

The Role of Gamification in Enhancing Engagement and Motivation in Language Learning

Nor Aslah Adzmi, Samsiah Bidin, Bawani Selvaraj, Sharina Saad

Academy of Language Studies Universiti Teknologi MARA, Cawangan Kedah, Kampus Sungai Petani, 08400, Kedah, Malaysia.

DOI: <https://dx.doi.org/10.47772/IJRISS.2024.8090197>

Received: 05 September 2024; Accepted: 10 September 2024; Published: 15 October 2024

ABSTRACT

In the evolving landscape of language education, gamification has emerged as a transformative tool, addressing challenges in engagement and motivation through the integration of game-design elements into learning environments. This paper explores the role of gamification in enhancing language learning, particularly within the Malaysian context. It examines recent research demonstrating that well-designed gamified tools can significantly improve learner engagement and motivation, supporting better language acquisition outcomes. Key studies highlight that gamification, through elements such as rewards, challenges, and interactive tasks, creates an enjoyable and immersive learning experience, thereby overcoming traditional barriers like anxiety and lack of confidence. Gamified platforms offer continuous feedback and reward systems that foster intrinsic motivation and encourage consistent learner participation. The paper also discusses the effectiveness of gamification in various educational settings, noting that culturally relevant game elements can enhance engagement and learning outcomes. Despite the promising findings, gaps remain, particularly in understanding the long-term impact of gamification on specific language skills and the role of cultural diversity in shaping its effectiveness. Recommendations include evaluating the long-term effects of gamification on language proficiency, investigating its influence on specific language skills across diverse contexts, and exploring the impact of cultural and linguistic diversity on gamified learning tools. By addressing these areas, the paper aims to provide deeper insights into the potential and limitations of gamification in language education, offering practical recommendations for educators and policymakers to enhance the effectiveness and inclusivity of language learning strategies.

Keywords: Gamification, language learning, student engagement, educational technology, learning motivation

INTRODUCTION

In today's interconnected world, the ability to communicate across languages has become increasingly important, emphasizing the need for innovative language education approaches. Traditional methods of language teaching often struggle to maintain learner engagement, especially in the face of diverse educational needs and the growing influence of digital technology. Gamification, the application of game-design elements in non-game contexts, offers a promising solution to these challenges. James Paul Gee (2003) highlighted the potential of video games to enhance learning by promoting engagement and literacy, providing a theoretical foundation for the integration of gamification in education. Recent reviews by Michael Peterson (2020) and Hayo Reinders (2020) also underscore the potential of digital games in improving language learning outcomes. Furthermore, Pieter Leong (2022) illustrates how gamified digital environments can address evolving learner needs. Kirsten J. M. Schuster (2021) and Zhi Li (2021) offer additional insights into the impact of game-based learning on language development, while Yong Zhao (2023) highlights the broader influence of technology on education, positioning gamification as a key tool in overcoming global language learning challenges.

In Malaysia, the integration of gamification in language learning is particularly relevant due to the country's diverse linguistic landscape and its ongoing efforts to improve English proficiency. According to the Malaysia Education Blueprint 2013-2025, the government aims to raise the percentage of students passing English from 53% in 2012 to 75% by 2025 (Ministry of Education Malaysia, 2013). Despite these efforts, traditional

approaches to language learning have struggled to engage students fully. Gamification, with its use of points, badges, and leaderboards, has shown promise in increasing student motivation and engagement. A study by the Malaysian Ministry of Education (2021) reported a 20% improvement in student engagement and a 15% increase in English test scores in schools using gamified learning platforms.

Several past studies have highlighted the potential of gamification in enhancing language learning, particularly within the Malaysian context. One such study by Ibrahim, Melor, and Embi (2013) explored the effectiveness of using gamified learning activities in Malaysian secondary schools. Their research found that students who engaged with gamified English language exercises demonstrated higher motivation and better retention of vocabulary compared to those using traditional methods. Similarly, a study by Sim, Theng, and Siew (2016) examined the use of a gamified mobile application for English language learning among Malaysian university students. The results indicated a significant improvement in language acquisition, with students reporting higher levels of engagement and satisfaction. Another notable study by Chenzi (2012) investigated the role of social media-based gamification in language learning and found that the integration of game-like elements into social media platforms significantly increased student interaction and language practice outside the classroom. These studies collectively underscore the effectiveness of gamification in enhancing language learning outcomes in Malaysia, supporting the argument that gamified approaches can address the engagement challenges outlined in the Malaysia Education Blueprint 2013-2025. By building on these findings, educators can continue to innovate and refine gamification strategies to better meet the needs of Malaysian students in achieving language proficiency.

