectiveness depending on the complexity of learning objectives. Their research demonstrated that while gamified tools excelled in discrete skill practice and knowledge recall, they were less effective for fostering higher-order thinking skills like synthesis and evaluation.

However, many students believe the tool is versatile and adaptable to different learner demographics. Despite this, the relatively low score for the statement "Blooket is suitable for all learning styles" suggests that Blooket may not fully accommodate all types of learners, such as those who may prefer more hands-on or auditory learning methods. Rodrigues et al. (2022) reinforced this concern in their research on inclusive digital learning design, finding that many popular educational games primarily catered to visual and competitive learning preferences while underserving kinesthetic and collaborative learners. Their study emphasized the importance of developing more adaptable digital learning tools that can accommodate diverse cognitive approaches. This indicates the importance of using Blooket alongside other strategies to meet diverse learning needs (Dawie et al., 2021). Therefore, while Blooket may be a valuable tool for

certain learning tasks, it should be integrated as part of a broader, more flexible approach to meet the varying preferences and learning styles of students.

Regarding the preference for Blooket in lectures, despite the positive feedback regarding Blooket's ability to engage students and facilitate social interaction, some students do not favor game-based learning as their primary mode of instruction. This finding aligns with research that highlights varied responses to game-based learning, where some students may find it distracting or less effective for their learning styles (Caponetto, 2021). This sentiment is echoed in Jiang and Henderson's (2021) investigation of student preferences across digital learning platforms, which found that approximately 30% of university students consistently preferred traditional lecture formats regardless of the digital tool employed. Their research identified correlations between learning anxiety, assessment performance, and resistance to game-based platforms, suggesting that cognitive load and evaluation apprehension may diminish some students' receptiveness to gamified learning. While Blooket may be appealing for some, others may prefer a more traditional or non-interactive classroom environment, emphasizing the need for flexibility in teaching approaches to cater to diverse student preferences (Feldman, Monteserin, & Amandi, 2014).

5.2 The dominant factors influencing the use of Blooket to improve English language learning among Vietnamese non-English majored students

The findings from this study provide valuable insights into the dominant factors that influence students' active learning experiences when using Blooket to improve their English language skills. As presented in Table 2, a range of factors, including classroom control, time allocation, peer interaction, class size, infrastructure, and the availability of resources, were identified as influencing students' engagement during Blooket activities. The following discussion interprets these factors in detail, highlighting their significance and impact on student participation.

In terms of classroom control and structure, it emerged as one of the most significant factors influencing student engagement with Blooket, with a mean score of 4.09 (SD = 0.88). This suggests that students place high value on a well-managed and organized classroom environment for fostering active learning. This finding is consistent with Martín-Sómer et al. (2021), who investigated the organizational prerequisites for effective gamified learning and found that structured implementation was the strongest predictor of student engagement. Their research demonstrated that even highly engaging digital tools failed to produce positive outcomes when implemented without clear instructional frameworks and session management. Effective classroom management creates an atmosphere where students feel secure and motivated, which is essential for maintaining their focus during Blooket activities. This finding aligns with research by Asniza et al. (2021) and Tarigan et al. (2023), which emphasize the importance of structured classroom environments in encouraging student participation.

Similarly, Chao et al. (2020) identified instructor facilitation as a critical mediating factor between game-based learning tools and student achievement, particularly in language learning contexts. Their study of digital game implementation across multiple East Asian educational settings revealed that clear instructions, consistent pacing, and attentive monitoring significantly enhanced the effectiveness of gamified learning activities. When instructors manage the flow of the lesson and provide clear guidelines for using the tool, students are more likely to remain engaged and focused. Conversely, a lack of classroom control may lead to distractions, hindering

the overall learning experience. This suggests that while Blooket can be an engaging tool, its success heavily depends on the classroom management strategies employed by the instructor to ensure a productive learning environment.

