# ENHANCING EFL GRAMMAR LEARNING THROUGH GAME-BASED LEARNING: A SYSTEMATIC LITERATURE REVIEW

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## Abstract

This study is a systematic review that aims to evaluate the effectiveness of Game-Based Learning (GBL) in improving grammar acquisition in English as a Foreign Language (EFL) learners. Out of 326 articles found through the initial search, only 11 articles met the inclusion criteria and were analyzed further. The range of publication years between 2015 to 2025 was chosen as this period reflects the rapid advancement in digital technologies and GBL strategies. This study identifies how the use of digital games supports grammar learning through interactive features, immediate feedback, as well as student-centered learning design. The findings show that GBL can significantly increase students' motivation, engagement, and achievement, especially if it is tailored to students' ability levels and emotional needs. However, challenges such as the digital literacy gap and pressure from competitive elements should also be considered. Therefore, careful game selection and teacher support are necessary for effective and inclusive grammar learning through GBL.

*Keywords: Game-Based Learning, Grammar, EFL Learners, Systematic Review*

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## Introduction

Language is a natural form of communication; children quickly learn to communicate using their native language and soon master the key rules of expression without having to be taught (curtin, 2021). Grammar, a basic language component, plays an

important role in understanding and producing accurate and meaningful sentences (Qizi, 2023). Good grammar is widely acknowledged as the foundation of effective communication and language proficiency (Yurko & Vorobel, 2022). Therefore, contextualized grammar with well-defined teaching goals is essential for developing proficiency in English (Saengboon et al., 2022)

The challenges English as a foreign language (EFL) learners face in learning grammar are the difficulty in identifying errors in certain words or phrases, which requires a deep understanding of sentence structure (Hampp et al., 2021). Grammatical errors can break a student's confidence in learning grammar (Al-Khresheh & Orak, 2021). Poor knowledge of grammatical concepts, challenges in remembering grammatical rules, anxiety related to grammar usage, limited participation in collaborative work, and insufficient time allocation (Syafryadin et al., 2022). In addition, the lack of practice in the use of grammar further complicates the learning process because, without sufficient practice, their understanding of grammar rules is less.

Another contributing factor is the limited vocabulary, considering that vocabulary, grammar structure, and pronunciation are the three main components of the English language that are interrelated. This is because the lack of exposure to English stems from English not being students' first language, due to limited background knowledge in learning English (Sorohiti et al., 2024). To overcome this challenge, they need a teacher to help them explore vocabulary, sentence structure, and written expression. So far, the methods used in Indonesia are traditional teaching methods that emphasize memorization rather than practical usage and a lack of interactive learning media.

In this digital era, the role of technology is very important, especially in creating an interactive and adaptive learning environment. According to Vygotsky (1987), the concept of Zone of Proximal Development (ZPD) and Scaffolding supports the use of games in grammar learning because it allows students to learn gradually with the assistance of interactive features or peers. The integration of technology into education provides new opportunities to enhance the learning experience, making it more dynamic and personalized. The game-based learning approach refers to the use of games, fun interactions, and playful design to motivate students to engage in classroom activities (Hartt et al., 2020). According to Gee, (2003), learning that occurs in a game-based environment can create a more contextual, deep, and effective learning experience. The basic concept of GBL revolves around game principles such as clear goals, immediate feedback, progressive challenges, and rewards, which encourage active participation and fulfill

diverse learning styles, making it an inclusive approach that accommodates the needs and preferences of different students. Through its engaging features, game-based learning in learning grammar helps create a more fun and interactive learning environment so that students feel more comfortable when learning grammar.

This study aims to evaluate the factors influencing the effectiveness of game-based learning (GBL) in enhancing EFL students' grammar mastery. It will analyze key variables such as age, language proficiency level, and the game used. By understanding these factors, the research seeks to provide insights into how GBL can be adapted to better suit different groups of EFL learners, ensuring more effective and engaging grammar learning experiences

**Research Method**

This research uses a Systematic Literature Review (SLR) approach to identify and analyze studies that discuss the use of Game-Based Learning (GBL) in learning grammar for English as a Foreign Language (EFL) learners. SLR was chosen to provide a comprehensive and unbiased synthesis of existing research, ensuring the inclusion of relevant studies through a transparent and replicable process. The literature review process was conducted based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, which consist of several main stages, namely study identification, article selection based on predefined inclusion and exclusion criteria, and data extraction and analysis (Moher et al., 2009). Inclusion criteria focused on peer-reviewed articles published in English between 2015 and 2025, involving empirical studies on GBL in EFL grammar learning.

