Enhancing Language Learning Through Gamification in Linguistically Diverse Classrooms

Sheela Faizura Nik Fauzi[1*], Ngien Ming Ming[2], Jenny YapTze Kie[3], Nur Shuhadak Binti Ismail[4]
[1,3]Academy of Language Studies, UiTM Cawangan Sarawak, Samarahan, Sarawak, Malaysia
[2,4]Academy of Language Studies, UiTM Cawangan Sarawak 2, Samarahan, Sarawak, Malaysia
**Corresponding Author*

DOI: https://www.doi.org/10.24191/ijelhe.v20n2.2029

Received: (Please leave blank)
Accepted: 18 March 2025
Date Published Online: 30 June 2025
Published: 30 June 2025

Abstract: *The effectiveness of Trithasa as a multilingual educational card game in supporting vocabulary acquisition and learner engagement among ESL learners is the focal point of this study. In response to the increasing need for multilingual competence in globalised settings, it explores how gamification can foster motivation, cross-cultural awareness, and language confidence. Rooted in Vygotsky's Zone of Proximal Development, a survey-based approach was conducted with 38 undergraduates who used Trithasa over a one-month period. The game, which features English, Arabic, and Mandarin vocabulary supported by audio via QR codes, encourages interactive and self-directed learning. Findings revealed high levels of learner satisfaction and engagement, particularly in English and Arabic language development, while the impact on Mandarin was comparatively lower. Participants also reported improved cognitive and problem-solving abilities, as well as increased cultural awareness and confidence in multilingualism. However, some respondents found the cognitive demands of the game overwhelming, thus highlighting the need for a more balanced design. Overall, gamification for multilingual language learning has its potential for refinement to optimise cognitive load and inclusivity. Future studies could contribute to the growing body of research on gamification in language education by applying the Application in other linguistically diverse classrooms.*

Keywords: *Language Games, Language Learning, Multilingual Classrooms, Multilingual Students*

1. INTRODUCTION

Multilingualism is essential due to the increasing prevalence of international employment and social interaction (Duarte et. al., 2023). Educational advancements have sparked a renewed interest in learning foreign languages. Gamification in education is crucial in language teaching and learning. It is the process of incorporating gaming elements, such as learning, progression, and competition, into non-gaming contexts by utilising a reward structure (Thurairasu, 2022). This process increases learners' engagement, inspires them to act, enhances their academic achievement, and facilitates language learning effectively .

Trithasa Cards are designed to enhance language skills and promote Multilingualism is supported by allowing players to speak in three languages: English, Arabic, and Mandarin. Each card has a QR code that allows players to listen to the pronunciation of the words. Trithasa promotes language learning in a fun and interactive way. It encourages players to use and practice the three languages, building their vocabulary and confidence in multilingual communication

In linguistically diverse classrooms, educators often struggle to engage the students effectively and foster language skills across varying proficiency levels. Traditional language learning methods may not adequately support interactive, communicative, or multimodal learning approaches, especially in multilingual environments where students benefit from diverse, flexible, and adaptive tools. Specifically, Trithasa aims to address these challenges by providing an engaging, structured, and collaborative approach to language learning.

Therefore, the present study implemented Trithasa (as exemplified in Figure 1), which is an educational language card game designed to enhance multilingual vocabulary learning among ESL learners. Trithasa integrates cognitive and social learning principles with engaging mechanics, including turn-based

play, immediate feedback, and peer interaction. It also creates a dynamic and enjoyable learning experience. The study aimed to assess the effectiveness of Trithasa in improving learners' vocabulary retention, motivation, and cross-linguistic awareness. This study aims to examine the effectiveness of using Trithasa language games as a pedagogical tool to support multilingual vocabulary acquisition in the ESL classroom.

