# A Systematic Literature Review of the Impact of Game-Based Learning on English Learners

## Aisyah Zakaria, Fariesha Adzlieza Addanan, Noran Nur Munira Khalili, Yasmin Khairani Zakaria, Maslawati Mohamad

Faculty of Education, Universiti Kebangsaan Malaysia;
Corresponding Author Email: yasminzakaria@ukm.edu.my

**Abstract**
This paper conducted a systematic literature review based on the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) methodology to explore the types of platforms used in game-based learning and their impacts on learner's motivation. As the education sector increasingly embraces the technology, a diverse range of platforms is also globally used in institutions in which game-based learning is conducted. This review synthesised findings from relevant past studies, identified key platforms used in each research article, and gauged the impacts of game-based learning. A total of 15 research articles, published in 2023, relevant to the impacts of game-based learning implementation in the classroom was identified from three databases, which were ScienceDirect, ERIC, and SCOPUS. Findings of this review showed that various types of platforms were integrated, including existing game-based platforms such as Kahoot! and Quizizz, and also some new game-based materials developed by the instructors. It was also found that game-based learning positively impacted the learners in terms of their self-regulated learning, interaction, motivation, and active participation. This study will be beneficial to educators to fully utilise game-based learning in the classroom to engage learners' participation, hence creating an effective learning session.
**Keywords**: Systematic Literature Review, Game-Based Learning, Learner's Motivation, English

**Introduction**
New educational approaches are needed to fulfil students' changing needs in today's education system. One of the latest and most popular current teaching approaches is game-based learning. Game-based learning has gained popularity globally over time. Gamification of language learning has become a key trend in 21st century education due to the prevalence of mobile gaming and smartphone use (Waluyo, Phanrangsee, & Whanchit, 2023). Games can engage and motivate

students, therefore researchers and educators are exploring ways to integrate technology, education, and entertainment in the classroom.

New teaching approaches that use digital resources to engage students are replacing the old and conventional ways of teaching (Kazu & Kuvvetli, 2022). Using games in education is beneficial for students in many aspects. Cheng and Su (2011) emphasised that game-based learning outperforms face-to-face education as it positively affects academic performance. Yu (2023) said that gamified vocabulary teaching and learning involves enjoyment, entertainment, teamwork, curiosity, accomplishments, and competitiveness. These advantages may greatly affect English vocabulary acquisition as it improves students' intrinsic motivation. Additionally, Lameras et al. (2016) stressed the significant impact of gaming mechanics and attributes on academic success and learning experiences. The increasing implementation of game-based approaches reflect the changing nature of education as it brings various benefits to students.

In schools, motivating students is a constant problem, so teachers must find new ways to engage them. One of the ways is by teachers delivering learning material in a game format to encourage student participation and make learning fun. This method ignites students' innate interest and excitement to make studying more engaging. According to Ayumi and Chan (2020), teachers can fascinate students throughout class through the integration of games. One of the elements of a game is the scoreboard, which provides competitiveness to games and quizzes, making learning more dynamic and engaging. The teaching trend which is going towards game-based learning with the use of technology will help to create dynamic and student-centred learning environments.

Hofmeyr (2023) suggested that game-based learning is a technique to motivate students by encouraging passion, involvement, and deeper engagement with the lesson. Zou et al. (2021) found that game-based learning motivates students through active engagement, enjoyment, responsibility, and positivity. This teaching approach focuses on the students' tendency to learn through fun and engaging activities, and hence moving the lesson towards a student-centred classroom.

The purpose of this study was to identify the variety of types of technology-based platforms used in game-based learning to enhance students' motivation. With the existing literature and empirical evidence, the study also aimed to uncover the impact of a game-based approach on students in the English classroom. This study aspired to contribute to the broader discourse on educational paradigms. Through this study, a complete understanding of the technological platforms that encourage game-based learning and their consequential impact on student motivation of learning outcomes was anticipated, offering valuable insights for teachers, researchers, and policymakers.

**Research Objectives**
The Objectives of this Research were:
1. To Identify the Types of Technology-Based Platforms have Been used in Game-Based Learning.
2. To Determine the Impact of Game-Based Learning on Students' Learning.

**Research Questions**
The Research Questions of this Study were:
1. What Types of Technology-Based Platforms have Been Used in Game-Based Learning?
2. How Game-Based Learning has Impacted on Students' Learning?

**Background of the study**
This section provided a comprehensive review of the definition of game-based learning by drawing insights from a range of previous studies. The aim was to explain the conceptual definition of game-based learning and subsequently to explore the various types of technology-based platforms employed in this educational approach. By synthesising the perspectives from past research, this overview seeked to clarify the essence of game-based learning. This section aimed to provide a thorough understanding of the concept, technological applications, and educational impact of game-based learning within educational contexts.