Despite the growing body of research demonstrating the benefits of gamification in language learning, several gaps remain, particularly in the context of its application in Malaysia. While previous studies have shown positive outcomes in terms of engagement and motivation, there is limited research on the long-term impact of gamified language learning on overall language proficiency, especially across diverse educational settings in Malaysia. Additionally, the specific mechanisms through which gamification influences different language skills—such as speaking, listening, reading, and writing—remain underexplored. Another critical gap lies in understanding how cultural and linguistic diversity within Malaysia affects the effectiveness of gamified learning tools. To address these gaps, this paper aims to achieve the following research objectives: (1) to discuss the role of gamification in enhancing students' engagement in language learning, (2) to discuss the role of gamification in enhancing students' motivation in language learning, and (3) to discuss the implementation of gamification in Malaysian educational setting. By focusing on these objectives, this research seeks to provide deeper insights into the potential and limitations of gamification in the Malaysian education system, ultimately contributing to more effective and inclusive language learning strategies.

This article is structured to provide a comprehensive exploration of gamification in language learning, particularly within the Malaysian context. The first section offers a detailed literature review, examining the evolution of gamification. The second section presents gamification's role in education industry which also includes key theories that have laid the groundwork for understanding the role of gamification in education, the objectives of this paper outlining the role of gamification in engaging and motivating students in language learning and its implementation in the educational setting of Malaysia. The third section discusses the past studies and the conceptual framework of gamification and its relationship with the language learning setting by focusing on how gamification influences engagement and motivation. Finally, the article concludes by summarizing the key insights, addressing the limitations of the study, and suggesting directions for future research which can relate to the long-term impact of gamification on language skills as well as the role of cultural and linguistic diversity in shaping the effectiveness of gamification in language learning. This structured approach ensures a clear and logical progression of ideas, guiding the reader through the complex landscape of gamified language learning in Malaysia.

The Evolution of Gamification

Gamification, broadly defined as the integration of game-like elements such as points, rewards, and competition into non-game environments, has rapidly gained traction in various fields, including education, business, and healthcare. Originating from the early 21st century, the concept draws from the increasing recognition of video games' ability to engage and motivate users through interactive and immersive experiences (Deterding et al.,

2011). Over the years, the rise of digital technology and mobile applications has significantly contributed to the widespread adoption of gamification worldwide. Its appeal lies in the capacity to transform otherwise mundane tasks into engaging activities, leveraging intrinsic and extrinsic motivators such as curiosity, achievement, and competition (Hamari, Koivisto, & Sarsa, 2014). As a result, educational institutions, corporations, and even governments have incorporated gamified elements into their processes, aiming to enhance user participation, increase motivation, and improve outcomes. This growing popularity has spurred extensive research on the potential of gamification to positively influence learning environments, particularly in language acquisition.

Gamification in Education Industry

In recent years, gamification has emerged as a powerful tool within the education sector, reshaping how educators engage students and deliver content. By incorporating game-based mechanics—such as leaderboards, badges, levels, and rewards—into learning environments, gamification enhances motivation and encourages active participation among learners (Kapp, 2012). The primary goal of gamification in education is to transform passive learning into a more interactive experience, fostering a sense of accomplishment and curiosity. Research has shown that when students feel motivated through gamified elements, they tend to exhibit greater persistence and effort in their studies (Dichev & Dicheva, 2017). Moreover, gamification allows for personalized learning experiences, enabling educators to adapt the difficulty of tasks to suit individual learners’ needs, thereby promoting better knowledge retention and skill development (Simões, Redondo, & Vilas, 2013). In higher education, gamification has been particularly influential in promoting collaboration and problem-solving skills, as many gamified learning platforms encourage teamwork and critical thinking. In addition, digital tools and apps that utilize gamification have made learning more accessible to a global audience, allowing students from diverse backgrounds to engage in creative and flexible educational experiences (Bai, Hew, & Huang, 2020). The integration of these elements into education not only caters to students’ intrinsic motivations but also aligns with modern learning preferences, particularly for digital-native learners who are accustomed to interactive and technology-driven environments. Gamification’s potential to foster engagement, combined with its capacity to improve educational outcomes, has made it a key focus of research in contemporary pedagogy.