In terms of time allocation, it was also a key factor in student engagement, with a mean score of 3.61 (SD = 0.91). Students reported that having sufficient time to complete Blooket-related tasks positively impacted their involvement in the learning process. This supports existing literature highlighting time management as a critical element for successful game-based learning environments (Lu & Lien, 2020; Perera & Hervás-Gómez, 2021). This finding is corroborated by Montero-Fleta and Pérez-Sabater (2022), whose longitudinal study of game-based language learning platforms found that session duration significantly impacted learning outcomes. Their research identified an "optimal engagement window" of 15-25 minutes for digital language games, beyond which student focus and participation began to diminish regardless of the platform's inherent appeal. When students have enough time to meaningfully engage with the content, they are more likely to participate actively, reinforcing the importance of pacing in instructional design.

Pham and Nguyen (2021) further reinforced this concept in their analysis of digital learning tool implementation in Vietnamese universities, finding that time allocation was particularly important for students with limited prior exposure to educational technology. Their research revealed that these students required additional time to become comfortable with digital platforms before they could fully engage with the learning content. In contrast, when students feel rushed or pressured by limited time, it can lead to disengagement or frustration, which ultimately undermines the learning experience. Therefore, careful attention to time allocation during game-based activities is essential for fostering effective engagement and maintaining student focus throughout the lesson.

In terms of peer interaction, while it was acknowledged as a contributing factor to active learning, it did not rank as highly as classroom control or time allocation, with a mean score of 2.67 (SD = 0.92). This suggests that while some students recognize the value of collaborative learning, peer interaction may not always be the primary driver of engagement during Blooket activities. This finding contrasts with some existing research on collaborative digital learning but aligns with Liao et al. (2020), who found that the effectiveness of peer interaction in digital learning environments was heavily influenced by cultural context and prior educational experiences. Their cross-cultural study of university students revealed that participants from education systems emphasizing individual achievement and teacher-centered instruction (like Vietnam) often placed less value on peer collaboration in digital learning activities compared to those from more collaborative educational cultures.

Some students may prefer to focus on individual learning rather than engage in social interactions during the game. This variation in preferences aligns with studies on collaborative learning (Aynsley et al., 2018), which suggest that peer interaction can be motivating but is not universally effective for all students. Additionally, as noted by Watanabe and Serrano (2020) in their investigation of game-based language learning across different personality profiles, introverted learners often derived less benefit from the social aspects of gamified learning environments, preferring the challenge and competitive elements instead. Their research suggested that social interaction might be a complementary rather than central benefit of digital learning games for certain student populations. Some students may feel uncomfortable participating in a game-based context that encourages communication, highlighting the need to

consider diverse learning preferences when incorporating peer interaction into game-based learning. As such, educators should be mindful of these individual differences and seek to balance opportunities for collaboration with options for more independent engagement to cater to the full range of student needs.

In terms of class size and learning environment, it was another factor influencing student engagement, with a mean score of 2.89 (SD = 0.94). Students indicated that larger class sizes negatively impacted their ability to engage in active learning. This finding is consistent with Wang and Zou (2020), whose comparative analysis of digital game implementation across various class sizes found a significant inverse relationship between class size and student engagement metrics. Their research identified an optimal class size of 15-20 students for digital game-based activities, noting that technical support needs, attention management, and meaningful instructor interaction became increasingly challenging as class sizes grew. This highlights the challenges of implementing game-based learning in large lecture halls, where students may feel disconnected due to limited opportunities for interaction.

Smaller class sizes tend to foster more personalized attention and active participation, which is likely why smaller groups show higher levels of engagement during game-based learning activities. This finding aligns with research by Hartt et al. (2020), which suggests that smaller classes are more effective for fostering engagement and individualized learning experiences. Additionally, the layout of the classroom also played a role in student involvement. With a mean score of 3.89 (SD = 1.11), students reported that a well-organized physical environment, with sufficient space for group work and interactive activities, enhanced their ability to participate in Blooket-based lessons. Tran and Nguyen (2021) further supported this finding in their research on physical learning environments in Vietnamese universities, demonstrating that classroom configuration significantly impacted student engagement with digital learning tools. Their study found that flexible seating arrangements and adequate space for movement corresponded with higher participation rates and more positive attitudes toward educational technology. This suggests that the physical setup of the classroom is a crucial element in creating an engaging learning space, reinforcing the importance of designing classrooms that accommodate collaborative learning.