**The Definition of Game-Based Learning (GBL)**
According to Shaffer et al., (2005), the definitions of game-based learning mostly emphasise that it is a type of gameplay with defined learning outcomes. Usually, it is assumed that the game is a digital game, but this is not always the case (Plass et al., 2015). The term "game-based learning" describes an educational setting that incorporates information and abilities into games so that players can solve puzzles and compete to win while learning (Hwang & Chen, 2022). Currently, a lot of educational settings have started to adopt game-based learning in the syllabus. As a teaching method, game-based learning is thought to be beneficial by drawing students' attention more effectively, enhancing their learning experience, and helping them recall material better (Aksakal, 2015).
Several key features of games have been identified in recent attempts to define game-based learning. Becker (2017) stated that effective game-based learning games have rules, goals, adaptive challenges, interactivity, feedback, and a compelling narrative or story. On the other hand, Takeuchi and Vaala (2014) claimed that well-designed digital games allow for personalised content, embedded assessments, and scaffolded skill-building through increasing challenge levels.

**The types of Technology-Based Platforms used in Game-Based Learning**
According to Ponnaiah and Abdul Aziz (2022), technologies are used in education to facilitate teaching and learning processes. The belief that technology facilitates and eases the learning process is shared by people all around the world, and Malaysia is among the later nations to adopt this belief. Game-based learning platforms available on the internet, such as Kahoot and Quizizz became part of the lessons (Zuhriyah & Pratolo, 2020). Kahoot! is one of the applicable

interactive quizzes implemented in learning vocabulary. Kahoot! also helps to achieve stronger motivation among students (Plump & LaRosa, 2017). Several studies proved that the application creates some advantages. Kahoot! is a favourable instrument as it is beneficial for formative assessment, and it enhances understanding (Ismail & Mohammad, 2017). It can be customised for various subjects and age groups, making it a versatile tool for educators.

Quizizz is a game-based learning platform that allows teachers to create engaging quizzes and activities for students. Recent research has explored the implementation of Quizizz to increase students' motivation and engagement through elements of gameplay, competition, and gamification. Zhang and Crawford (2023) found that Quizizz enhanced learners' internalisation, hence improving their engagement and language proficiency. Other researchers highlighted the impact of Quizizz's competitive and collaborative features on motivation. Maulidya, Aryaningrum, and Fakhrudin (2022) in their study found that the use of Quizizz-base gamification was beneficial in gaining students' interest in learning. Similarly, the findings of Pitoyo and Asib (2020) showed that students were motivated and wanted to learn more after doing several gamified tests with Quizizz.

**The Impact of Game-Based Learning on Students' Learning**
Hofmeyr (2023) stated in the benefits and drawbacks of game-based learning, that a lot of participants said that games were entertaining and that they may inspire students to study, show up to class, and engage more fully in class activities. Kiili (2005) asserted that giving players tasks that are appropriate for their skill levels, clear goals, and quick feedback has a good impact on learning and attitudes. According to Chen and Tu (2021), it was discovered that students who used digital game-based learning have higher learning achievements compared to students who only learned by conventional approaches.

In recent years, game-based learning has become an increasingly popular approach in education. An example of this approach is using video game elements in instructional contexts to enhance student engagement and learning outcomes. A growing body of research demonstrates the potential benefits of game-based learning. Several recent studies revealed that game-based learning can improve students' motivation and attitude towards learning. For example, a study by Dorji (2022) proved that by integrating games in the classroom, students were positively engaged in self-assessment, self-awareness, self-monitoring, and reflective processes. Similarly, Kocadere and Çağlar (2018) discovered that gamifying physics instruction led to significantly more positive student attitudes regarding the subject.

Additionally, researchers have found evidence that game-based learning boosts knowledge retention and recall versus more conventional teaching methods. A study indicated that gaming elements can enhance memorisation and comprehension (Erhel & Jamet, 2019). The interactive nature of game-based learning is identified as one of the factors driving these benefits. Gamification provides opportunities for experiential learning-by-doing which facilitates deeper understanding compared to passive learning (Qian & Clark, 2016). Overall, game-based learning brings a lot of positive impacts as an instructional strategy to motivate 21st-century digital learners and improve knowledge acquisition.

**Methodology**

This systematic literature review adopted the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 checklist as a guide. Following the 27-item checklist and a four-phase flow diagram, articles were analysed and evaluated to answer two research questions. The four phases of the PRISMA methodology were including identification phase, screening phase, eligibility phase, and inclusion phase.