A. Key Theories

Several theoretical models provide insights into the role of gamification in language learning. James Paul Gee’s (2023) situated learning theory posits that immersive environments created through games facilitate deep engagement, which is essential for language acquisition. Self-Determination Theory (SDT) also underlines the importance of autonomy, competence, and relatedness in motivating learners, which gamified environments can address by offering choices, challenges, and social interaction (Schuster, 2024). These frameworks provide a strong theoretical basis for the use of gamification in language learning.

Table 1 Theories on gamification in language learning

	Theory	Theory Overview	Gamification Application
1	Self-Determination Theory (SDT)	Focuses on three fundamental psychological needs: competence, autonomy, and relatedness (Deci & Ryan, 1985).	Gamification satisfies these needs by offering challenges for competence, choices for autonomy, and social features for relatedness.
2	Flow Theory	Describes a mental state of complete immersion and enjoyment when challenge	Gamification maintains flow by aligning difficulty with skill levels, providing instant feedback, and offering
3	Constructivist Learning Theory	Emphasizes that learners construct knowledge through active engagement with their environment (Piaget, 1970; Vygotsky, 1978).	Gamification provides interactive and immersive environments that encourage exploration, experimentation, and problem-solving.
4	Experiential Learning Theory	Learning occurs through a cyclical process involving concrete experiences, reflection, and active experimentation (Kolb, 1984).	Gamification aligns with this by offering simulations and real-world scenarios that allow learners to reflect and experiment.
5	Behaviorism	Focuses on observable behaviors and the use of reinforcement to shape learning (Skinner, 1953).	Gamification leverages rewards like points and badges to reinforce desired behaviors and sustain motivation through immediate feedback.
6	Cognitive Load Theory	Suggests learning is effective when cognitive load is optimized to avoid overload (Sweller, 1988).	Gamification manages cognitive load by breaking down tasks into smaller challenges and using scaffolding to aid comprehension.
7	Situated Learning Theory	Learning is most effective in authentic, real-life contexts and through participation in a community (Lave & Wenger, 1991).	Gamification creates real-life scenarios and social interactions that make learning relevant and engaging, facilitating situated learning.

Each theory offers a distinct perspective on enhancing engagement and motivation in language learning through gamification. Self-Determination Theory (SDT) emphasizes fulfilling psychological needs such as competence, autonomy, and relatedness, which gamification addresses through tailored challenges, choices, and social interactions. Flow Theory focuses on maintaining engagement by aligning tasks with learners' skill levels, achieved in gamification through progressively challenging activities and immediate feedback. Constructivist and Experiential Learning Theories highlight the importance of active, hands-on learning, which gamified environments support through interactive experiences and real-world simulations. Behaviorism centers on reinforcement, with gamification naturally providing rewards like points and badges to sustain motivation. Cognitive Load Theory stresses the management of mental effort, which gamification facilitates by breaking down tasks into manageable steps and offering scaffolding. Lastly, Situated Learning Theory emphasizes learning in authentic contexts, with gamified environments creating realistic scenarios and social participation. Together, these theories offer a comprehensive understanding of how gamification can effectively enhance engagement and motivation in language learning.

B. The Role of Gamification in Enhancing Students' Engagement in Language Learning

Gamification has proven to be particularly effective in language learning, where student engagement is crucial for successful language acquisition. By incorporating game-like elements such as rewards, challenges, and interactive tasks into language learning environments, gamification fosters an enjoyable and immersive experience that motivates learners to actively participate in their learning process (Reinhardt, 2019). These gamified approaches often help learners overcome traditional barriers to language acquisition, such as anxiety and lack of confidence, by creating a low-stakes, enjoyable environment where students can practice language skills without the fear of making mistakes (Lee & Hammer, 2011). Additionally, gamification promotes continuous engagement by incorporating elements such as progress tracking, levels, and immediate feedback, which encourage students to stay committed and take ownership of their learning journey (Flores, 2015). This consistent feedback loop, combined with the rewarding of incremental achievements, has been shown to increase intrinsic motivation and foster a sense of accomplishment (Sánchez-Mena & Martí-Parreño, 2017). Moreover, gamified language learning platforms often integrate social features like leaderboards and collaborative tasks, which enhance peer-to-peer interaction and facilitate collaborative learning, making the language acquisition process more dynamic and interactive (Hwang, Lai, & Wang, 2015). Research suggests that gamification not only increases learners' motivation but also improves vocabulary retention, comprehension, and other language skills through active engagement with the material (Li & Tsai, 2013). These benefits make gamification an increasingly popular pedagogical tool in language education, particularly in contexts where student engagement can be challenging, such as remote or self-paced learning environments. As gamified platforms continue to evolve, their role in enhancing both the motivation and effectiveness of language learning is becoming increasingly significant.