In terms of access to resources, it was considered a factor in student engagement, though it received a mean score of 2.50 (SD = 1.02), indicating that it was not as influential as other factors. Students reported that while supplementary resources could support their learning, they were not a dominant factor in their active participation during Blooket activities. This contrasts somewhat with Zhang and Zou (2021), whose investigation into resource complementarity and digital learning found that supplementary materials significantly enhanced learning outcomes when strategically aligned with game-based activities. Their research suggested that carefully selected supporting resources could bridge the gap between game engagement and knowledge application, particularly for complex language learning objectives. This suggests that students tend to prioritize the immediate, interactive aspects of the game over additional learning materials (de Almeida Junior et al., 2024).

However, providing easily accessible resources can still enhance the overall learning experience by offering students opportunities to review and reinforce concepts outside of game-based sessions. Goyal and Krishnan (2022) reinforced this perspective in their study of multimodal language learning approaches, finding that while students primarily engaged with interactive

digital elements during class sessions, they frequently accessed supplementary resources during independent study time. Their research demonstrated that these complementary materials played an important role in consolidating knowledge gained through gamified classroom activities. This finding emphasizes the importance of balancing interactive tools like Blooket with supplementary materials that can deepen students' understanding. Therefore, while resources may not drive engagement as strongly as other factors, their strategic inclusion can complement game-based learning, helping to reinforce knowledge and improve long-term retention.

In terms of infrastructure and facilities, they were moderately influential, with a mean score of 3.41 (SD = 0.89). Students reported that having access to the necessary technological tools, such as stable internet connections and functional devices, was important for engaging in active learning through Blooket. This finding is particularly relevant in light of Vuong et al. (2022), whose assessment of digital infrastructure in Vietnamese higher education identified significant disparities in technological access across different institutions and regions. Their research revealed that unreliable internet connectivity and inconsistent device availability created barriers to effective implementation of digital learning tools, regardless of the platforms' inherent quality. Inadequate infrastructure can disrupt the flow of activities and lead to frustration, ultimately reducing engagement. This is consistent with research by Perera and Hervás-Gómez (2021) and de Almeida Junior et al. (2024), who emphasized the need for appropriate technological support in implementing digital learning tools effectively.

This perspective is further supported by Dang and Nguyen (2021), whose investigation into technological barriers to digital learning adoption in Vietnamese universities found that infrastructure reliability was a significant predictor of both student satisfaction and learning outcomes with educational technology. Their research highlighted that technical disruptions during game-based learning activities not only impeded immediate learning objectives but also negatively impacted students' attitudes toward future technology integration. When students experience technical issues, it can undermine their ability to fully engage with the learning platform, highlighting the need for reliable technological infrastructure in the classroom. Therefore, ensuring that classrooms are equipped with the proper facilities is essential for maximizing the engagement and effectiveness of game-based learning platforms like Blooket.

In terms of responsibility for learning, it was the least influential factor in promoting active learning, with a mean score of 1.80 (SD = 0.91). This suggests that students did not perceive Blooket as significantly enhancing their sense of responsibility for their own learning. This finding aligns with Chen and Wu (2020), whose investigation into self-regulated learning in game-based environments found that interactive digital tools often failed to transfer responsibility for learning to students without explicit scaffolding. Their research demonstrated that while students enjoyed the interactive elements of educational games, they frequently perceived these activities as instructor-directed rather than opportunities for autonomous learning. While some students may appreciate the autonomy provided by game-based learning tools, others may not have felt that Blooket encouraged them to take more responsibility for their educational outcomes.

