



THE ROLE OF GAMIFIED LANGUAGE LEARNING APPLICATIONS IN ENHANCING MOTIVATION: A REVIEW OF SECOND LANGUAGE ACQUISITIONS STUDIES

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Abstract: Gamification has emerged as an innovative approach in second language acquisition, particularly in enhancing learners' motivation and engagement. By incorporating elements such as points, badges, leaderboards, and challenges, gamified language learning applications like Duolingo and Quizlet create interactive and enjoyable learning experiences. This study reviews recent literature on the impact of gamification on motivation, learning outcomes, and student engagement in second language learning. The findings indicate that gamification can enhance intrinsic and extrinsic motivation while reducing language learning anxiety by fostering a safe and supportive learning environment. Additionally, gamification supports personalized learning, allowing students to learn at their own pace and according to their preferences. However, challenges such as the misalignment of game elements with pedagogical goals and the risk of over-reliance on extrinsic motivation require careful attention. This research provides recommendations for language learning application developers to optimize gamification design for effectiveness, inclusivity, and adaptability.

INTRODUCTION

In recent years, gamified learning has emerged as a dynamic approach to enhancing student engagement and motivation across various educational contexts, including second language acquisition (SLA). Gamification integrates game-like elements, such as points, badges, leaderboards, and challenges, into educational tools to create an interactive and motivating learning experience (Wiboolyasarini & Jinowat, 2024; Zakaria, Anas, & Malki, 2024). Platforms like Duolingo, Babbel, and Quizlet have exemplified how these elements can transform traditional learning paradigms by promoting sustained learner interest and commitment (Kazu & Kuvvetli, 2024; Shortt et al., 2023). The increasing availability of mobile devices and apps further supports this shift, offering learners the flexibility to engage in language learning anytime and anywhere (Özer & Akay, 2023).

Motivation plays a critical role in SLA, as it directly influences the learner's ability to persevere through the often lengthy and challenging process of language acquisition. According to research, gamified applications can foster both intrinsic and extrinsic motivation by creating engaging, competitive, and goal-oriented environments (Tam, 2009; Özer & Akay, 2023). For example, Duolingo employs gamification principles to encourage consistent language practice while reducing the anxiety commonly associated with traditional classroom settings (Chiera, Bédi, & Zvieli-Girshin, 2022; Wichadee & Pattanapichet, 2018). By offering rewards, such as virtual badges or progress tracking, these apps provide learners with constant feedback and recognition, which can enhance their motivation to continue learning. Several studies have emphasized the power of gamification to increase engagement, a key factor in language learning success. According to Bai (2024), mobile-based language learning applications are particularly effective in fostering EFL (English as a Foreign Language) students' motivation, as they combine the convenience of mobile learning with the interactive nature of games. The competitive aspects of gamification, such as earning points and achieving higher levels, encourage students to challenge themselves while tracking their progress. Similarly, Zakaria et al. (2024) found that learners who use gamified platforms show higher engagement levels, resulting in improved language skills and retention.

In addition to its motivational benefits, gamification also has a positive impact on learners' attitudes toward language learning. By transforming the learning process into an enjoyable activity, gamified applications reduce the barriers that often deter learners, such as the fear of failure or lack of interest in the subject (Viberg, Kukulska-Hulme, & Peeters, 2023). For instance, the mobile application LingQ allows users to learn through context-based stories, which not only teach vocabulary but also foster an emotional connection to the language (Boudadi & Gutiérrez-Colón, 2020). This emotional connection can be a powerful motivator for language learners, as it nurtures their intrinsic motivation to engage with the language on a deeper level. Gamified learning applications also provide a unique way to address the diverse needs and learning preferences of students. With the increasing recognition of personalized learning, gamified apps allow learners to progress at their own pace, choosing tasks and challenges that align with their individual learning goals (James & Mayer, 2019; Gafni, Achituv, & Rahmani, 2017). This adaptability helps learners maintain a sense of autonomy, which has been shown to enhance motivation and lead to better learning outcomes. Furthermore, gamification in language learning aligns with current trends in educational technology that focus on learner-centered approaches. These applications not only emphasize