**Phase 1: Identification Phase**

In this study, there were five predefined criteria taken into account when identifying and choosing the articles. Firstly, the databases used to find suitable articles to be included in this systematic literature review were ScienceDirect, ERIC, and SCOPUS. These three databases were accessible for the researchers and contain articles related to the field of social sciences and humanities. Second and third, these articles must be published within the year of 2023 and must be written in English. The only type of documents chosen in this study was research article as the fourth criterion, and having a full, open access was the fifth predefined criterion for the articles to be chosen in this research. Table 1 shows all five criteria that were taken into consideration in identifying the articles.

Table 1
*Table Shows the Inclusion and Exclusion Criteria in Choosing the Articles.*

| Criteria | Inclusion | Exclusion |
|---|---|---|
| Database | ScienceDirect, ERIC, and SCOPUS | Other databases |
| Publication year | 2023 | Articles before 2023 |
| Language | English | Articles written in other languages than English |
| Document type | Research articles | Books, book chapters, literature review papers, seminar papers |
| Access to full text | Open access | Limited or no access |

Apart from the five predefined criteria, the articles were determined by using several search strings and keywords. Each search string was used in all three databases to find relevant articles related to the impacts of game-based learning in improving learner's motivation.

**Search Strings**

*Table 2*
*Table Shows the Search Strings used in All Three Databases to Identify the Articles.*

| English | AND | (game-based learning) | | |
|---|---|---|---|---|
| Impact | AND | (game-based learning) | AND | English |
| Motivation | AND | (game-based learning) | AND | English |
| Gamification | AND | Motivation | AND | English |

Based on the criteria and the search strings in Table 1 and 2, all articles identified that fit the inclusion and exclusion criteria were chosen and listed, while others were removed and discarded from the list.

**Phase II: Screening Phase**
The articles that were listed from Phase I were further screened by the titles. The title of each article was made certain to match the keywords used. Apart from the title, the abstract of every article was skimmed and scanned to ensure that all articles chosen were based on the predefined, inclusion, and exclusion criteria. Articles with titles and abstracts that did not match the criteria were excluded and removed. The list of articles was then reduced once again by removing duplicates from all three databases.

**Phase III: Eligibility Phase**
Articles were checked and evaluated for their eligibility to be further screened in the third phase. Only articles that matched all inclusion and exclusion criteria were included to proceed to the last stage. This phase was crucial to ensure all articles identified were relevant in answering the research questions.

**Phase IV: Exclusion Phase**
The articles that were identified based on the eligibility criteria were then selected to be analysed and reviewed in this study, while the remaining articles were discarded. Some of the exclusion criteria were books, book chapters, literature reviews, seminar papers, articles with limited or no access to the full text, and articles that were not published in the year 2023. The process of identifying articles were portrayed in a flowchart as shown in Figure 1.
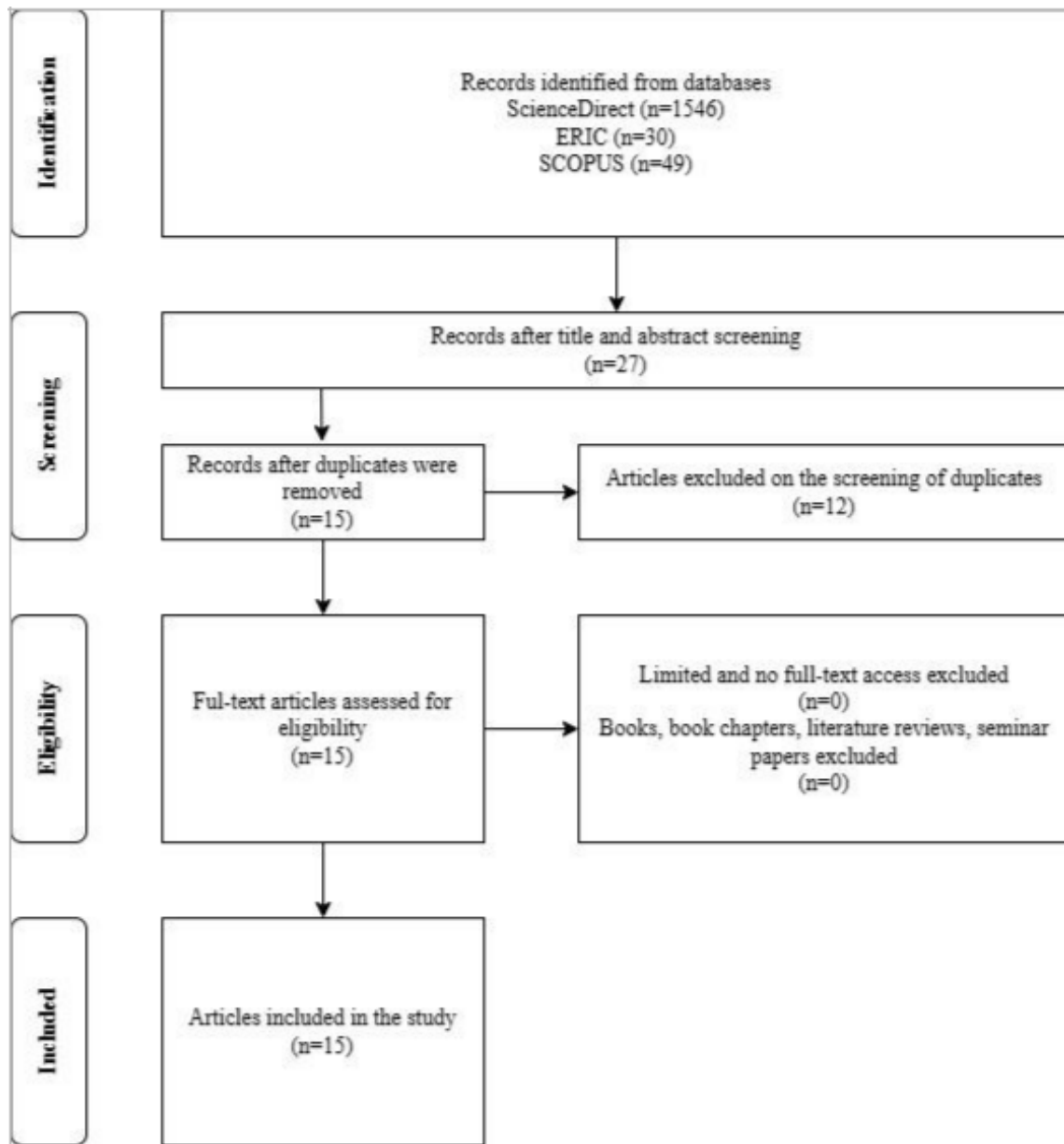
Figure 1 Figure Shows the Flowchart of the Article Screening and Selection Process.