Figure 1: Pictures of Trithasa cards

2. LITERATURE REVIEW

Many scholars have observed that gamification has positive effects on cognitive learning results. Topushipambao (2022) indicated that gamification can reduce educational gaps, improve language proficiency, and enhance learning environments. Shen et al. (2024) investigated the impact of integrating gamification on learners' language learning performance and the motivational role of learners as a mediating factor. Additionally, Salimei and Zangeneh (2022) demonstrated that students' acquisition of English vocabulary as a second language was enhanced by gamification. Thiagarajah et al. (2022) investigated how learners perceive the use of gamification tools to enhance their vocabulary and how learners' vocabulary scores differ when gamification is employed to replace traditional teaching methods. Vocabulary and grammar of the languages were the most frequently examined basic language abilities (Tsai & Tsai, 2018; Althaqafi & Saleh, 2022; Salimei & Zangeneh, 2022; Manokaran et al., 2023). Furthermore, applications such as Duolingo and virtual reality are also used to explore foreign languages through gamified platforms (Thiagarajah et al., 2022; Shortt et al., 2023; Shen et al., 2024).

Since learning a new language is a cognitively demanding and prolonged process, sustaining learners' motivation is critical to achieving long-term success. Motivation in language learning is widely recognised as a key factor influencing learners' engagement and achievement (Dornyei & Ushioda, 2011). In recent years, gamification has emerged as an innovative pedagogical approach that incorporates game-like elements, such as points, levels, challenges, and feedback, into non-game contexts to increase motivation and promote active participation. Numerous studies, such as those by Munday (2016) and Hung (2017), have demonstrated the positive effects of gamified learning environments on vocabulary acquisition, learner autonomy, and retention.

Beyond enhancing motivation and engagement, gamification in language learning offers several pedagogical advantages that contribute to more in-depth and sustained learning outcomes. One notable benefit is the promotion of learner autonomy. Gamified environments often encourage self-directed learning through clear goal-setting, progress tracking, and immediate feedback mechanisms. According to Su and Cheng (2015), such features empower learners to take ownership of their learning journey, fostering independence and perseverance in language acquisition.

Additionally, gamification supports differentiated learning by catering to diverse learner needs and proficiency levels. Through adaptive challenges and modular content progression, gamified tools can individualise the pace and complexity of tasks, making learning more accessible and inclusive. This approach aligns with Vygotsky's Zone of Proximal Development, where learners benefit most from tasks that are slightly above their current level of competence when supported appropriately (Vygotsky, 1978). In multilingual settings, this adaptability is particularly valuable for addressing linguistic diversity and varied background knowledge.

Gamification also enhances cognitive development, particularly in areas such as memory, problem-solving, and critical thinking. For instance, memory-based tasks within gamified platforms strengthen vocabulary recall through repetition and retrieval practice while strategy-based mechanics develop analytical and decision-making skills. Studies, such as those by Ibanez and Delgado-Kloos (2018), have affirmed that well-designed gamified interventions stimulate both lower-order and higher-order thinking skills.

Moreover, gamification fosters a collaborative learning culture. Many gamified language learning tools incorporate social elements, such as peer competition, team-based challenges, or cooperative quests, which foster a sense of community and promote communicative competence. This social interaction supports the development of speaking and listening skills in authentic contexts, aligning with the principles of communicative language teaching (CLT). According to Plass, Homer, and Kinzer (2015), these social dynamics also enhance learners' affective engagement, reducing anxiety and increasing willingness to communicate in the target language.

Finally, gamification provides rich data for formative assessment (Shute & Ventura, 2013). The digital nature of many gamified platforms enables real-time monitoring of learner performance, allowing instructors to identify learning gaps and tailor instruction accordingly. This continuous assessment cycle contributes to a more responsive and evidence-based teaching approach.

3. METHODOLOGY

Based on Vygotsky's Zone of Proximal Development Theory, this study employed a survey-based approach adapted from Althaqafi and Saleh (2022) and Thurairasu (2022) to evaluate the effectiveness and enjoyment of the Trithasa language learning game. The survey was administered to 38 undergraduate students at a local university. They played and engaged with Trithasa for over a month, both in class and at home or in their hostels. This enabled a comprehensive assessment of the game's impact in various learning environments. Figure 2 illustrates the research framework.