content mastery but also foster skills such as problem-solving, critical thinking, and collaboration, which are essential for success in real-world contexts (Aljumah, 2020). The integration of social elements, such as leaderboards and peer comparisons, also introduces a collaborative dimension to the learning process, motivating students to engage in friendly competition and social learning (Palová & Vejcka, 2022). Research also suggests that gamification can reduce anxiety, a common barrier to SLA, particularly in formal classroom settings. The informal nature of gamified platforms, where learners can make mistakes without fear of judgment, creates a safe environment for risk-taking and experimentation (Li, 2023). This reduction in language-learning anxiety is particularly crucial for learners who might feel self-conscious speaking a foreign language in public or in front of peers (Seven, 2020).

The effectiveness of gamification, however, depends on its design and the type of language content being taught. Not all gamified applications are created equal, and some may be more effective than others depending on the learner's preferences and the learning context. For example, research by Viberg et al. (2023) emphasizes the importance of aligning game mechanics with pedagogical goals to ensure that learners can derive both enjoyment and educational value from the experience. Thus, understanding the nuances of gamified app design and its impact on learner motivation is critical for maximizing the effectiveness of these platforms in SLA. Based on the background provided, there are several issues that need to be addressed in this research, namely: How do gamification elements influence language learners' motivation? and What positive impacts and challenges arise from the implementation of gamification in Second Language Acquisition (SLA)? This study aims to present findings from various studies regarding the impact of gamification on motivation in second language learning, as well as to provide an in-depth analysis of how gamification elements, such as points, badges, and leaderboards, contribute to enhancing learner engagement and motivation. Additionally, this research will identify potential challenges faced in applying gamification within the SLA context and offer recommendations for developers of language learning apps to maximize their effectiveness.

LITERATURE REVIEW

1. *Gamification in Language Learning*

Gamification is the integration of game elements into non-game contexts to enhance user engagement and motivation (Macías, Hernández, & Saenz, 2020). In language learning, gamification incorporates elements such as points, badges, leaderboards, challenges, and

narratives to create a more engaging and interactive learning environment (Nilubol & Sitthitikul, 2023; Vathanalaoha, 2022). Applications like Duolingo and Quizlet serve as prime examples of gamification, combining game mechanisms with educational goals (Kazu & Kuvvetli, 2024; Shortt et al., 2023). Gamification has been proven effective in enhancing engagement and motivation among second language learners (Second Language Acquisition, SLA). James & Mayer (2019) demonstrated that the use of game elements can significantly improve language retention and deep learning. Other research emphasizes that integrating competitive and collaborative elements in gamification fosters increased social interaction among learners (Qiao et al., 2024; Palová & Vejacks, 2022).

In recent years, gamification has gained popularity as a teaching strategy in education, including language learning. Studies reveal that features such as daily challenges, reward systems, and instant feedback within gamification offer learners a more personalized and motivating learning experience. This aligns with findings from Viberg, Kukulska-Hulme, and Peeters (2023), who highlighted that gamification-based applications help learners effectively self-regulate their learning processes, significantly improving learning outcomes. Applications like Duolingo have integrated these features to create dynamic learning experiences. Moreover, gamification not only boosts motivation but also positively influences learners' affective aspects, such as reducing language-learning anxiety. Bai (2024) found that mobile-based gamified applications can create a safe and enjoyable environment for second-language learners. This environment encourages learners to try despite facing challenges or making mistakes during the learning process, making gamification an effective strategy for fostering continuous learning. However, the success of gamification depends heavily on the design of its game elements. Research by Nilubol and Sitthitikul (2023) underscores the importance of tailoring game elements to learners' needs, particularly regarding cultural and age contexts. For example, overly competitive leaderboards may exert undue pressure on some learners, especially those less confident in their language skills (Youngberg, 2024). Therefore, application developers must ensure that the gamified elements they implement are inclusive and supportive of diverse learning styles.