The final number of articles selected after the four-phase screening process was 15. These articles consisted of research papers that employed qualitative, quantitative, and mixed methodology. Only 1 article utilised the qualitative method, 4 applied the quantitative method, while the remaining 10 articles were identified as mixed-method research, as depicted in Table 3.

Table 3
*Table Shows the Number of Articles Based on the Research Methodology Employed.*

| Research methodology | Quantity |
|---|---|
| Qualitative | 1 |
| Quantitative | 4 |
| Mixed | 10 |

**Findings and Discussions**

A total of 15 articles have been collected, analysed, and tabulated for the researchers' investigation. Notably, all articles were sourced from the period between 1 January 2023 to 31 December 2023. This selection strategy was intended to validate the relevance of the current study by aligning it with recent issues and trends. Additionally, it serves as a guide for the researcher in addressing the proposed research questions effectively.

Table 4
*Table Shows the Details of Each Article, The Technology-Based Platforms used in Each Research, and The Impacts of Game-Based Learning Discussed in Each Article.*

| No. | Title and author(s) | Country | Research method | Research participants | Technology-based platforms | Relevant impacts |
|---|---|---|---|---|---|---|
| 1 | WordTrek: A digital educational material that contributes to vocabulary learning in higher education | Colombia | Qualitative method (Case study design) | 21 undergraduates | WordTrek, a material that contributes to vocabulary learning | Increases motivation Encourages active participation |

| | | | | | |
|---|---|---|---|---|---|
| | (Boude, Rozo & González, 2023) | | | | |
| 2 | Integrating a game-based app to enhance translation learners' engagement, motivation, and performance (Chen, 2023) | Taiwan | Mixed method | 75 undergraduates | CHEN-slate, a game-based learning app that was integrated into translation education | Increases motivation Encourages active participation |
| 3 | Kahoot, Quizizz, and Quizalize in the English class and their impact on motivation (España-Delgado, 2023) | Colombia | Mixed method | 27 sixth-grade students | Kahoot, Quizizz, and Quizalize | Improves interaction Increases motivation |
| 4 | Attitudes towards digital game-based language learning among Japanese university students (Hofmeyr, 2023) | Japan | Mixed method | 112 undergraduates | No specific platforms | Increases motivation |
| 5 | A triangulation method on the effectiveness of digital game-based language learning for vocabulary acquisition (Kazu & Kuvvetli, 2023) | Turkey | Mixed method (Triangulati on method) | 69 eighth-grade students | Minecraft, Open-Sim, and Second-Life | Increases motivation Encourages active participation |
| 6 | The attitudes of high school students and teachers toward mobile apps for learning English: A Q methodology study (Lu & Xiong, 2023) | China | Mixed method (Q method) | 30 highschoolers 14 teachers | Youdao Dictionary, Hello Talk, Duolingo, and Baicizhan | Encourages self-regulated learning Increases motivation |
| 7 | Assessing EFL students' performance and self-efficacy using | Saudi Arabia | Quantitative method (Quasi- | 12 school students | No specific platforms, however, the researchers | Encourages self-regulated learning |