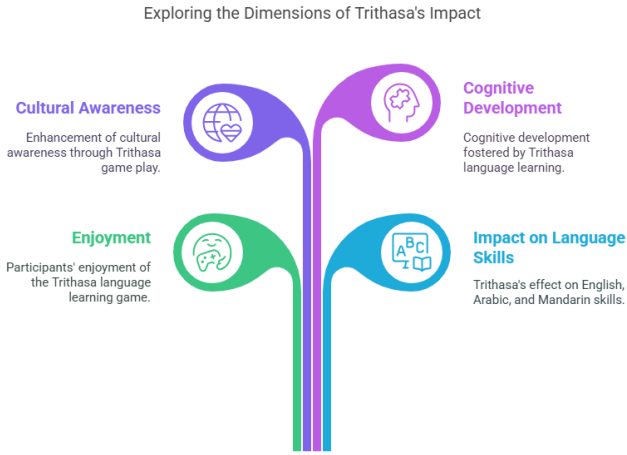

Figure 2: Research framework

Figure 3: Pilot Study (video of students playing Trithasa)

Figure 3 represents a video of Trihasa pilot study which has been conducted with the help of undergraduates' students in a local Malaysia university. Based on the feedback of the pilot study, the survey was structured into three sections. Section 1 was respondents' background. This section collected demographic and background information of the participants, including their age, gender, language proficiency, and previous experience with language learning games. This data helped contextualise the findings and provided insights into how different respondent characteristics might influence their perceptions of Trithasa. Section 2 discussed perceptions of implementing Trithasa. It consisted of 10 questions aimed at gauging participants' perceptions of Trithasa. The questions focused on various aspects such as the game's enjoyment, its impact on language skills (English, Arabic, and Mandarin), cultural awareness, and cognitive development. Section 3 embarks on challenges of implementing Trithasa. It also contained 10 questions designed to identify any challenges or difficulties participants faced while using Trithasa. Questions addressed issues such as cognitive demands, balancing competitive and learning aspects, and any technical or usability problems encountered during gameplay. Participants were asked to rate their level of agreement with statements about the game on a 5-points Likert scale. The data collected from the survey was analyzed to determine the overall effectiveness of Trithasa in enhancing language learning and to identify any areas requiring refinement. The results from this study contribute to understanding the potential of gamification in language education and its broader implications for educational practices.

4. FINDINGS AND DISCUSSION

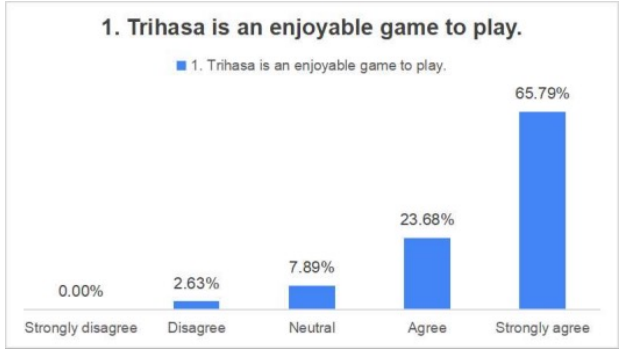

Figure 4: Trithasa is an enjoyable game

In Figure 4, the majority of respondents (65.79%) strongly agreed that Trithasa was an enjoyable game, indicating a high level of satisfaction and engagement among the participants. Another 23.68% agreed with this statement, bringing the total positive response to nearly 90%. This suggested that the game was generally well-received and considered fun by most participants. Only 7.89% of participants remained neutral, while a mere 2.63% disagreed, indicating that dissatisfaction with the game's enjoyment was minimal. Trithasa had successfully created an enjoyable gaming experience for the participants.