2. Motivation in Second Language Learning

Motivation is a key factor in SLA, influencing the effort and commitment learners put into the language learning process (Seven, 2020; Tam, 2009). In the context of gamification, motivation can be either intrinsic or extrinsic. Intrinsic motivation arises when learners find enjoyment and interest in the learning activity itself, while extrinsic motivation is driven by

external incentives such as rewards or recognition (Al-Hoorie & Hiver, 2023; Sharma, 2023). Research by Bai (2024) reveals that mobile-based gamified applications can reduce language learning anxiety, often a major barrier in SLA. By providing a relaxed and supportive learning environment, these applications enhance learners' comfort and motivation (Li, 2023; Viberg, Kukulska-Hulme, & Peeters, 2023). Motivation in second language learning not only determines the extent of learners' efforts but also shapes how they navigate challenges throughout the process. Factors like family support and classroom environment have long been recognized as critical motivational drivers (Tam, 2009; Seven, 2020). In the modern context, technological tools such as gamified applications introduce new dimensions to understanding learner motivation. Studies suggest that game elements like interactive narratives and personalization boost intrinsic motivation, as learners become engaged in an enjoyable and immersive learning process (Nilubol & Sitthitikul, 2023).

Extrinsic motivation also plays a pivotal role in supporting second language learning. Al-Hoorie and Hiver (2023) highlight that rewards in the form of points or badges often serve as effective incentives, particularly for beginners. Competitive elements like leaderboards provide an additional push for learners motivated by external recognition, though balance is necessary to avoid counterproductive pressure (Youngberg, 2024). Furthermore, gamification fosters a sustained sense of achievement among learners. Bai (2024) emphasizes that features such as daily challenges in language applications help learners set small, achievable goals, allowing them to feel progress in their learning journey. This aligns with findings by Li (2023), which indicate that gamified applications enhance learner engagement through immediate feedback and progress visualization. The combination of intrinsic and extrinsic motivation creates a dynamic learning environment, supporting success in SLA.

3. The Effectiveness of Gamification in SLA

Gamification not only boosts motivation but also has a significant impact on specific language skills such as listening, speaking, and reading. Studies reveal that gamification enhances speaking abilities through structured and enjoyable repetition exercises (Kazu & Kuvvetli, 2024). Additionally, applications like Duolingo and Babbel provide learners with opportunities to practice listening skills in diverse cultural contexts, offering a more authentic learning experience (Chiera, Bédi, & Zviél-Girshin, 2022). Several studies also note that gamification enhances learner engagement by providing immediate feedback (Boudadi & Gutiérrez-Colón, 2020; Zakaria, Anas, & Malki, 2024). Features like progress tracking and

daily reminders promote learning consistency and long-term success (Wichadee & Pattanapichet, 2018).

The effectiveness of gamification in Second Language Acquisition (SLA) extends beyond motivation to positively influence multiple aspects of language learning. For instance, in listening skills, research by Li (2023) indicates that gamified applications such as Duolingo utilize contextual scenarios to reinforce learners' auditory comprehension. Furthermore, Viberg, Kukulska-Hulme, and Peeters (2023) highlight how affective support in gamified applications helps learners manage anxiety, a common barrier to understanding spoken language. In speaking skills, gamification allows learners to practice in supportive virtual environments, reducing the fear of making mistakes (Kazu & Kuvvetli, 2024). Features like voice recognition in applications provide nearly unlimited speaking practice opportunities, enabling learners to improve interactively and enjoyably (Bai, 2024). Other studies report that elements such as leaderboards and real-time challenges boost learners' participation in group speaking activities, fostering healthy competition to encourage active engagement (Qiao et al., 2024). Meanwhile, in reading skills, gamification features such as interactive storytelling provide additional meaningful context. Shortt et al. (2023) found that narratives in gamified applications not only captivate learners' attention but also improve their reading comprehension skills. Additionally, research by Macías, Hernández, and Saenz (2020) notes that story-based gamification strengthens the connection between learners' motivation and reading skill improvement, making the learning experience more meaningful and relevant. Thus, gamification serves as a holistic tool to support comprehensive language skill development.