*Design*

This research uses a descriptive qualitative design because it aims to systematically identify, review, and synthesize findings from previous literature. This approach was chosen so that researchers could gain an in-depth understanding of the problem under study based on a review of relevant literature. Descriptive qualitative design provides a framework for researchers to describe phenomena in detail and thoroughly based on available qualitative data.(Jw, 2009)

*Instrument*

The inclusion criteria required that the selected studies were peer-reviewed journal articles or research papers that explicitly addressed Game-

Based Learning (GBL) in grammar teaching. The research had to use a digital game-based platform and be published between 2015 and 2025 to ensure relevance to current educational trends. The previous 10 years have seen significant improvements in digital learning tools, interactive technology, and game-based learning (GBL) strategies. so, earlier research is less relevant to today's educational environment. Articles must also provide full-text access and include an analysis of learning outcomes, such as increased motivation, test scores, or retention in grammar learning. On the other hand, the exclusion criteria eliminated studies that did not focus on GBL in grammar learning, did not have full-text availability, or were not peer-reviewed.

Table 1 shows the eligibility criteria used in this study. This table helps to select studies that are suitable and of good quality. By organizing the inclusion and exclusion criteria neatly, the selection process becomes clearer and more targeted. So, researchers can screen for studies that are suitable for further analysis. Therefore, the research on the use of Game-based learning in grammar learning will be more targeted and of higher quality.

Table 1 Eligibility Criteria of the article

| Criteria | Inclusion | Exclusion |
|---|---|---|
| Date | Papers that were published from 2015 to 2025 were included. | Papers that were published before 2015 were excluded. |
| Language | English. | Studies other than English. |
| Sample | Studies involving students or teachers in grammar learning. | Studies with participants outside of grammar learning. |
| Publication | Peer-reviewed journal articles or research papers that explicitly address Games-Based Learning (GBL) in grammar teaching. | Non-peer-reviewed articles, technical reports, guidelines, research syntheses, books, and book chapters were excluded |
| Setting | Papers that focused on Games-Based Learning (GBL) in grammar learning. | Papers that focused on other educational approaches or non-GBL methods were excluded. |
| Databased | Scopus | Other Databases |

### Data Collection

The research database is sourced from Scopus to ensure a broad and high-quality selection of research. Searches were conducted using specific keywords in Scopus: TITLE-ABS-KEY ( "game-based learning" OR gbl OR "educational games" OR "digital games" ) AND ( grammar OR "grammar learning" OR "grammar mastery" OR "grammar teaching" ) AND ( efl OR "English as a foreign language" OR "language learning" OR esl ) AND ( student OR learner OR "EFL learner" OR "EFL student" OR classroom ) AND PUBYEAR > 2015 AND LANGUAGE ( english ) AND SUBJAREA ( educ OR psyc OR soci

OR arts OR comp ). These keywords were applied to titles, abstracts, and keywords to ensure comprehensive coverage. The search focused on research published between 2015 and 2025 to include recent advances in GBL for grammar learning.

**Table 2 Data Collection**

| Database | Search String | Hits | Date |
|---|---|---|---|
| Scopus | TITLE-ABS-KEY ( "game-based learning" OR gbl OR "educational games" OR "digital games" ) AND ( grammar OR "grammar learning" OR "grammar mastery" OR "grammar teaching" ) AND ( efl OR "English as a foreign language" OR "language learning" OR esl ) AND ( student OR learner OR "EFL learner" OR "EFL student" OR classroom ) AND PUBYEAR > 2015 AND LANGUAGE ( english ) AND SUBJAREA ( educ OR psyc OR soci OR arts OR comp ) | n = 326 | 20/04/2025 |