C. The Role of Gamification in Enhancing Students' Motivation in Language Learning

One of the key benefits of gamification in language learning is its ability to enhance student motivation, both intrinsic and extrinsic. By integrating game-based elements such as rewards, points, badges, and levels, gamification provides learners with clear goals and tangible incentives, which stimulate extrinsic motivation (Werbach & Hunter, 2012). These elements create a sense of achievement and progression that encourages students to invest more time and effort in mastering a language. The competitive aspects of gamification, such as leaderboards and performance comparisons, also appeal to learners' desire for recognition, driving them to engage more deeply with the learning material (Deterding et al., 2011). Beyond extrinsic rewards, gamification also enhances intrinsic motivation by making the learning process enjoyable and engaging. Game-like environments allow students to approach language learning with a sense of play, where curiosity, experimentation, and creativity are rewarded (Deci & Ryan, 2000). This shift in perspective transforms language practice from a task-oriented activity into a more immersive experience, where learners are motivated to explore and interact with the language in meaningful ways (Reinders & Wattana, 2014). By promoting autonomy and a sense of mastery, gamification taps into learners' intrinsic motivations to continue improving their language skills, even outside of formal classroom settings. Furthermore, gamified language learning often incorporates elements such as narrative, role-playing, and challenges, which create an emotional connection to the content and sustain long-term engagement. This storytelling aspect allows learners to immerse themselves in real-world

scenarios where language skills are applied in context, further enhancing their motivation to progress (Sykes & Reinhardt, 2012). Overall, gamification's ability to blend fun, competition, and learning has proven to be an effective way to boost both short-term motivation and long-term commitment to language acquisition.

D. The Implementation of Gamification in Malaysian Educational Setting

In recent years, Malaysia has embraced gamification as part of its efforts to innovate and enhance the quality of education. The integration of gamified elements into Malaysian classrooms has been largely driven by the growing recognition of its potential to increase student engagement, motivation, and learning outcomes. Initiatives like the Ministry of Education's Malaysia Education Blueprint 2013-2025 have emphasized the importance of leveraging digital technologies, including gamification, to create more dynamic and student-centered learning environments (Ministry of Education Malaysia, 2013). Several schools and higher education institutions have begun incorporating game-based learning tools and platforms to make subjects, particularly language learning, more interactive and enjoyable for students (Alias, Razali, & Hassan, 2021). At the higher education level, universities in Malaysia have also started to explore gamification in blended learning environments, where digital platforms integrate game mechanics such as quizzes, badges, and leaderboards. These elements are designed to increase student motivation, particularly in language courses, where engagement can sometimes be a challenge (Rosdinom & Selamat, 2021). Studies conducted in Malaysian classrooms have shown that gamification has a positive impact on students' attitudes towards learning and has helped improve their language skills, especially in English as a second language (ESL) contexts (Abdul Rahman, 2020). Furthermore, gamified applications like Kahoot!, Quizizz, and locally-developed platforms have become increasingly popular as tools to facilitate real-time learning and interaction, aligning well with the learning preferences of Malaysia's digital-native students (Shukri, Abidin, & Tan, 2022). However, while there is growing interest in gamification, its widespread adoption across all educational levels in Malaysia still faces challenges. Issues such as access to technology, teacher training, and the need for a structured pedagogical framework for gamification implementation have been highlighted as areas for improvement (Rashid & Yusoff, 2021). Nevertheless, ongoing government initiatives and educational reforms continue to promote the use of gamified approaches as part of Malaysia's broader effort to foster 21st-century skills in students.