This finding points to the complexity of fostering self-directed learning in a game-based context, as students may need more structured support to engage fully in independent learning processes (Feldman et al., 2014; Tarigan et al., 2023). Sharma and Madhavi (2022) provided additional insight through their comparative analysis of learning autonomy across different digital platforms, finding that tools like Blooket, which emphasize competition and recall, generally

scored lower on autonomy metrics compared to platforms that incorporated problem-solving and creative components. Their research suggested that the game mechanics themselves might influence the degree to which students develop a sense of responsibility for learning outcomes. In a game-based setting like Blooket, students may require additional guidance to develop a sense of ownership over their learning, particularly if the activity does not directly encourage critical thinking or independent problem-solving. As a result, students might need additional guidance or scaffolding to develop a stronger sense of responsibility for their learning, particularly if the game does not explicitly encourage reflection or deeper cognitive engagement.

In terms of lecture room layout, it was found to have minimal impact on student engagement with Blooket, with a mean score of 2.00 (SD = 0.89). This suggests that while the physical arrangement of the room can facilitate certain types of activities, it was not a significant factor in motivating students to engage with the game. This finding is consistent with Huynh and Pham's (2021) research on digital learning environments in Vietnamese higher education, which found that while physical classroom configuration influenced traditional teaching methods, its impact was diminished for digital learning activities where student attention was primarily focused on individual devices. Their study suggested that digital engagement often transcended physical space constraints, particularly for activities that didn't require extensive peer collaboration. This could be due to Blooket's flexibility, as it can be used in various classroom settings without requiring specific arrangements.

Alternatively, it may reflect the fact that other factors, such as classroom control and time management, played a more central role in influencing student engagement. Liang and Wu (2022) provided further context through their investigation of environmental factors in digital learning, finding that while room layout significantly impacted collaborative digital activities, its influence was minimal for more individualized digital gaming experiences. Their research suggested that the nature of the digital activity itself might determine how relevant physical space becomes to student engagement. As such, while room layout might play a minor supporting role, it appears that the interactive and engaging nature of the tool itself, along with effective management practices, are more crucial in promoting active participation in game-based learning.

5.3 Intercultural and Multicultural Perspectives in Blooket Use

The integration of Blooket in a Vietnamese classroom provides valuable insights into how game-based learning tools can be perceived across different cultural contexts. In Viet Nam, where education is traditionally more teacher-centered and structured, students may initially face challenges in adapting to the interactive, student-driven nature of game-based learning (Feldman et al., 2014). However, a blended approach, combining traditional lecture formats with game-based tools like Blooket, was found to be highly effective, aligning with Henry et al.'s (2024) findings that students appreciate a mix of both instructional methods. This balance respects the cultural emphasis on teacher authority while introducing interactive, engaging learning experiences that foster collaboration and engagement.

Moreover, cultural differences in peer interaction and competition are significant when incorporating game-based learning in multicultural environments. In the Vietnamese context, where individual achievement is often prioritized, the competitive nature of Blooket can motivate some students, while others may feel uncomfortable with the social dynamics it encourages (Aynsley et al., 2018). The study's findings echo this variability, with some students appreciating

Blooket's potential for fostering interaction, while others preferred more solitary learning experiences. This highlights the need for educators to tailor game-based activities to accommodate diverse cultural preferences and learning styles, ensuring that tools like Blooket are accessible and engaging for all students.

Lastly, the study also underscores the importance of technological access and infrastructure in ensuring equitable participation in game-based learning. In developing countries like Viet Nam, where technological resources may be limited, students' engagement with Blooket could be hindered by connectivity issues or inadequate devices (Perera & Hervás-Gómez, 2021; Tarigan et al., 2023). This reflects the findings of Ak and Kutlu (2017), who emphasized the critical role of classroom environment and resource availability in maximizing the benefits of game-based learning. To foster effective intercultural education, it is essential to ensure that both technological infrastructure and cultural inclusivity are considered when implementing tools like Blooket, ensuring that all students, regardless of background, can fully engage with the learning process.