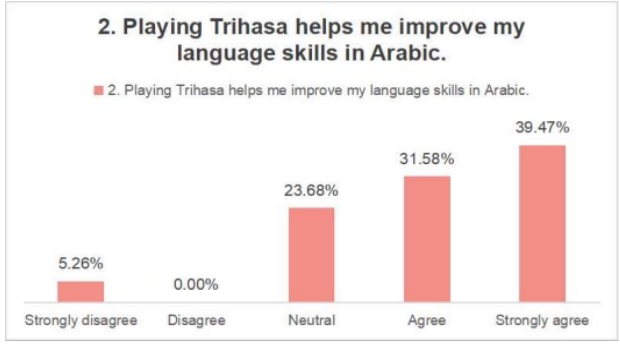

Figure 5: Playing Trithasa helps me to improve my language skills in Arabic

Figure 5 reveals a mixed but generally positive response regarding the effectiveness of Trithasa in improving Arabic language skills. A significant portion of the participants (39.47% strongly agreed and 31.58% agreed) that gaming aided in their Arabic language development. However, 23.68% of respondents remained neutral, suggesting that gamification may not have an equally positive impact on all participants. A small percentage (5.26%) strongly disagreed, which indicated that for a minority, the game did not significantly contribute to their Arabic language skills. Although Trithasa had a positive impact on Arabic language learning for many, its effectiveness may vary among individuals.

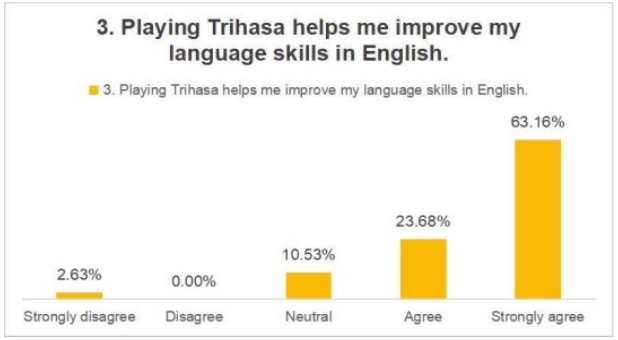

Figure 6: Playing Trithasa helps me to improve my language skills in English

A strong positive correlation was observed in Figure 6 between playing Trithasa and the improvement of English language skills among the respondents. A substantial 63.16% of participants strongly agreed that the game enhanced their English abilities, with an additional 23.68% agreeing. Nearly 87% of respondents recognised the game's value in improving their English. The neutral response was relatively low at 10.53% which reflected that most participants experienced noticeable benefits. Only 2.63% of the participants strongly disagreed, which highlighted that dissatisfaction in this area was rare. Gamification was effective in supporting English language learning.

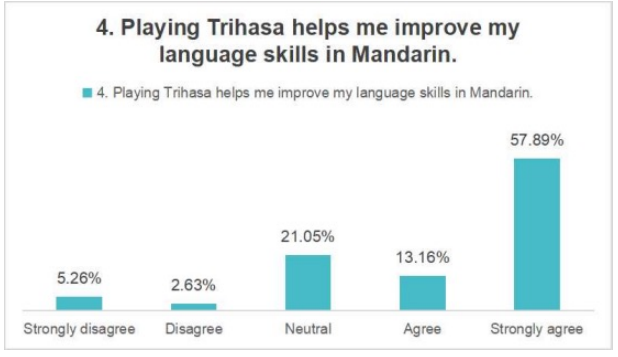

Figure 7: Playing Trithasa helps me to improve my language skills in Mandarin

The impact of Trithasa on Mandarin language skills was largely positive, with 57.89% of respondents strongly agreeing that the game aided in their Mandarin language skills, as reflected in Figure 7. An additional 13.16% agreed, which reflected a consensus on the game's usefulness in this area. However, there was a noticeable neutrality (21.05%), indicating that some participants may not have experienced significant benefits from the game in terms of Mandarin. A small percentage (7.89%) of respondents either disagreed or strongly disagreed, suggesting that the game's effectiveness in improving Mandarin skills may not be as consistent as it is for other languages. While gamification is beneficial for many participants, its impact on Mandarin learning may require additional support or refinement to benefit the learners consistently.