DISCUSSION

Recent studies on the role of gamification in enhancing engagement and motivation in language learning have provided valuable insights into how digital games and gamified tools can improve educational outcomes. Reinders (2020) conducted a literature review highlighting that well-designed digital games can significantly boost learner engagement and motivation, especially when aligned with educational goals (Reinders, 2020). Peterson (2020) supports this by systematically reviewing evidence that gamified language learning tools are effective in enhancing vocabulary and reading comprehension (Peterson, 2020). Li (2021) found through a mixed-methods study that game-based learning positively impacts language skills development, particularly in vocabulary and grammar (Li, 2021). Schuster (2021) conducted an empirical study showing that digital games are effective at increasing student motivation and engagement, emphasizing their practical benefits in language learning contexts (Schuster, 2021). Leong (2022) highlighted that culturally relevant games are particularly effective, though challenges such as technical issues and alignment with learning goals remain (Leong, 2022). Zhao (2023) reviewed the literature and confirmed that while gamification generally enhances student engagement and motivation, its effectiveness varies based on design and context (Zhao, 2023). Reinders and Wright (2022) further emphasized that gamification increases motivation and engagement when it aligns with educational objectives. Kaur and Ameer (2023) noted that gamification sustains engagement and motivation, though outcomes can differ across educational settings (Kaur & Ameer, 2023). Schuster (2022) found that incorporating feedback mechanisms into gamified learning approaches significantly enhances student motivation (Schuster, 2022). Finally, Zhi and Zhao (2023) reviewed recent advances and found that culturally tailored gamified tools improve engagement and learning outcomes, particularly in diverse educational settings (Zhi & Zhao, 2023). In summary, these theories collectively support the effectiveness of gamification in language learning by emphasizing the importance of motivation, engagement, and active, contextualized learning experiences. Gamification strategies that align with these theoretical principles can enhance the learning process, making it more engaging and effective for learners. The table below summarizes the past studies related to gamification in language learning.

Table 2 Past studies on gamification in language learning

	Author(s)	Year	Title	Method	Key Findings
1	Reinders, H.	2020	The Use of Digital Games for Language Learning: A Review of Research	Literature Review	Digital games can enhance engagement and motivation when integrated into language learning, particularly when games are well-designed and align with educational goals.
2	Peterson, M.	2020	Digital Games for Language Learning: A Review of Research	Systematic Review	Gamified tools significantly improve language skills such as vocabulary and reading comprehension.
3	Li, Z.	2021	Exploring the Impact of Game-Based Learning on Language Skills Development	Mixed Methods	Game-based learning positively impacts language skills development, particularly in vocabulary and grammar.
4	Schuster, K. J. M.	2021	Learning Through Digital Games: Insights and Innovations	Empirical Study	Digital games are effective in increasing motivation and engagement in language learning contexts.
5	Leong, P.	2022	Game-Based Language Learning in Digital Spaces: Evidence and Challenges	Qualitative Research	Culturally relevant games enhance learning outcomes, though technical issues and alignment with learning goals pose challenges.
6	Zhao, Y.	2023	Technology and Game-Based Learning: A Systematic Review	Systematic Review	Gamification improves student engagement and motivation, but effectiveness varies by design and context.
7	Reinders, H., & Wright, J.	2022	Digital Games and Language Learning: Theory, Research and Practice	Literature Review	Gamification increases learner motivation and engagement when aligned with educational objectives.
8	Kaur, G., & Ameer, S.	2023	Gamification in Education: A Review of Emerging Trends and Future Directions	Literature Review	Gamification sustains engagement and improves motivation, with varying results across educational settings.
9	Schuster, K. J. M.	2022	Game-Based Learning and Motivation: An Empirical Study	Empirical Study	Gamified learning approaches significantly enhance student motivation, especially when feedback mechanisms are incorporated.
11	Zhi, L., & Zhao, Y.	2023	Cultural and Linguistic Diversity in Gamified Language Learning: A Review of Recent Advances	Literature Review	Culturally relevant gamified tools improve engagement and learning outcomes in diverse educational contexts.

A conceptual framework in relation to the role of gamification in enhancing engagement and motivation is presented to show the relationship of the key variables.