8

| | | | | | |
|---|---|---|---|---|---|
| | a game-based learning approach (Meccawy et al., 2023) | | experimental design) | | developed a role-playing game to mimic the functionality of an assessment tool | Increases motivation Encourages active participation |
| 8 | Transforming multilingual students' learning experience through the use of Lego Serious Play (Meletiadou, 2023) | UK | Mixed method | 50 undergraduates 1 instructor | Lego Serious Play (LSP), a hands-on, experiential learning method that uses Lego bricks | Increases motivation Encourages active participation |
| 9 | Chatbot gamified and automated management of L2 learning process using Smart Sender platform (Nozhovnik et al., 2023) | Ukraine | Mixed method (Quasi-experimental design) | 85 undergraduates | Smart Sender, a chatbot-based tool that incorporates gamification mechanics, such as points, badges, and leaderboards | Increases motivation Encourages active participation |
| 10 | An artificial vocabulary learning assistant (Polyzi & Moussiades, 2023) | Greece | Quantitative method | 20 students | Digital game-based vocabulary learning (DGBVL), such as games, quizzes, and chatbots | Encourages self-regulated learning Improves interaction Increases motivation |
| 11 | A comparison between digital-game-based and paper-based learning for EFL undergraduate students' vocabulary learning (Sianturi & Hung, 2023) | Taiwan | Quantitative method | 38 undergraduates | Kahoot | Increases motivation Encourages active participation |
| 12 | Impact of gamification applications on students' attitudes towards lesson and procrastination behaviours (Tatli, Gülay & Mert, 2023) | Turkey | Mixed method (Quasi-experimental design) | 33 fourth-grade students 1 teacher | No specific platforms, the study describes the implementation of gamification | Improves interaction Increases motivation |
| | | | | | applications in | Encourages active |

| | | | | English lessons | participation |
|---|---|---|---|---|---|
| 13 Gamified grammar learning in online English courses in Thai higher education (Waluyo, Phanrangsee & Whanchit, 2023) | Thailand | Mixed method | 80 undergraduates | Quizizz | Encourages self-regulated learning Improves interaction Increases motivation |
| 14 Subjective experiences and perceptions of learning a second language through digital games: A case study of Chinese college students (Xiao & He, 2023) | China | Quantitative method | 66 undergraduates | Digital Game-Virtual College, a game-based learning software | Encourages self-regulated learning Improves interaction Increases motivation Encourages active participation |
| 15 Learning outcomes, motivation, an satisfaction in gamified English vocabulary learning (Yu, 2023) | China | Mixed method (Quasi-experimental design) | 71 university students | Kingsoft Powerword, a game-based platform for English vocabulary learning | Encourages self-regulated learning Improves interaction Increases motivation Encourages active participation |

Table 4 summarised the type of research methodology used by each article and the participants involved in each study, and also the platforms used in each of the research articles and the discussed impacts of the platforms used.

Table 4 shows that various types of game-based platforms have been implemented in their research. Despite the diversity in platforms used, game-based learning has been demonstrated to positively impact students' perceptions of learning and enhance their motivation to learn English in various ways (Hofmeyr, 2023; Dorji, 2022; Kocadere & Çağlar, 2018). Game-based learning has become increasingly popular in the realm of English language education because it can captivate and motivate students, while also providing them with opportunities to practise their language skills.

The use of different platforms for game-based learning can offer a range of advantages for English language learners, as can be seen in Table 4, in the column 'Relevant impacts'. From all 15 articles,

some of the researchers used mobile apps, online platforms, and gamified learning management systems. In general, game-based learning on various platforms provides a wide array of engaging opportunities for students to enhance their English language skills while finding enjoyment in the learning experience. This finding was in line with previous studies by Kiili (2005), Chen and Tu (2021), Erhel and Jamet (2019), and Qian and Clark (2016). These results underscore the substantial influence of game-based learning on students' motivation and favourable attitudes toward learning English, establishing it as a valuable method in English language education for different levels of learners.