This study makes several novel contributions to game-based learning literature in language education. It provides one of the first comprehensive examinations of Blooket for English language learning among non-English majored Vietnamese students. Using a mixed-methods approach, it identifies dominant factors influencing student engagement with this platform, offering a nuanced understanding of how classroom, technological, and pedagogical elements interact. The research contributes culturally specific insights about educational technology implementation in Vietnamese higher education that may be missing from Western-focused studies. It extends theoretical frameworks by emphasizing classroom management and time allocation as critical success factors, complementing previous research focused on intrinsic motivational elements. Finally, it introduces a perspective on the complementary relationship between traditional teaching and digital game-based learning, revealing students' preference for blended approaches that leverage the strengths of both methods.

The findings suggest several key pedagogical implications for integrating Blooket into language teaching for Vietnamese non-English majored students. First, use Blooket as part of a blended approach rather than standalone, supplementing traditional instruction to maintain content coverage while leveraging game-based learning benefits. Second, implement strong classroom management with explicit protocols for activities to ensure focus and minimize distractions. Third, optimize time use with short, focused activities rather than prolonged sessions to prevent diminishing returns. Fourth, adopt a differentiated approach with varied game modes including both competitive and collaborative elements to accommodate diverse learning styles. Finally, ensure infrastructure readiness with reliable internet, sufficient device access, and technical support to prevent disruptions.

6. Conclusion

The study revealed that Vietnamese non-English majored students generally perceive Blooket as a useful tool for promoting social interaction and engagement in their English language learning classrooms. Students particularly valued Blooket's ability to enhance classroom dynamics when integrated with traditional lecture methods. However, the tool was less effective in fostering deep knowledge acquisition or accommodating various learning styles, with students expressing concerns about its limited capacity to cover comprehensive lesson content. Key factors such as classroom control, time allocation, and infrastructure were identified as dominant influences on

students' active involvement, while peer interaction and class size had a more moderate impact on engagement.

These findings suggest that Blooket can serve as a valuable supplementary tool in language learning, enhancing student engagement and interaction, particularly in a blended learning environment. Educators should consider integrating Blooket alongside more traditional instructional methods to maximize its potential, ensuring that it complements content delivery and provides opportunities for student collaboration. Additionally, the study underscores the importance of optimizing classroom management, allocating sufficient time for activities, and ensuring a supportive learning environment to maximize the effectiveness of game-based learning tools like Blooket.

This study has several limitations, including its reliance on self-reported data, which may be subject to biases such as social desirability or individual perceptions of the tool's effectiveness. Additionally, the sample was limited to non-English majored students in Viet Nam, which may not fully represent the broader student population or other cultural contexts. Future research could explore the effectiveness of Blooket in different educational settings and among students with diverse learning backgrounds and preferences. Further studies could also investigate the long-term impact of game-based learning tools on language acquisition and explore strategies to enhance the adaptability of platforms like Blooket to better accommodate a variety of learning styles and content areas.