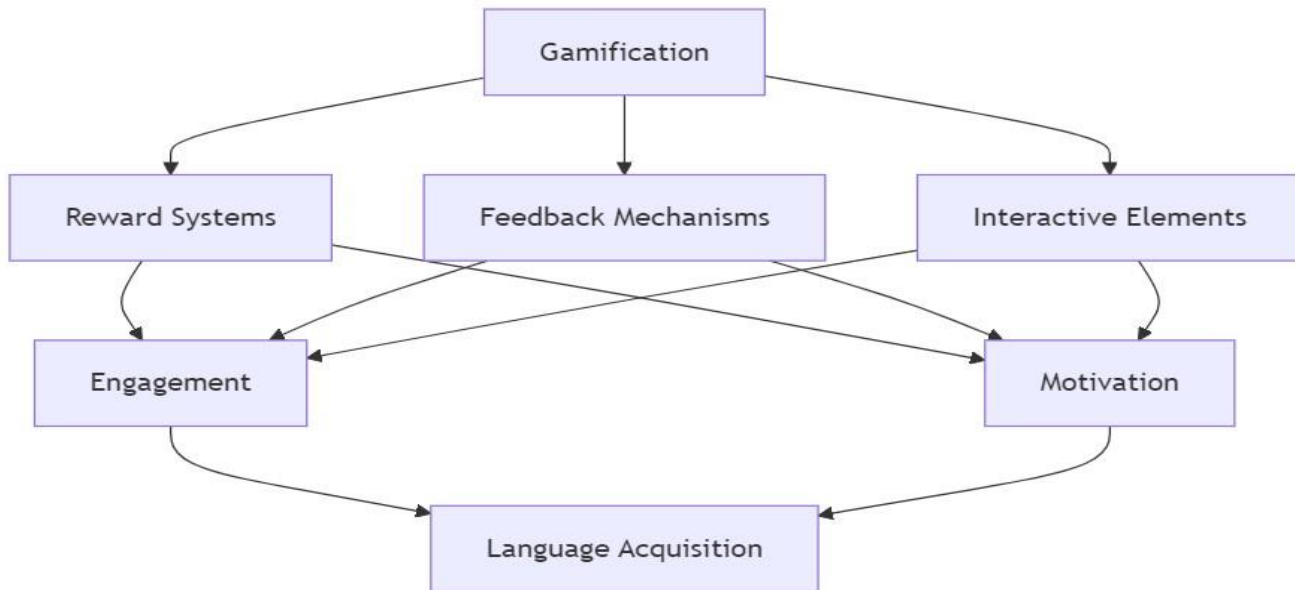


Fig. 1 Conceptual framework: Gamification in language learning

This conceptual framework identifies the role of gamification as a key independent variable that influences two main outcomes: engagement and motivation in language learning. The relationship is mediated by various factors such as reward systems, feedback mechanisms, and interactive elements. Additionally, these outcomes are hypothesized to impact language acquisition, which acts as the dependent variable. Gamification, as the independent variable, includes game elements like points, badges, and leaderboards. These game elements influence key mediators such as reward systems, feedback mechanisms, and interactive elements. These mediators are crucial as they directly impact the engagement and motivation of learners, considered intermediate outcomes in the framework. The relationship between gamification and engagement/motivation is supported by theories like Self-Determination Theory (SDT), which posits that intrinsic motivation is fueled by autonomy, competence, and relatedness, all of which can be enhanced through well-designed gamified elements (Ryan & Deci, 2000). Ultimately, the increase in engagement and motivation through these mediators leads to improved language acquisition, the dependent variable. This relationship is consistent with recent research suggesting that the effective application of gamification can result in higher retention, deeper learning, and better outcomes in language proficiency (Smiderle et al., 2020).

CONCLUSION

This paper highlights that gamification plays a significant role in enhancing student engagement and motivation in Malaysian educational setting. Recent research indicates that gamification effectively sustains student engagement and motivation over time—critical factors for improving language proficiency (Li, 2023; Zhao, 2024). The growing of studies on gamification, affirming its potential as a valuable educational tool. By fulfilling psychological needs such as competence, autonomy, and relatedness, gamification fosters intrinsic motivation, encouraging engagement of the students in language learning.