An initial search of the Scopus database was conducted on February 8, 2025, and a total of 326 articles were found. After applying the open access filter, the number of accessible articles was reduced to 62. These 62 articles were then screened based on their titles and abstracts, and ultimately, 25 relevant articles remained on the topic of game-based grammar teaching for EFL learners. During the full-text evaluation stage, 19 articles were excluded - 9 articles only dealt with general English learning without focusing on grammar, and another 6 articles did not meet the eligibility criteria. After completing the entire screening process, 10 articles met all criteria and were further analyzed in this systematic review, as shown in the PRISMA 2020 flow diagram. PRISMA was chosen because it provides a transparent, standardized, and systematic reporting structure for compiling literature reviews. This approach helps researchers objectively screen and present findings from multiple studies while minimizing biases that may arise during the data selection and analysis process.(Moher et al., 2009)
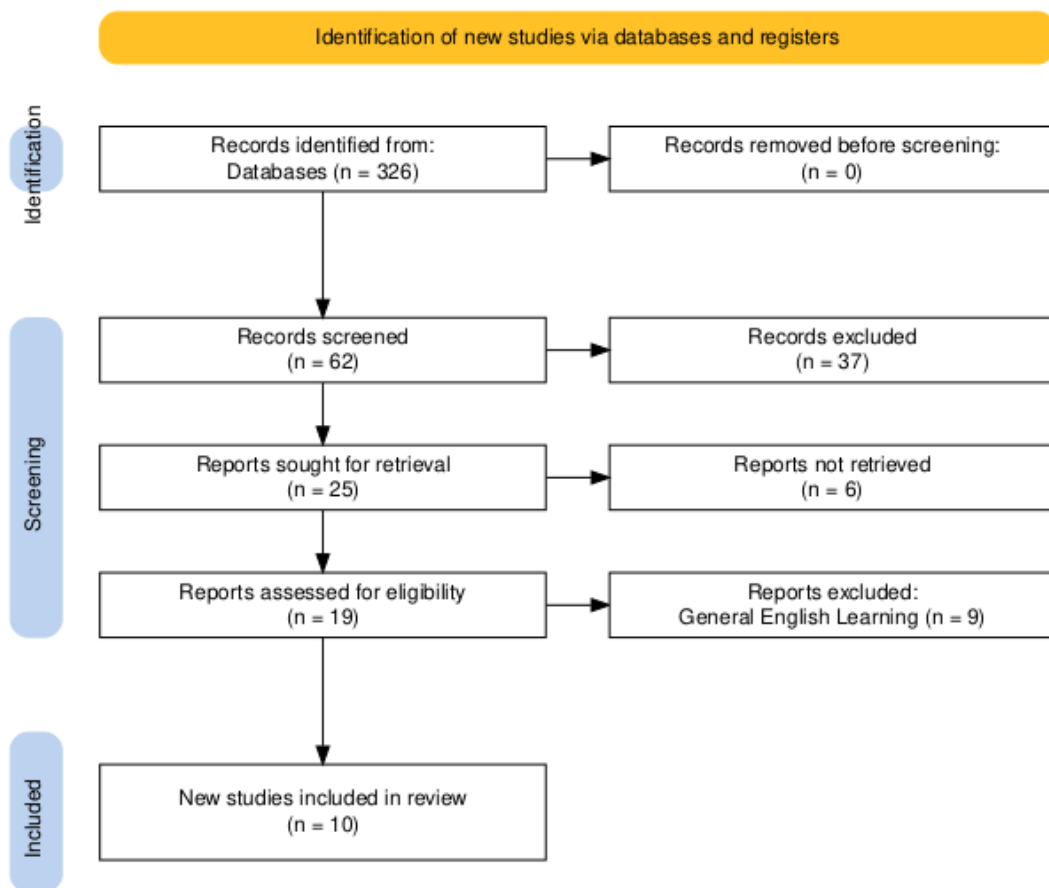
Figure 1 PRISMA

### Data analysis

The data obtained from the selected articles were analyzed qualitatively through a process of extraction and classification based on key themes relevant to the research focus. The characteristics of the six reviewed articles are presented in a table containing important information about the research applying a game-based learning (GBL) approach in grammar learning with English as a foreign language (EFL) learners. The data analysis focused on three main aspects, namely the use of Information and Communication Technology (ICT) in supporting GBL, the application of Student-Based Learning (SBL) approach, and the efforts to accommodate Different Needs (DN) among the students. Data from each article was extracted and classified into the three themes, then analyzed through narrative synthesis to identify patterns, similarities, and differences between studies. This approach provided a framework for the researcher to thoroughly describe the effectiveness and challenges of using GBL in the context of grammar learning for EFL students.