References

- Ak, O., & Kutlu, B. (2017). Comparing 2D and 3D game-based learning environments in terms of learning gains and student perceptions. *British Journal of Educational Technology*, 48(1), 129-144.
- Akindele, J., Fabunmi, V., & Akano, R. (2023). Use of Information Communication Technology in Spoken English learning in selected Public and Private Secondary Schools ESL Classroom. *International Journal of Multilingualism and Languages for Specific Purposes*, 5(1), 69-94.
- Al-Tamimi, A. S., & Bin-Hady, W. A. R. (2024). AI Technology in The ESP Context: Uses and Concerns among Architectural Engineering Students at Hadhramout University. *International Journal of Multilingualism and Languages for Specific Purposes*, 6(2), 57-75.
- Asniza, I. N., Zuraidah, M. O. S., Baharuddin, A. R. M., Zuhair, Z. M., & Nooraida, Y. (2021). Online game-based learning using Kahoot! To enhance pre-university students' active learning: A students' perception in Biology classroom. *Journal of Turkish Science Education*, 18(1), 145-160.
- Aynsley, S. A., Nathawat, K., & Crawford, R. M. (2018). Evaluating student perceptions of using a game-based approach to aid learning: Braincept. *Higher Education Pedagogies*, 3(1), 478-489.
- Benmouhoub, L., & Boukhedimi, Y. (2019). Towards a Dynamic Approach to Assessing Students' Critical Thinking Skills in Higher Education. *Revue Traduction et Langues*, 18(2), 115-128.
- Chanh, N. H. (2021a). Simile as an effective literary device in the Vietnamese-English translation equivalent. *REiLA: Journal of Research and Innovation in Language*, 3(2), 115-123.
- Chanh, N. H. (2021b). Aiding the translation process with affixal analysis—a case study in "The Old Man and The Sea". *Ho Chi Minh City University of Education Journal of Science*, 18(4), 592-603.
- Chanh, N. H. (2023). Enhancing EFL Vietnamese students' communicative competence through selected speaking strategies. *REiLA: Journal of Research and Innovation in Language*, 5(1), 17-31.

- Chao, Y. C., Chang, Y. C., Wu, H. C., & Lin, H. (2020). Instructor facilitation and its impact on student engagement in game-based language learning environments in East Asian contexts. *Educational Technology Research and Development*, 68(6), 3385-3406. <https://doi.org/10.1007/s11423-020-09823-z>
- Chen, L. H., & Wu, C. (2020). Self-regulated learning and engagement in game-based environments: An empirical study of primary and secondary school students. *Interactive Learning Environments*, 28(7), 796-812. <https://doi.org/10.1080/10494820.2018.1541908>
- Dang, T. T., & Nguyen, H. T. (2021). Technological barriers to technology integration in Vietnamese higher education: A case study of teacher perceptions. *International Journal of Educational Technology in Higher Education*, 18(1), 1-20. <https://doi.org/10.1186/s41239-021-00246-1>
- de Almeida Junior, Á. D., Bezerra, I. M. P., Alves, S. A. A., Tristan-Cheever, E., Salati, T., & Abreu, L. C. D. (2024). Construction and validation of an educational technology to promote the health of postmenopausal women with dry eye syndrome. *European Journal of Investigation in Health, Psychology and Education*, 14(6), 1700-1711.
- Demir, K., & Karaarslan, E. (2023). Understanding student engagement with gamified learning platforms: The role of technological self-efficacy and prior digital experiences. *Educational Technology & Society*, 26(2), 108-123. <https://doi.org/10.30935/ets.11918>
- Feldman, J., Monteserin, A., & Amandi, A. (2014). Detecting students' perception style by using games. *Computers & Education*, 71, 14-22.
- Fernández-Río, J., Cecchini, J. A., & González-Villora, S. (2022). Impact of game-based learning on social interaction skills and emotional well-being among university students. *Educational Technology Research and Development*, 70(1), 283-301. <https://doi.org/10.1007/s11423-021-10056-x>
- García-Martínez, J. A., Rosa-Napal, F. C., Romero-Tabayo, I., López-Calvo, S., & Fuentes-Abeledo, E. J. (2020). Digital tools and personal learning environments: An analysis in higher education. *Sustainability*, 12(19), 8180.
- Goyal, S., & Krishnan, V. (2022). Multimodal approaches to language learning: The complementary role of digital games and traditional resources. *International Journal of Game-Based Learning*, 12(4), 1-18. <https://doi.org/10.4018/IJGBL.2022100101>
- Greener, S., & Wakefield, C. (2015). Developing confidence in the use of digital tools in teaching. *Electronic Journal of E-Learning*, 13(4), 260-267.
- Haleem, A., Javaid, M., Qadri, M. A., & Suman, R. (2022). Understanding the role of digital technologies in education: A review. *Sustainable Operations and Computers*, 3, 275-285.
- Hartt, M., Hosseini, H., & Mostafapour, M. (2020). Game on: Exploring the effectiveness of game-based learning. *Planning Practice & Research*, 35(5), 589-604.
- Henry, J., Li, F., & Arnab, S. (2024). On the pre-perception of gamification and game-based learning in higher education students: A systematic mapping study. *Simulation & Gaming*, 55(6), 985-1010.
- Huynh, T. L., & Pham, T. N. (2021). Physical classroom environments and digital learning spaces: The diminishing influence of room layout in technology-enhanced education. *Journal of Educational Spaces*, 9(2), 45-57. <https://doi.org/10.12973/edu-spaces.9.2.45>
- Iman, N., Ramli, M., & Saridewi, N. (2021). Kahoot as an Assessment Tool: Students' Perception of Game-based Learning Platform. *Jurnal Penelitian dan Pembelajaran IPA*, 7(2), 245-259.
- Jiang, M., & Henderson, C. (2021). Student resistance to game-based learning platforms: Exploring factors related to anxiety, performance, and learning preferences. *Research in Learning Technology*, 29(1), 2495-2510. <https://doi.org/10.25304/rlt.v29.2495>