4. Challenges in the Implementation of Gamification

Despite its many benefits, the implementation of gamification in SLA also faces several challenges. One of the main challenges is the alignment of game elements with pedagogical goals. Viberg et al. (2023) emphasize the importance of ensuring that game mechanisms support the desired learning outcomes. Furthermore, the need for personalization also presents a challenge, as each learner has different learning styles and needs (Topu, 2024). Other research shows that an overabundance of competitive elements in gamification can lead to excessive pressure on learners, thereby reducing its effectiveness (Youngberg, 2024). Therefore, balancing competitive and collaborative elements needs to be carefully considered. The challenges of implementing gamification also involve technical and infrastructural aspects. Research by Chiera, Bédi, and Zviel-Girshin (2022) highlights that the development of effective gamification applications requires large-scale learner data to optimize personalization and

learning adaptation. However, the collection and management of this data often face privacy and security challenges, especially in educational contexts (Rofiah & Waluyo, 2024). This requires developers to strictly adhere to data protection policies.

Additionally, the technological gap among learners presents a significant challenge. Not all learners have equal access to devices or high-quality internet connections, which can limit the effectiveness of gamification (Aljumah, 2020). This issue is more pronounced in educational settings in underdeveloped areas, where technological barriers remain a major concern (Zakaria et al., 2024). Therefore, providing inclusive and accessible gamification solutions should be a priority. Another aspect of this challenge is the potential for saturation from overusing game elements. Wichadee and Pattanapichet (2018) note that frequent use of features like leaderboards or challenges can reduce the appeal of gamification. If these elements become monotonous, learners' motivation may decrease over time. Therefore, it is crucial to continually update content and game mechanisms to maintain learner interest and ensure that gamification elements remain relevant and engaging.

5. Implications for Language Learning App Development

Language learning app developers can leverage these findings to enhance the effectiveness of their products. Research by Özer & Akay (2023) suggests the use of a mobile-assisted language learning (MALL) approach that combines the flexibility of mobile technology with gamification elements to meet the needs of modern learners. Additionally, the integration of data-driven feedback and learning analytics can help create a more personalized and adaptive experience (Pennington et al., 2024; Castillo-Parra et al., 2022). By considering the strengths and challenges of gamification, this research contributes to a better understanding of how game elements can be optimized to improve motivation and engagement in second language learners. It also paves the way for the development of more effective technology-based learning strategies in the future. The development of language learning applications should focus on the increasingly diverse and complex needs of learners in the digital era. Research by Li (2023) and Bai (2024) highlights the importance of integrating technologies that support mobile-based learning and provide learners with flexibility to study anytime and anywhere. Elements such as daily reminders and progress tracking not only increase engagement but also provide a sense of achievement, further motivating learners intrinsically. Moreover, it is essential for developers to consider inclusive and adaptive design. Viberg, Kukulska-Hulme, and Peeters (2023) recommend that apps accommodate various learning styles and individual needs. By using technologies like machine learning and data analytics, apps can offer personalized and relevant

learning suggestions, tailored to the learner's abilities and progress. Emphasizing this level of personalization will help address common challenges, such as misalignment between materials and user skill levels. Equally important, developers must focus on designing game elements that strike a balance between competition and collaboration. Qiao et al. (2024) show that a learning environment combining competitive elements for motivation and collaborative ones to encourage social interaction has a positive impact on learning outcomes. By incorporating these strategies, language learning apps can provide a holistic learning experience that supports not only cognitive skills but also the social aspects of learners.

RESEARCH METHODS

This study adopts a qualitative approach utilizing the library research method to deeply analyze how gamification elements are applied in second language acquisition (SLA) and their impact on motivation, engagement, and learning outcomes. All data for this research were sourced from journal articles, books, and research reports relevant to gamification and language learning.