In the 15 articles, there were different themes found in categorising the impacts of game-based learning on students. Themes denote recurring topics or concepts derived from the analysis of the articles. These themes form the primary areas of focus on the benefits and impacts of employing the game-based learning approach. The identified themes, including self-regulated learning, interaction, motivation, and achievement, were identified and the frequency of each theme being discussed in each article was recorded
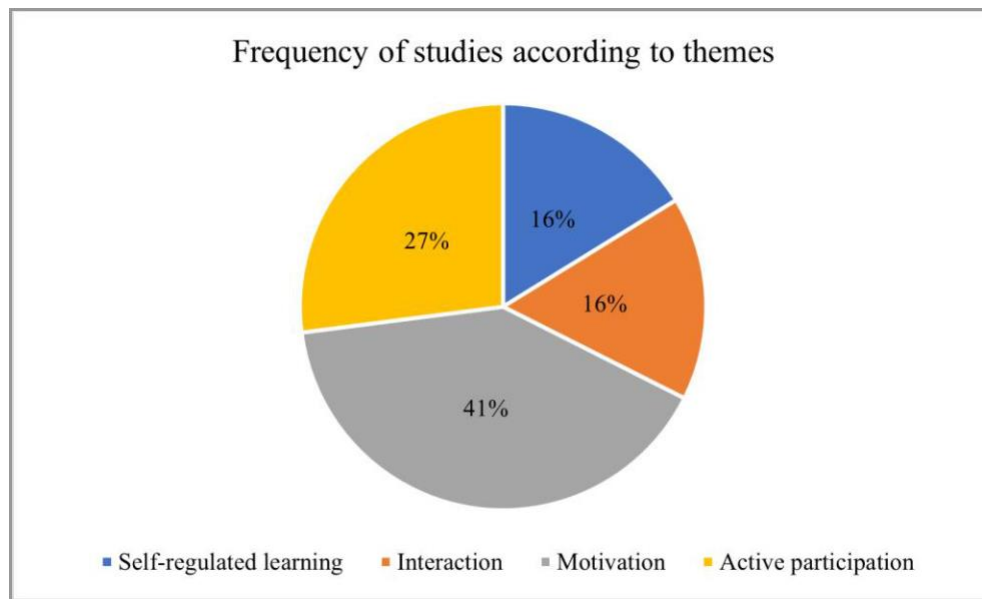


*Figure 2 Figure Shows the Frequency of Studies Discussing the Impacts of Game-Based Learning.*

Table 5

*Table Shows The Impacts of Game-Based Learning on Students Synthesised From 15 Articles. The Impacts Were Categorised Into Four Themes.*

| No. | Author(s) | Self-regulated learning | Interaction | Motivation | Active participation |
|---|---|---|---|---|---|
| 1 | Boude, Rozo & González (2023) | | | / | / |
| 2 | Chen (2023) | | | / | / |
| 3 | España-Delgado (2023) | | / | / | |
| 4 | Hofmeyr (2023) | | | / | |
| 5 | Kazu & Kuvvetli (2023) | | | / | / |
| 6 | Lu & Xiong (2023) | / | | / | |
| 7 | Meccawy et al. (2023) | / | | / | / |
| 8 | Meletiadou (2023) | | | / | / |
| 9 | Nozhovnik et al. (2023) | | | / | / |
| 10 | Polyzi & Moussiades (2023) | / | / | / | |
| 11 | Sianturi & Hung (2023) | | | / | / |
| 12 | Tatli, Gülay & Mert (2023) | | / | / | / |
| 13 | Waluyo, Phanrangsee & Whanchit (2023) | / | / | / | |
| 14 | Xiao & He (2023) | / | / | / | / |
| 15 | Yu (2023) | / | / | / | / |

As can be seen in Figure 2 and Table 5, there were different frequencies of studies according to the impacts of game-based learning on students. There were four main themes, which were self-regulated learning, interaction, motivation, and active participation. Generally, the findings found from the articles showed that motivation was the most frequently discussed impact among the articles, with a percentage of 41%. Improving students' motivation was mentioned by all articles as one of the positive impacts of game-based learning on students. According to Chen (2023), the CHEN-slate game-based learning helped to increase students' motivation towards game-based learning. Through game-based learning, it helped to increase learning motivation, especially extrinsic motivation, as supported by Plump and LaRosa (2017), Zhang and Crawford (2023), and Pitoyo and Asib (2020). Next, the findings from the articles showed that active participation had the second highest percentage (27%) as the impact of game-based learning. A study by Boude, Rozo & González (2023) showed that "WordTrek", a technology-based platform

helped to promote students' active participation and arouses involvement in the participating teams. From the active participation, the game-based learning helped to increase the participation from the learner to advance at their own pace and according to their own skills (Ayumi & Chan, 2020; Zou et al., 2021).

The findings from the articles showed that self-regulated learning and interaction have a similar percentage (16%). According to Meccawy et al. (2023), the study results indicated that the implementation of a game-based learning approach had a positive impact on the self-efficacy levels of the students. Similarly, as mentioned by a previous study by Dorji (2022), implementing games in the classroom improved students' self-monitoring and self-awareness, which promoted self-regulated learning. Research done by Polyzi and Moussiades (2023) also claimed that game-based learning improved students' performance compared to conventional learning approaches, particularly in vocabulary acquisition. Additionally, the study revealed that digital game-based language learning enhanced students' ability to remember vocabulary for extended periods from the interaction among the learners.