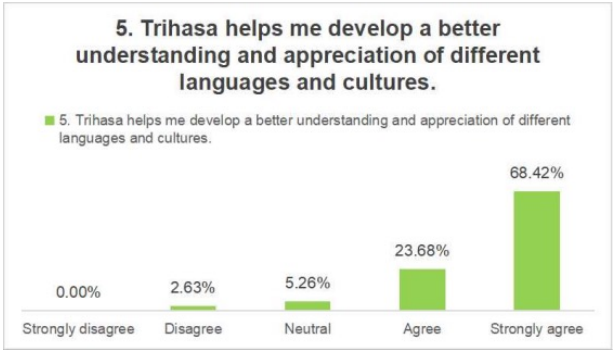

Figure 8: Trithasa helps me develop a better understanding and appreciation of different languages and cultures

Figure 8 reveals that 68.42% respondents strongly agreed that Trithasa enhanced their understanding and appreciation of different languages and cultures, which effectively fostered cultural awareness. An additional 23.68% of the respondents agreed, which brought the total positive response to over 90%. It suggested that the game was highly successful in promoting cross-cultural understanding among the participants. Only a small percentage (5.26%) of respondents were neutral. Only 2.63% disagreed that nearly all participants recognised the game's contribution to cultural appreciation. It reflected that gaming played a significant role in broadening the participants' cultural horizons.

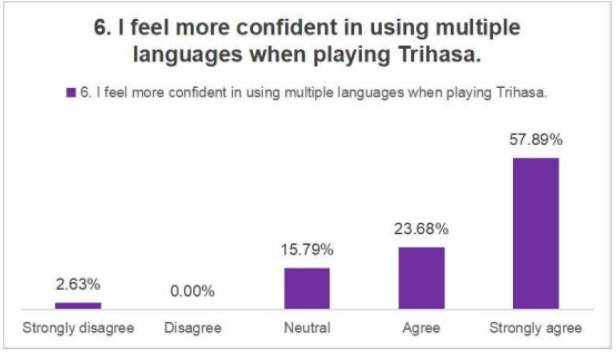

Figure 9: I feel more confident in using multiple languages when playing Trithasa

Figure 9 illustrates that Trithasa had a substantial positive impact on participants' confidence in using multiple languages, with 57.89% of respondents strongly agreeing and 23.68% agreeing with this statement. The game effectively built linguistic confidence in the majority of participants. However, 15.79% of respondents remained neutral, which might indicate that the confidence boost was not universal or that some participants were already confident in their language use. Only a small fraction (2.63%) strongly disagreed. It showed generally that gamification succeeded in fostering multilingual confidence.

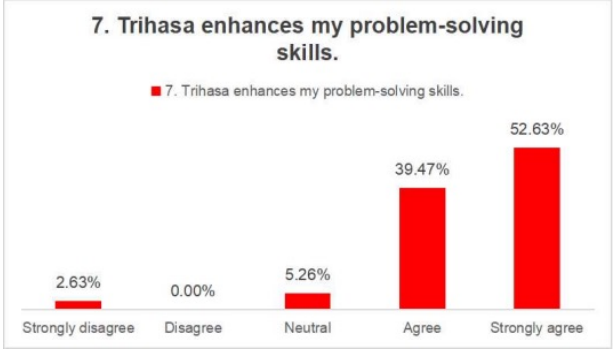

Figure 10: Trithasa enhances my problem-solving skills

The respondents (52.63%) strongly agreed that Trithasa improved their problem-solving skills, with an additional 39.47% agreeing, as shown in Figure 10. The game was widely perceived as beneficial in developing cognitive and analytical abilities. Only 5.26% of participants were neutral, and 2.63% strongly disagreed, which suggested that almost all participants recognised the game's potential to improve their problem-solving skills. A strong correlation between playing games and enhanced problem-solving capabilities make it an effective tool for cognitive development.