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## Results and Discussion

### *Results*

This study evaluated the factors influencing the effectiveness of game-based learning (GBL) in enhancing EFL students' grammar mastery. Key findings suggest that ease of access, user-friendly digital platforms like Wordwall.net and Kahoot!, and instant feedback were essential for successful grammar learning. Active student engagement, motivation, and teacher facilitation were also critical, with games tailored to students' interests and proficiency levels proving most effective. However, challenges such as digital literacy gaps, technical issues, and stress from competitive game elements were noted. Overall, GBL's effectiveness depends on the right combination of technology, game design, teacher support, and responsiveness to student needs.

1. Information and Communication Technology (ICT)

Technology is now an important part of helping learn grammar through game-based learning (GBL). From the research reviewed on Idris et al., (2020), Xie & Huang, (2022), and Waluyo et al., (2023), show that digital platforms are helpful: easy access, quick feedback, and fun. However, there are also challenges, such as technical issues. In this section, we will discuss how technology can help EFL (English as a Foreign Language) students to become better at grammar, while still recognizing that there are some obstacles as well.

"… After learning with digital games,…They also said that the game is easy to use, easy to access, and very helpful for getting teacher feedback,… digital games are effective and fun to improve English skills."(ICT#1)

Idris et al., (2020), explain that technology (ICT) plays an important role in increasing the effectiveness of GBL. However, infrastructure and access must also be considered so that the benefits can be maximized. The data also showed that ease of access and feedback support from teachers had a big influence on the success of GBL. In addition, the game is easy to use and very interactive, making learning suitable for all levels, especially for beginners who need clear help when learning grammar.

2. Student-Based Learning (SBL)

Student involvement and freedom are crucial to GBL's success in learning grammar. From the studies discussed on Ji et al., (2024), Setiawan, (2018), Castillo-Cuesta, (2020), Manokaran et al., (2023), and Anane, (2024),

the importance of teacher support, active participation, choosing games that suit students' needs, and paying attention to their emotional factors was emphasized. This section explains how focusing on student-centered strategies can help EFL students better master grammar, while highlighting the challenges of game design.

"...the type and frequency of facilitator interactions play a crucial role in grammar learning outcomes."(SBL#1)

Ji et al., (2024), explain that consistent facilitator guidance is critical to enhance grammar comprehension and retention, especially for younger or lower-proficiency students. GBL increases active engagement and motivation when games are tailored to students' age and interests. However, competitive elements in games can cause stress for some learners, indicating that emotional needs must be carefully addressed.

3. Different Needs (DN)

It is important to understand the different needs of students to make GBL more effective. From the research discussed Ishtiaq Khan et al., (2024) and Sun, (2024), differences in ability, understanding of technology, and access to technology have a huge impact on how effectively they learn grammar through games. Here discusses how paying attention to these differences can make GBL implementation more optimal.

"...limited digital literacy among some students, and the need for better pedagogical training to implement translanguaging effectively in digital environments..."(DN#2)

Sun, (2024), explain that it is important to select games that match students' ability to keep them engaged and improve their grammar learning outcomes. Also, if they lack technology skills or don't have access to the right tools, it can be a problem, especially for those who are not very tech-savvy. The point is, we need different ways and more support so that all students can get the same benefits from GBL.

### Discussion

The findings from this systematic review support the notion that game-based learning (GBL) is an effective and engaging method for improving grammar mastery among EFL learners. The key elements that contributed to its success include interactive game features, immediate

feedback, accessible platforms, and student-centered learning designs. These findings align with Vygotsky's sociocultural theory, particularly the concepts of scaffolding and the Zone of Proximal Development (ZPD), as GBL provides the necessary support to help students perform beyond their current level with digital tools and peer or teacher facilitation.

To further understand why GBL motivates learners, Self-Determination Theory (SDT) by Deci & Ryan (2013), Offers a psychological perspective. SDT proposes that learners are more likely to be intrinsically motivated when three basic psychological needs are met: autonomy, competence, and relatedness. These needs are directly supported in game-based grammar learning: Autonomy is fostered as students can make choices within games, explore language forms freely, and engage in self-paced learning environments. Competence is developed through scaffolded challenges, progressive levels, and instant feedback mechanisms, which reinforce students' sense of mastery in grammar. Relatedness is fulfilled when learners interact with peers or facilitators, particularly in collaborative or competitive games, fostering social bonds and shared goals. According to three themes of the result we will discuss it.