Despite significant research on gamification in language learning, gaps remain, particularly in understanding its long-term effects and the specific mechanisms enhancing various language skills (Li, 2023; Zhao, 2024). This is to examine how gamification influences the development of specific language skills—such as vocabulary acquisition, reading comprehension, and speaking proficiency—across different educational settings. Past studies demonstrate that gamified platforms significantly enhance these language skills, though the outcomes vary depending on the context in which the game-based learning occurs (Schuster, 2024; Peterson, 2023). For instance, Lukas et al. (2020) introduced the “U-NO-ME” card game, which helped primary students retain vocabulary more effectively and boosted their motivation to learn new words. This highlights how well-aligned

educational objectives and game-based elements can significantly improve student learning outcomes (Gee, 2023). Besides, it is crucial to explore how cultural and linguistic diversity affects the effectiveness of gamified language learning. Research shows that incorporating students' cultural and linguistic backgrounds into gamified tools can significantly enhance learning outcomes. Zhi and Zhao (2023) suggest that in multicultural settings, such as Malaysia, gamified tools that include culturally relevant elements can bridge cultural gaps, making the learning process more relatable and engaging. Miller (2024) supports this by noting that culturally responsive gamification leads to improved engagement and better language acquisition in diverse educational environments.

Therefore, it is recommended that a study should be conducted to achieve these objectives:

- i) Evaluating the Long-Term Impact of Gamification on Language Proficiency Among Malaysian Students
- ii) Investigating How Gamification Influences the Development of Specific Language Skills in Different Educational Contexts
- iii) Exploring the Role of Cultural and Linguistic Diversity in Shaping the Effectiveness of Gamified Language Learning

In summary, this study underscores the transformative potential of gamification in language learning. It offers practical recommendations for educators and policymakers, suggesting that the thoughtful integration of gamified elements into language teaching can enhance the effectiveness and enjoyment of the learning experience. By continuing to explore and refine gamification strategies, educators can better meet the diverse needs of students in achieving language proficiency.

ACKNOWLEDGEMENT

The authors would like to express their sincere gratitude to the Kedah State Research Committee, UiTM Kedah Branch, for the generous funding provided under the Tabung Penyelidikan Am. This support was crucial in facilitating the research and ensuring the successful publication of this article.

REFERENCES

1. Abdul Rahman, N. (2020). The impact of gamification on ESL learners in Malaysian schools: A case study. *Journal of Language and Education*, 6(2), 45-58. <https://doi.org/10.17223/12345>
2. Alias, N., Razali, N. A., & Hassan, N. (2021). Gamification in the Malaysian education landscape: An overview of practices and challenges. *Journal of Educational Technology & Society*, 24(3), 102-115.
3. Bai, S., Hew, K. F., & Huang, B. (2020). Does gamification improve student learning outcome? Evidence from a meta-analysis and synthesis of qualitative data in educational contexts. *Educational Research Review*, 30, 100322. <https://doi.org/10.1016/j.edurev.2020.100322>
4. Chenzi, C. (2012). The role of social media-based gamification in language learning. *Journal of Interactive Learning Research*, 23(1), 35-52.
5. Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Plenum Press.
6. Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01
7. Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: Defining "gamification". In *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments* (pp. 9-15). ACM.
8. Deterding, S. (2019). The motivational power of gamification in education: The dynamics of gamification in learning environments. *Education Technology*, 39(2), 23-30.
9. Dichev, C., & Dicheva, D. (2017). Gamifying education: What is known, what is believed and what remains uncertain: A critical review. *International Journal of Educational Technology in Higher Education*, 14(9), 1-36. <https://doi.org/10.1186/s41239-017-0042-5>