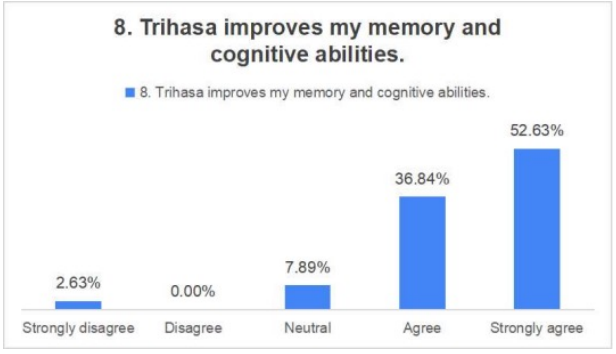

Figure 11: Trithasa improves my memory and cognitive abilities

In Figure 11, Trithasa had a substantial positive impact on memory and cognitive abilities, with 52.63% of participants strongly agreeing and 36.84% agreeing that the game was beneficial. It suggested that the game effectively supported cognitive functions for most participants. A small percentage (7.89%) remained neutral, and only 2.63% strongly disagreed, which reflected that the game's cognitive benefits were minimal. Gamification was effective for improving memory and cognitive abilities among participants.

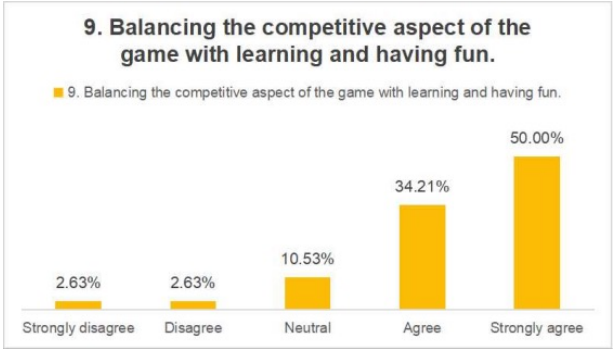

Figure 12: Balancing the competitive aspect of the game with learning and having fun

In Figure 12, 50% of the respondents strongly agreed that Trithasa successfully balanced the competitive aspects of the game with learning and fun. Another 34.21% agreed, which suggested that the game effectively integrated these elements for most participants. However, 10.53% of participants were neutral, and a small percentage (5.26%) either disagreed or strongly disagreed. While the game is generally well-balanced, some participants may find it challenging to manage the competitive aspects with the learning and enjoyment components.

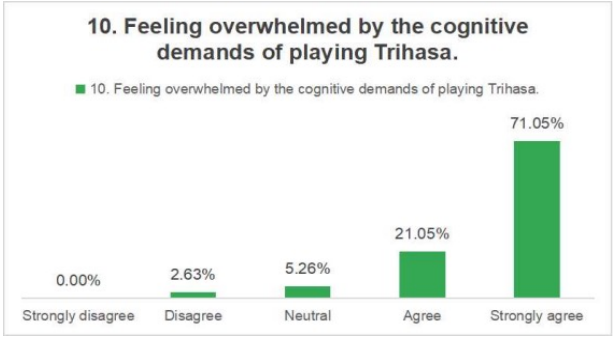

Figure 13: Feeling overwhelmed by the cognitive demands of playing Trithasa

A significant majority of participants (71.05%) strongly agreed that they were overwhelmed by the cognitive demands of playing Trithasa, as denoted in Figure 13. An additional 21.05% agreed, indicating that nearly all respondents experienced some level of cognitive strain while playing the game. Only a small percentage (5.26%) were neutral, and 2.63% disagreed, which reflected that the cognitive challenges posed by the game were not widely recognised among the participants. Although gamification was engaging, it may also present significant cognitive demands that could be addressed to make the game more accessible and enjoyable for all participants.

The findings revealed an overall positive reception towards the use of gamification in multilingual vocabulary learning, with the majority of respondents reporting high levels of satisfaction and engagement. Most participants strongly agreed that the gamified approach was enjoyable, which reflected its capacity to sustain learner interest and motivation. Gamification was generally well-received and effectively fostered active participation among learners.