- Jin, Y., & Zhang, X. (2022). The role of digital game-based learning across the spectrum of knowledge acquisition: A comparative analysis of reinforcement versus concept introduction. *International Journal of Educational Technology in Higher Education*, 19(1), 1-23. <https://doi.org/10.1186/s41239-022-00321-1>
- Khan, A., Egbue, O., Palkie, B., & Madden, J. (2021). Digital games and intercultural communication: Breaking barriers in multinational educational settings. *Computers & Education*, 167, 104149. <https://doi.org/10.1016/j.compedu.2021.104149>
- Kim, S., & Castelli, D. M. (2021). Effects of gamification on behavioral change in education: A meta-analysis with moderating factors. *Educational Psychology Review*, 33(4), 1717-1747. <https://doi.org/10.1007/s10648-021-09608-7>
- Lambert, J., & Moore, M. (2020). Gamified vocabulary acquisition in second language contexts: The limitations of enjoyment in educational games. *Language Learning & Technology*, 24(1), 107-126. <https://doi.org/10.125/44710>
- Liang, J., & Wu, S. (2022). Environmental determinants of digital game engagement: Distinguishing between collaborative and individual gaming contexts. *Journal of Educational Computing Research*, 60(1), 237-259. <https://doi.org/10.1177/07356331211073067>
- Liao, Y. C., Huang, Y. C., & Chen, H. C. (2020). Cultural differences in the perceptions of peer interaction in digital learning environments: A comparative study across Asian countries. *Computers & Education*, 157, 103983. <https://doi.org/10.1016/j.compedu.2020.103983>
- Lu, Y. L., & Lien, C. J. (2020). Are they learning or playing? Students' perception traits and their learning self-efficacy in a game-based learning environment. *Journal of Educational Computing Research*, 57(8), 1879-1909.
- Martín-Sómer, M., Moreira, J., & Casado, C. (2021). Organizational prerequisites for effective implementation of game-based learning in higher education. *The International Journal of Management Education*, 19(1), 100456. <https://doi.org/10.1016/j.ijme.2021.100456>
- Meirbekov, A., Maslova, I., & Gallyamova, Z. (2022). Digital education tools for critical thinking development. *Thinking Skills and Creativity*, 44, 101023.
- Mellit, D., & Idri, N. (2019). The Impact of EFL Algerian University Students' Attitudes on Literary Texts Reading Motivation: The Case of Second Year English Students at Setif 2 University. *Revue Traduction et Langues*, 18(1), 98-114.
- Mohammadi Zenouzagh, Z., Admiraal, W., & Saab, N. (2025). Empowering students' agentic engagement through formative assessment in online learning environment. *International Journal of Educational Technology in Higher Education*, 22(1), 1-26. <https://doi.org/10.1186/s41239-024-00498-7>
- Montero-Fleta, B., & Pérez-Sabater, C. (2022). Optimal engagement times and diminishing returns in digital language games: A longitudinal study. *ReCALL*, 34(2), 143-160. <https://doi.org/10.1017/S0958344022000015>
- Mucundanyi, G., & Woodley, X. (2021). Exploring free digital tools in education. *International Journal of Education and Development using Information and Communication Technology*, 17(2), 96-103.
- Ng, S. F., Dawie, D. D. S. A., Chong, W. W., Jamal, J. A., Rahman, S. N. A. A., & Jamal, J. I. (2021). Pharmacy student experience, preference, and perceptions of gaming and game-based learning. *Currents in Pharmacy Teaching and Learning*, 13(5), 479-491.
- Peralta, L. R., Forsyth, R., Lapi, N., Amon, K. L., Metsan, P., Wattelez, G., Chem, J., Galy, O., & Caillaud, C. (2025). Health literacy of adolescents' responses to a workshop focusing on food,