1.      The Role of Technology (ICT) in GBL Effectiveness

The results confirmed that the ease of access and use of user-friendly digital platforms such as Wordwall.net and Kahoot! greatly contributed to the success of grammar learning through GBL. this is also in line with the research conducted by Decuypere et al., (2021) and Chandra Segaran & Hashim, (2022). Based on Chandra Segaran & Hashim, (2022), the research findings showed that various online quiz tools proved to be very effective in enhancing grammar learning among English as a Second Language (ESL) learners.

These quiz tools offer interactivity and instant feedback that help to reinforce students' understanding of grammar rules. In addition, the use of online quiz platforms such as Kahoot! or Quizizz is also able to increase students' motivation and engagement during the learning process. This effectiveness is in line with the results of previous studies, which confirmed that interactive learning technologies can significantly improve language learning outcomes. Meanwhile, according to (Decuypere et al., 2021), digital platforms are not mere tools, but artifacts that shape and are transformed by socio-technical relations. These platforms are not neutral; they organize learning, interaction, and even assessment in education. Therefore, digital platforms are not neutral as they actively organize and shape the ways of learning, the patterns of interaction in the classroom, and the assessment mechanisms applied. For example, features such as gamification, instant

feedback, and leaderboards can influence student motivation and engagement while determining the social dynamics of learning. This understanding emphasizes the importance of critical consideration in the selection and use of digital platforms to optimize their benefits while anticipating the social and pedagogical impacts that may arise.

However, while technology provides many benefits in supporting grammar learning through GBL, there are also challenges to consider. Some students face difficulties in accessing technology or have limited digital literacy, which may hinder the effective use of digital platforms. In addition, technical issues such as an unstable internet connection can also disrupt the smooth learning process. Therefore, educators and curriculum developers need to consider these factors and provide adequate technical support and training so that all students can benefit optimally from the use of technology-based GBL.

## 2. Engagement and Student-Based Approach (SBL)

Active student engagement and teacher support are crucial aspects in the success of GBL. this is in line with research conducted by Ginting, (2021) and Martín-Hernández et al., (2021). where student engagement in English learning, both in offline and online contexts, as well as the factors that influence it and active learning strategies that teachers can use, are emphasized as key elements in improving grammar understanding and maintaining students' interest in learning on an ongoing basis (Ginting, 2021). In this case, Nakata et al., (2012), explained that the application of game-based learning (GBL) was significantly able to improve five important aspects in students, namely intrinsic motivation, involvement in teamwork, team building ability, teamwork competence, and innovative behavior. This suggests that a student-centered approach through educational games can promote academic achievement as well as strengthen social skills.

However, it should be noted that the competitive element in the game can be stressful for some students, which underscores the importance of paying attention to the emotional and personal aspects in game design. Game designs that overemphasize competition can reduce students' self-confidence, especially for those with lower proficiency levels. Therefore, educators need to balance the elements of challenge and support so that all students feel comfortable and motivated to learn.

## 3. Accommodating the Different Needs of Students

The diversity of students' abilities, digital literacy, and access to technology greatly influences the effectiveness of GBL. Adaptive and inclusive analog

game design, covering motor, sensory, cognitive, and emotional needs to support the participation of all players (Rye & Sousa, 2023). So this is very supportive in improving students' ability to learn.

Differences in students' comprehension needs are also a consideration, as ICT students are often more digitally competent than students in other subject areas, but it has been shown that males score higher than females, adding to the ongoing debate about gender differences about digital technologies and women's readiness for the digital labor market (Lucas et al., 2022). Thus, the selection of games that match students' abilities and extra support for those who are less technologically proficient is necessary to avoid gaps in the learning process. This confirms that differentiation strategies and adequate pedagogical training should be part of GBL implementation.

## Conclusion

This systematic review confirms that game-based learning (GBL) effectively supports grammar mastery among EFL learners. Through interactive and engaging activities, GBL enhances students' understanding of grammatical rules, boosts their motivation, and reduces learning anxiety. The review highlights the importance of selecting games aligned with students' language proficiency, learning styles, and emotional needs. Applying Self-Determination Theory (SDT) offers further insight into why GBL fosters positive learning outcomes, as it supports learners' autonomy, competence, and relatedness. Despite its benefits, the successful implementation of GBL requires attention to technical barriers, teacher readiness, and the varying needs of learners. Educators are encouraged to integrate GBL thoughtfully and provide scaffolding to maximize its effectiveness. Future research should explore long-term impacts and how GBL can be adapted for learners with different technological backgrounds and learning contexts.

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