## Conclusion

This systematic literature review examined 15 papers that focused on the impact of game-based learning on students in an emerging educational environment. The findings revealed that the advantages of the game-based learning approach were self-regulated learning, interaction, motivation, and active participation. Most studies reported that game-based learning is an invaluable approach to English language education for students. It identifies numerous benefits of game-based learning, such as boosting students' motivation, capturing their interest in learning, enhancing their grasp of vocabulary, and fostering their creative and digital skills. Additionally, some of the studies highlight the significance of teachers possessing the necessary knowledge and skills in utilising technology and digital games to align with technological advancements and educational-based games. Ultimately, the studies also underscore the importance of game-based learning in creating a more engaging, enjoyable, and effective learning process for students in English language education.

## Recommendations

Future research seeking to explore a similar area as this study should consider these recommendations and suggestions to result in an improved finding. This study could further be refined by using a larger set of databases to have higher reliability, validity, and results accuracy. Other than using larger databases, the inclusion criteria for the year of publication should range from five years before the current year to see the changing trends of game-based platforms used in the classroom. Based on the findings, more empirical research should be conducted on the impacts of game-based learning on ESL learners in another aspect, such as learner's self-directedness. In addition to this, it would also be beneficial to consider several factors, such as language skills and teacher's perceptions.

## Limitations

Despite the success of answering both research questions demonstrated, several limitations were found in this study. This study was limited by the fact that only three databases were

explored to search for research articles to be used in this study. Other databases such as Springer, Taylor & Francis, and ProQuest could provide a more extensive background to identify relevant literature. Due to accessibility restrictions, this study was unable to have a larger dataset to find more articles to be reviewed and analysed. Furthermore, this research was also limited by the potential publication bias. Studies that did not demonstrate statistical significance may not be published but may be important to the findings of a systematic literature review.

## References

Ayumi, & Chan, A. M. (2020). Improving Students English Vocabulary Using Kahoot! Proceedings of the 3rd International Conference on Educational Development and Quality Assurance (ICED-QA 2020), 506, 150-154.

Aksakal, N. (2015). Theoretical view to the approach of the edutainment. Procedia-Social and Behavioral Sciences, 186, 1232-1239.

Becker, K. (2017). Choosing and using digital games in the classroom: A practical guide. (pp.

175-214). Berlin/Heidelberg, Germany: Springer.

Boude, O., Rozo, F., & González, O. (2023). WordTrek: A Digital Educational Material that Contributes to Vocabulary Learning in Higher Education. International Journal of Emerging Technologies in Learning, 18(10).

Chen, C. C., & Tu, H. Y. (2021). The effect of digital game-based learning on learning motivation and performance under social cognitive theory and entrepreneurial thinking. Frontiers in psychology, 12, 750711.

Chen, Y. (2023). Integrating a Game-Based App to Enhance Translation Learners' Engagement, Motivation, and Performance. International Journal of Instruction, 16(2).

Cheng, C., & Su, C. (2011). A Game-based learning system for improving student's learning effectiveness in system analysis course. Procedia-Social and Behavioral Sciences, 31, 669–675.

Dorji, T. (2022). The Effect of Games Simulation in Improving Secondary Students' Academic Performance. International Journal of Social Learning (IJSL), 3(1), 48-64.

Erhel, S., & Jamet, E. (2019). Improving instructions in educational computer games: Exploring the relations between goal specificity, flow experience and learning outcomes. Computers in Human Behavior, 91, 106-114.

España-Delgado, J. A. (2023). Kahoot, Quizizz, and Quizalize in the English Class and their Impact on Motivation. HOW Journal, 30(1), 65-84.

Hofmeyr, M. (2023). Attitudes towards digital game-based language learning among Japanese university students. Japan Association for Language Teaching Computer Assisted Language Learning Journal (JALT CALL Journal), 19(1).

Hwang, G. J., & Chen, P. Y. (2022). Interweaving gaming and educational technologies: Clustering and forecasting the trends of game-based learning research by bibliometric and visual analysis. Entertainment Computing, 40, 100459.

Ismail, M. A. A., & Mohammad, J. A. M. (2017). Kahoot: A promising tool for formative assessment in medical education. Education in medicine journal, 9(2).

Kazu, İ. Y., & Kuvvetli, M. (2023). A triangulation method on the effectiveness of digital game-based language learning for vocabulary acquisition. Education and Information Technologies, 1-27.

Kiili, K. (2005). Digital game-based learning: Towards an experiential gaming model. The Internet, and Higher Education, 8(1), 13–24.