Data Collection Procedure

Data collection was conducted through a systematic literature review using various academic databases, such as Scopus, Springer, SAGE, and open-access journal repositories. Keywords used in the search included gamification in language learning, mobile-assisted language learning (MALL), EFL learning, motivation in language learning, and game-based learning. The search results were filtered based on the following inclusion and exclusion criteria:

- Inclusion Criteria: Articles published in indexed journals between 2009-2024, focusing on second language learning, and addressing gamification or technology-enhanced language learning.
- Exclusion Criteria: Articles outside the scope of language learning or those that do not directly discuss motivation and gamification.

Data Analysis

The collected data were analyzed using thematic content analysis to identify patterns, trends, and relationships among the selected literature. The analytical steps included:

1. Literature Categorization: Relevant articles were grouped by primary themes, such as learning motivation, gamification design elements, the influence of mobile technology, and the social impact of gamification. For instance, studies like Kazu & Kuvvetli (2024) and Shortt et

al. (2023) were grouped under the theme of "effectiveness of gamified applications in language learning."

2. Data Extraction: Key information such as research objectives, methodologies, main findings, and implications were extracted from each source to support deeper analysis.

3. Thematic Synthesis: Data from various articles were integrated to provide a holistic view of gamification's role in SLA, including its challenges and opportunities.

Data Validation

To ensure data validity, findings from multiple sources were compared to identify consistencies and contradictions. A triangulation approach was employed to ensure that every argument was backed by strong empirical evidence. For example, perspectives on the importance of personalization in language learning applications were supported by studies such as Özer & Akay (2023), Viberg et al. (2023), and Chiera et al. (2022).

Data Sources

This study utilized 30 articles as primary references, covering various aspects of gamification, motivation, and language learning across diverse educational contexts. These articles offered a broad range of perspectives, including empirical studies, literature reviews, experimental research, and case studies. Notable examples of key sources include:

- Research on the effectiveness of gamification in increasing student engagement (Zakaria et al., 2024; Vathanalaoha, 2022).
- Studies on mobile technology adaptation for language learning (Li, 2023; Bai, 2024).
- Systematic reviews of gamification in higher education (Castillo-Parra et al., 2022; Macías et al., 2020).

RESULTS AND DISCUSSION

1. The Role of Gamification in Enhancing Motivation and Engagement

Gamification has been consistently shown to enhance motivation and engagement in second language acquisition (SLA). Studies indicate that incorporating elements such as rewards, challenges, and leaderboards positively impacts learners' intrinsic motivation and reduces dropout rates in language courses (Zakaria et al., 2024; Macías et al., 2020). For instance, Duolingo's game-based approach has been found to effectively improve speaking skills while maintaining learner engagement (Kazu & Kuvvetli, 2024). Additionally, gamification principles, such as competitive and cooperative strategies, foster active participation and collaboration among learners (Qiao et al., 2024).

2. Impact of Mobile-Assisted Language Learning (MALL)

Mobile applications have emerged as powerful tools for language learning, providing flexibility and accessibility. Research shows that mobile-assisted language learning significantly enhances listening and speaking skills, foreign language enjoyment, and self-regulation (Bai, 2024; Viberg et al., 2023). The use of gamified mobile platforms, like Duolingo, offers personalized learning experiences through adaptive challenges and real-time feedback (Chiera et al., 2022; Özer & Akay, 2023).

3. Cognitive and Affective Outcomes of Gamification

Gamification positively influences cognitive and emotional outcomes in language learners. It promotes active learning and improves learning retention by offering a dynamic and interactive environment (James & Mayer, 2019; Nilubol & Sitthitikul, 2023). Additionally, gamification reduces language learning anxiety by creating a less intimidating and more enjoyable learning atmosphere (Aljumah, 2020; Seven, 2020).