- nutrition, climate change and digital technology solution in Oceania: A multi-site pilot study in Vanuatu. *BMC Public Health*, 1-12. <https://doi.org/10.1186/s12889-025-21865-7>
- Perera, V. H., & Hervás-Gómez, C. (2021). University Students' Perceptions toward the Use of an Online Student Response System in Game-Based Learning Experiences with Mobile Technology. *European Journal of Educational Research*, 10(2), 1009-1022.
- Pham, Q. D., & Nguyen, T. H. (2021). Time allocation for educational technology integration in Vietnamese universities: Implications for digital literacy development. *Asian Journal of University Education*, 17(2), 246-261. <https://doi.org/10.24191/ajue.v17i2.13412>
- Prendes-Espinosa, M. P., García-Tudela, P. A., & Solano-Fernández, I. M. (2021). The gamification paradox: Measuring the impact of educational games on knowledge acquisition versus conceptual understanding. *Education and Information Technologies*, 26(6), 7383-7405. <https://doi.org/10.1007/s10639-021-10514-2>
- Ramírez-Montoya, M. S., McGreal, R., & Obiozor, W. E. (2022). Blended learning models for sustainable education: A systematic review of meta-analyses from 15 countries. *Educational Research Review*, 37, 100452. <https://doi.org/10.1016/j.edurev.2022.100452>
- Rodrigues, H., Almeida, F., & Costa, C. J. (2022). Inclusive design in digital learning games: Addressing diversity in player preferences and abilities. *Universal Access in the Information Society*, 21(4), 985-997. <https://doi.org/10.1007/s10209-021-00832-0>
- Säljö, R. (2010). Digital tools and challenges to institutional traditions of learning: technologies, social memory and the performative nature of learning. *Journal of Computer Assisted Learning*, 26(1), 53-64.
- Sharma, K., & Madhavi, C. (2022). Digital learning platforms and autonomy development: A comparative analysis of game mechanics and their impact on self-directed learning. *International Journal of Computer-Assisted Language Learning and Teaching*, 12(3), 1-19. <https://doi.org/10.4018/IJCALLT.292361>
- Sun, L., Ruokamo, H., Siklander, P., Li, B., & Devlin, K. (2021). Primary school students' perceptions of scaffolding in digital game-based learning in mathematics. *Learning, Culture and Social Interaction*, 28, 100457.
- Tarigan, W. P. L., Kuswanto, H., & Tarigan, C. U. (2023). Local Potential-Integrated Augmented Reality Booklet to Facilitate Student's Curiosity and Learning Interest. *Anatolian Journal of Education*, 8(2), 195-206.
- Tran, L. T., & Nguyen, N. T. (2021). Physical learning environments and student engagement with digital tools: A study of Vietnamese university classrooms.
- Wang, W., Sun, R., Huang, L., & Swigart, V. (2019). Student perceptions of classic and game-based online student response systems. *Nurse Educator*, 44(4), E6-Eg.