However, the effectiveness of gamification in enhancing language skills varied across the three target languages. For Arabic, a considerable proportion of participants acknowledged the game's contribution to their language development. In comparison, the impact on English language acquisition was more uniformly positive. Conversely, the effect of gamification on Mandarin learning was comparatively limited, which indicated lower perceived gains in vocabulary and proficiency. These discrepancies suggest that language-specific factors may influence the pedagogical effectiveness of game-based learning. It was also perceived as highly beneficial in promoting intercultural understanding. A strong majority of participants agreed that the game facilitated greater awareness and appreciation of different languages and cultures, which highlights its role in fostering cross-cultural competence. While learners generally reported increased multilingual confidence, the findings also point to areas for refinement, particularly in designing tasks that are both cognitively stimulating and accessible.

Gamification was acknowledged for enhancing cognitive and problem-solving abilities, particularly in relation to memory retention and task management. Nevertheless, a subset of participants reported feeling overwhelmed by the cognitive load associated with certain game elements. While gamification can support higher-order thinking skills, it may also introduce cognitive challenges that need to be carefully managed to ensure inclusivity and learner comfort.

5. CONCLUSION

The decisive role of gamification in language learning, as demonstrated by Trithasa's success in engaging participants and enhancing their language skills, is undeniable. The integration of fun and interactive elements has been demonstrated to be an effective tool in enhancing linguistic abilities, promoting cultural awareness, and developing cognitive skills. The positive reception of Trithasa reflects the potential of gamified learning to make language acquisition more accessible and enjoyable, particularly in multilingual contexts. On a global scale, gamification represents a transformative approach to education by offering a dynamic alternative to traditional methods. As educational systems increasingly embrace technology, games like Trithasa can play a crucial role in bridging cultural and linguistic gaps, which make learning more engaging and effective for diverse learners worldwide. With continued refinement, gamified learning tools can have a significant and lasting impact on global education by promoting language proficiency, fostering cross-cultural understanding, and enhancing cognitive development.

6. ACKNOWLEDGEMENTS

We would like to acknowledge our institutional support in guiding this paper, and the participants for providing their insights in the writing of this paper.

7. FUNDING

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

8. AUTHORS' CONTRIBUTION

All authors offered valuable feedback and contributed to shaping the research, analysis, and manuscript.

9. CONFLICT OF INTEREST DECLARATION

We certify that the article is the Authors' and Co-Authors' original work. The article has not received prior publication and is not under consideration for publication elsewhere. This research/manuscript has not been submitted for publication, nor has it been published in whole or in part elsewhere. We testify to the fact that all Authors have contributed significantly to the work, validity and legitimacy of the data and its interpretation for submission to IJELHE.

10. REFERENCES

Al-Dosakee, K., & Ozdamli, F. (2021). Gamification in Teaching and Learning Languages: A Systematic Literature review. Revista Romaneasca Pentru Educatie Multidimensionala, 13(2), 559–577. https://doi.org/10.18662/rrem/13.2/436

Althaqafi, A. S., & Saleh, M. A. (2022). The effects of using educational games as a tool in teaching English vocabulary to Arab young children: A quasi-experimental study in a kindergarten school in Saudi Arabia. SAGE Open, 12(1), 1–9. https://doi.org/10.1177/21582440221079806

Dehghanzadeh, H., Fardanesh, H., Hatami, J., Talaee, E., & Noroozi, O. (2021). Using gamification to support learning English as a second language: a systematic review. Computer Assisted Language Learning, 34(7), 934-957. https://doi.org/10.1080/09588221.2019.1648298

Dornyei, Z., & Ushioda, E. (2011). Teaching and researching motivation (2nd ed.). Pearson Education.

Duarte, J., García-Jimenez, E., McMonagle, S., Hansen, A., Gross, B., Szelei, N., & Pinho, A. S. (2023). Research priorities in the field of multilingualism and language education: A cross-national examination. Journal of Multilingual and Multicultural Development, 44(1), 50-64. https://doi.org/10.1080/01434632.2020.1792475

Hung, H. T. (2017). Design-based research: Redesign of an English language course using a flipped classroom approach. TESOL Quarterly, 51(1), 180–192. https://doi.org/10.1002/tesq.328

Ibanez, M. B., & Delgado-Kloos, C. (2018). Gamification for engagement and learning in the classroom: A systematic review. Computers in Human Behavior, 89, 118–133. https://doi.org/10.1016/j.chb.2018.07.022