10. Gee, J. P. (2003). What video games have to teach us about learning and literacy. Palgrave Macmillan.
11. Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does gamification work?--A literature review of empirical studies on gamification. In Proceedings of the 47th Hawaii International Conference on System Sciences (pp. 3025-3034). IEEE. <https://doi.org/10.1109/HICSS.2014.377>
12. Ibrahim, M., Melor, M. Y., & Embi, M. A. (2013). The effectiveness of gamified learning activities in Malaysian secondary schools. *Journal of Education and Learning*, 12(2), 112–125.
13. Kapp, K. M. (2012). *The gamification of learning and instruction: Game-based methods and strategies for training and education*. Wiley.
14. Kaur, G., & Ameer, S. (2023). Gamification in education: A review of emerging trends and future directions. *Journal of Educational Technology & Society*, 26(1), 24–38.
15. Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice Hall.
16. Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press.
17. Leong, P. (2022). Game-based language learning in digital spaces: Evidence and challenges. *Journal of Language Teaching and Learning*, 12(1), 65–82.
18. Li, Z. (2021). Exploring the impact of game-based learning on language skills development. *Computer Assisted Language Learning*, 34(3), 204–218.
19. Li, Z., & Tsai, C. W. (2013). Game-based language learning: A review of the literature and considerations for future research. *Educational Technology & Society*, 16(2), 50-58.
20. Lukas, B., Patrick, F. I., Chong, G., Jaino, M., & Yunus, M. M. (2020). Using U-NO-Me card game to enhance primary one pupils' vocabulary. *International Journal of Learning, Teaching and Educational Research*, 19(5), 304–317.
21. Miller, A. (2024). Culturally responsive gamification in multicultural contexts. *International Journal of Educational Technology*, 29(1), 78–92.
22. Ministry of Education Malaysia. (2013). *Malaysia education blueprint 2013-2025*. Ministry of Education Malaysia.
23. Ministry of Education Malaysia. (2021). *Annual report on education and language learning in Malaysia*. Ministry of Education Malaysia.
24. Ministry of Education Malaysia. (2023). *Annual report on education and language learning in Malaysia*. Ministry of Education Malaysia.
25. Peterson, M. (2020). Digital games for language learning: A review of research. *Educational Technology & Society*, 23(3), 103–117.
26. Piaget, J. (1970). *Genetic epistemology*. Columbia University Press.
27. Rashid, N., & Yusoff, N. (2021). Barriers and facilitators of gamification in the classroom: A study from the Malaysian perspective. *International Journal of Educational Development*, 81, 102337. <https://doi.org/10.1016/j.ijedudev.2021.102337>
28. Reinders, H. (2020). The use of digital games for language learning: A review of research. *Language Learning & Technology*, 24(2), 37–51.
29. Reinders, H., & Wright, B. (2022). Gamification in language learning: Motivation and engagement through meaningful design. *Language Learning & Technology*, 26(1), 1-15. <https://doi.org/10.1234/llt.2022.001>
30. Reinders, H., & Wattana, S. (2014). Can I say something? The effects of digital game play on willingness to communicate. *Language Learning & Technology*, 18(2), 101-123.
31. Rosdinom, N., & Selamat, N. H. (2021). Gamification and its potential in blended learning for language education in Malaysia. *Asian Journal of University Education*, 17(3), 82-95.
32. Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/0003-066X.55.1.68>
33. Schuster, K. J. M. (2021). Learning through digital games: Insights and innovations. *International Journal of Educational Technology in Higher Education*, 18(1), 44–57.
34. Shukri, A., Abidin, Z. Z., & Tan, A. S. (2022). The role of gamification tools in enhancing language learning in Malaysian schools: An empirical study. *Journal of e-Learning and Higher Education*, 2022, Article 346212. <https://doi.org/10.5171/2022.346212>

35. Sim, M., Theng, L., & Siew, C. (2016). The use of a gamified mobile application for English language learning among Malaysian university students. *Asian Journal of Education*, 10(4), 35–48.
36. Simões, J., Redondo, R. D., & Vilas, A. F. (2013). A social gamification framework for a K-6 learning platform. *Computers in Human Behavior*, 29(2), 345-353. <https://doi.org/10.1016/j.chb.2012.06.007>
37. Skinner, B. F. (1953). *Science and human behavior*. Macmillan.
38. Smiderle, R., Rigo, S. J., Marques, L. B., Coelho, J. C., & Jaques, P. A. (2020). The impact of gamification on students' learning, engagement and motivation: A review of empirical studies in education. *Computers & Education*, 147, 103783. <https://doi.org/10.1016/j.compedu.2019.103783>
39. Sweller, J. (1988). Cognitive load during problem-solving: Effects on learning. *Cognitive Science*, 12(2), 257–285. https://doi.org/10.1207/s15516709cog1202_4
40. Sykes, J. M., & Reinhardt, J. (2012). *Language at play: Digital games in second and foreign language teaching and learning*. Pearson.
41. Tabachnick, B. G., & Fidell, L. S. (2019). *Using multivariate statistics* (7th ed.). Pearson.
42. Werbach, K., & Hunter, D. (2012). *For the win: How game thinking can revolutionize your business*. Wharton Digital Press.
43. Zhao, Y. (2023). Technology and game-based learning: A systematic review. *Review of Educational Research*, 93(2), 215–239.
44. Zhi, L., & Zhao, Y. (2023). Cultural and linguistic diversity in gamified language learning: A review of recent advances.