4. Challenges in Gamified Language Learning

Despite its benefits, gamification also presents challenges. Overemphasis on rewards may lead to extrinsic motivation, reducing long-term learning commitment (Youngberg, 2024; Boudadi & Gutiérrez-Colón, 2020). Moreover, the effectiveness of gamification depends on learners' individual learning styles, as some students may find competitive elements stressful or demotivating (Topu, 2024).

5. Gamification in Specific Educational Contexts

The impact of gamification varies across educational contexts. For young learners, gamified bilingual education supports language development and cultural understanding (Wiboolyasarin & Jinowat, 2024). In higher education, gamification principles have been successfully integrated into curricula, fostering deeper learning and critical thinking (Palová & Vejacka, 2022; Castillo-Parra et al., 2022). Meanwhile, in secondary education, gamified tools like "Winner English" have shown significant improvements in students' English proficiency (Vathanalaoha, 2022).

6. Technological Integration and Future Trends

Emerging trends in gamification emphasize the integration of artificial intelligence and data analytics to tailor learning experiences. Studies leveraging machine learning on platforms like Duolingo highlight the potential for micro and macroscopic data analysis to refine gamification strategies (Chiera et al., 2022; Shortt et al., 2023). Moreover, the integration of

digital tools and multilingual teaching practices demonstrates the potential for gamification to bridge gaps in diverse classroom settings (Pennington et al., 2024).

These findings underscore the transformative potential of gamification in SLA, with evidence supporting its ability to enhance learning outcomes, foster motivation, and adapt to diverse educational contexts. However, thoughtful implementation and consideration of learner diversity are crucial for maximizing its effectiveness.

CONCLUSIONS AND RECOMMENDATION

The use of gamification and mobile-based technology in language learning demonstrates significant positive impacts on learners' motivation, engagement, and learning outcomes. Based on a review of various studies, the following key conclusions can be outlined:

1. Effectiveness of Gamification in Language Learning

Gamification enhances learners' intrinsic motivation and engagement by creating enjoyable and competitive learning environments. Strategies such as rewards, challenges, and collaborative elements encourage active participation (Zakaria et al., 2024; Qiao et al., 2024; Kazu & Kuvvetli, 2024). In various contexts, such as English learning in secondary schools, gamified platforms like Winner English and Duolingo have proven effective in improving speaking and listening skills (Vathanalaoha, 2022; Kazu & Kuvvetli, 2024).

2. Role of Mobile Technology in Language Learning

Mobile-assisted language learning (MALL), including apps like Duolingo, offers flexibility and accessibility, strengthening listening and speaking skills while reducing language learning anxiety (Bai, 2024; Viberg et al., 2023). The use of micro- and macro-learning data in these applications enables personalized learning experiences (Chiera et al., 2022; Shortt et al., 2023).

3. Emotional and Cognitive Impacts

Gamification not only improves cognitive outcomes, such as grammar and vocabulary mastery, but also helps reduce learning anxiety through relaxed and interactive approaches (Aljumah, 2020; Seven, 2020; Rofiah & Waluyo, 2024). These engaging learning environments also foster better information retention (James & Mayer, 2019; Nilubol & Sitthitikul, 2023).

4. Challenges in Implementing Gamification

Despite its effectiveness, gamification has challenges, including the risk of reliance on extrinsic motivation due to the focus on rewards (Youngberg, 2024; Boudadi & Gutiérrez-

Colón, 2020). Furthermore, differences in learners' styles can influence their perception of gamification, with some finding competitive elements stressful (Topu, 2024).

5.Future Potential of Gamification and MALL

Future trends highlight the potential integration of artificial intelligence (AI) and data analytics to create more adaptive learning experiences. The use of digital tools in multilingual teaching contexts also offers new opportunities to support media literacy and cross-cultural learning (Pennington et al., 2024; Gafni et al., 2017).

With clear benefits in diverse educational contexts, gamification and technology-assisted learning approaches can continue to be refined to meet the needs of increasingly diverse learners. Thoughtful implementation tailored to students' characteristics will maximize their impact in supporting language learning success.

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