Idris, M. I., Said, N. E. M., & Tan, K. H. (2020). Game-based learning platform and its effects on present tense mastery: Evidence from an ESL classroom. International Journal of Learning, Teaching and Educational Research, 19(5), 13-26. https://doi.org/10.26803/ijlter.19.5.2

Manokaran, J., Razak, N. A., & Hamat, A. (2023). Game-Based Learning in Teaching Grammar for Non-Native Speakers: A Systematic Review. 3L: Language, Linguistics, Literature, 29(2). https://doi.org/10.17576/3L-2023-2902-02

Munday, P. (2016). The case for using Duolingo as part of the language classroom experience. RIED: Revista Iberoamericana de Educación a Distancia, 19(1), 83–101. https://doi.org/10.5944/ried.19.1.14581

Nee, C. C., & Yunus, M. M. (2020). RollRoll dice: An effective method to improve writing skills among year 3 pupils in constructing SVOA sentences. Universal Journal of Educational Research, 8(6), 2368-2382. https://doi.org/10.13189/ujer.2020.080621

Plass, J. L., Homer, B. D., & Kinzer, C. K. (2015). Foundations of game-based learning. Educational Psychologist, 50(4), 258–283. https://doi.org/10.1080/00461520.2015.1122533

Salimei, A., & Zangeneh, H. (2022). The effect of gamification on vocabulary learning (learning English as a second language) among the fifth-grade elementary school students. DOAJ (DOAJ: Directory of Open Access Journals). https://doi.org/10.22061/tej.2022.8550.2686

Shen, Z., Lai, M., & Wang, F. (2024). Investigating the influence of gamification on motivation and learning outcomes in online language learning. Frontiers in Psychology, 15. https://doi.org/10.3389/fpsyg.2024.1295709

Shortt, M., Tilak, S., Kuznetcova, I., Martens, B., & Akinkuolie, B. (2023). Gamification in mobile-assisted language learning: A systematic review of Duolingo literature from public release of 2012 to early 2020. Computer Assisted Language Learning, 36(3), 517-554. https://doi.org/10.1080/09588221.2021.1933540

Shute, V. J., & Ventura, M. (2013). Stealth assessment: Measuring and supporting learning in video games. MIT Press.

Su, C. H., & Cheng, C. H. (2015). A mobile gamification learning system for improving the learning motivation and achievements. Journal of Computer Assisted Learning, 31(3), 268–286. https://doi.org/10.1111/jcal.12088

Syafiqah Yaccob, N., & Md Yunus, M. (2019). Language games in teaching and learning English grammar: A literature review. Arab World English Journal (AWEJ) Volume 10. https://dx.doi.org/10.24093/awej/vol10no1.18

Thiagarajah, K., Ng, M. M., Jeyaraja, S. S. B., Gunasehgaran, V., & Maniam, M. (2022). Effectiveness of a gamification tool in teaching vocabulary. International Journal of Academic Research in Business and Social Sciences, 12(9). https://doi.org/10.6007/ijarbss/v12-i9/14604

Thurairasu, V. (2022). Gamification-based learning as the future of language learning: An overview. European Journal of Humanities and Social Sciences, 2(6), 62-69. https://doi.org/10.24018/ejsocial.2022.2.6.353

Topushipambao, M. (2022). Investigating the role of gamification in enhancing language learning among elementary school students. Interdisciplinary Journal Papier Human Review, 3(2), 14–22. https://doi.org/10.47667/ijphr.v3i2.227

Tsai, Y. L., & Tsai, C. C. (2018). Digital game-based second-language vocabulary learning and conditions of research designs: A meta-analysis study. Computers & Education, 125, 345-357. https://doi.org/10.1016/j.compedu.2018.06.020

Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Harvard University Press.

Yong, M. F., & Saad, W. Z. (2023). Fuelling Grammar Mastery and 21st Century Skills Through Project-Based Learning. Pertanika Journal of Social Sciences & Humanities, 31(1). https://doi.org/10.47836/pjssh.31.1.06