Kocadere, S. A., & Çağlar, Ş. (2018). Gamification from player type perspective: A case study. Journal of Educational Technology & Society, 21(3), 12-22.

Lameras, P., Arnab, S., Dunwell, I., Stewart, C., Clarke, S., & Petridis, P. (2016). Essential features of serious games design in higher education: Linking learning attributes to game mechanics. British Journal of Educational Technology, 48(4), 972–994.

Lu, Y., & Xiong, T. (2023). The attitudes of high school students and teachers toward mobile apps for learning English: AQ methodology study. Social Sciences & Humanities Open, 8(1), 100555.

Maulidya, E., Aryaningrum, K., & Fakhrudin, A. (2022). The effectiveness of the use of Quizizz-based gamification on students' learning interest in 4th grade Mathematics. JPsd (Jurnal Pendidikan Sekolah Dasar), 8(1), 49-62.

Meccawy, M., Alzahrani, A., Mattar, Z., Almohammadi, R., Alzahrani, S., Aljizani, G., & Meccawy, Z. (2023). Assessing EFL Students' Performance and Self-Efficacy Using a Game-Based Learning Approach. Education Sciences, 13(12), 1228.

Meletiadou, E. (2023). Transforming multilingual students' learning experience through the use of Lego Serious Play. IAFOR Journal of Education, 11(1), 1-24.

Nozhovnik, O., Harbuza, T., Teslenko, N., Okhrimenko, O., Zalizniuk, V., & Durdas, A. (2023). Chatbot Gamified and Automated Management of L2 Learning Process Using Smart Sender Platform. International Journal of Educational Methodology, 9(3), 603-618.

Pitoyo, M. D., & Asib, A. (2020). Gamification-Based Assessment: The Washback Effect of Quizizz on Students' Learning in Higher Education. International Journal of Language Education, 4(1), 1-10.

Plass, J. L., Homer, B. D., & Kinzer, C. K. (2015). Foundations of game-based learning. Educational Psychologist, 50(4), 258–283.

Plump, C. M., & LaRosa, J. (2017). Using Kahoot! in the classroom to create engagement and active learning: A game-based technology solution for eLearning novices. Management Teaching Review, 2(2), 151-158.

Polyzi, P., & Moussiades, L. (2023). An artificial vocabulary learning assistant. Education and Information Technologies, 1-25.

Ponnaiah, P., & Abdul Aziz, A. (2022). The effectiveness of the use of technology in a primary ESL classroom: A systematic literature review. International Journal of Academic Research in Progressive Education and Development, 11(2), 1812-1835.

Qian, M., & Clark, K. R. (2016). Game-based Learning and 21st Century Skills: A review of recent research. Computers in Human Behavior, 63, 50-58.

Shaffer, D. W., Squire, K. R., Halverson, R., & Gee, J. P. (2005). Video games and the future of learning. Phi delta kappan, 87(2), 105-111.

Sianturi, A. D., & Hung, R. T. (2023). A Comparison between Digital-Game-Based and Paper-Based Learning for EFL Undergraduate Students' Vocabulary Learning. Engineering Proceedings, 38(1), 78.

Takeuchi, L. M., & Vaala, S. (2014). Level up learning: A national survey on teaching with digital games. New York: The Joan Ganz Cooney Center at Sesame Workshop.

Tatli, Z., Gülay, A., & Mert, A. (2023). Impact of Gamification Applications on Students' Attitudes towards Lesson and Procrastination Behaviors. International Journal of Contemporary Educational Research, 10(2), 522-534.

Waluyo, B., Phanrangsee, S., & Whanchit, W. (2023). Gamified grammar learning in online English courses in Thai higher education. Online Journal of Communication and Media Technologies, 13(4), e202354.

Xiao, X., & He, G. (2023). Subjective experiences and perceptions of learning a second language through digital games: A case study of Chinese college students. Frontiers in Psychology, 13, 1109370.

Yu, Z. (2023). Learning Outcomes, Motivation, and Satisfaction in Gamified English Vocabulary Learning. SAGE Open, 13(2), 21582440231158332.

Zhang, Z., & Crawford, J. (2023). EFL learners' motivation in a gamified formative assessment: The case of Quizizz. Education and Information Technologies, 1-23.

Zou, D., Huang, Y., & Xie, H. (2021). Digital game-based vocabulary learning: Where are we and where are we going? Computer Assisted Language Learning, 34(5–6), 751–777.

Zuhriyah, S., & Pratolo, B. W. (2020). Exploring Students' Views in theUse of Quizizz as an Assessment Tool in English as a Foreign Language (EFL) Class. Universal Journal of Educational Research, 8(11), 5312-5317.