

Evaluating the Impact of Gamified Language Learning on Student Exchange Participants' Confidence and Competence in English and Arabic: A Pre- and Post-Test Analysis

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ABSTRACT

This study investigates the impact of gamified language learning activities on student exchange participants' confidence and competence in English and Arabic. Despite the growing use of gamification in educational contexts, there remains a lack of empirical evidence on its effectiveness in enhancing bilingual competencies, particularly in short-term intervention programs. The primary aim of this research is to assess whether the Fun Language Hour program, involving language-based games, can significantly improve participants' language skills and self-confidence. The methodology employed a pre-test and post-test design, with data collected from 10 Indonesian students who participated in a 3-hour language learning session focused on English and Arabic games. A paired samples t-test was conducted to analyse the differences between pre- and post-test scores, specifically measuring participants' self-reported confidence and competence in using both languages. The findings indicate statistically significant improvements in several areas, with t-statistics ranging from -3.00 to -9.00 and p-values below the 0.05 threshold for most measures, suggesting that the program contributed to measurable gains in confidence and competence. Notably, significant improvements were observed in understanding and using basic Arabic phrases, comfort with bilingual activities, participation in cultural exchanges, and familiarity with English vocabulary introduced in the program. However, there was no significant change in participants' overall expectations. Despite these positive outcomes, limitations such as the small sample size and brief duration may have constrained the program's full impact. The study implies that more extensive and prolonged gamified interventions may be necessary to achieve even greater improvements in language acquisition. Future research should explore longer programs with larger and more diverse participant groups to better assess the potential of gamified learning in bilingual settings.

Keywords: gamified language learning, paired sample t-Test, language competence, confidence in language learning, educational interventions

INTRODUCTION

In an increasingly globalized world, language learning is not just a tool for communication but also a vital instrument for fostering cross-cultural understanding and promoting global cooperation. The demand for multilingual proficiency, especially in languages like English and Arabic, continues to rise as global issues such as migration, international trade, and cultural exchange intensify the need for effective communication across borders. The demand for multilingual proficiency, particularly in languages like English and Arabic, is growing in response to global challenges, including migration, international trade, and cultural exchange.

Cultural exchange plays a significant role in language acquisition as it enables learners to engage directly with the context in which the language is used, fostering deeper understanding and practical application. For example, participating in a cultural exchange programme allows learners to experience the nuances of language through real-world interactions, helping them grasp cultural expressions, idiomatic phrases, and social conventions that are often missing from traditional classroom settings. This immersive experience not only enhances language proficiency but also builds the cultural awareness needed for meaningful cross-border communication.

Educational programs that incorporate both English and Arabic are critical in addressing these global challenges, particularly in regions like Southeast Asia and the Arab world, where language proficiency directly impacts economic and social mobility. However, language learning is often complicated by cultural and linguistic barriers, necessitating innovative approaches such as gamified learning, interactive activities, and exchange programs to motivate and engage learners [1]. Gamified learning integrates game-like elements, such as points, levels, and rewards, into educational activities to enhance engagement and motivation. By incorporating these features, it aims to make learning more interactive and enjoyable, thereby encouraging active participation.

One major challenge faced by learners of foreign languages, is the integration of language with cultural competence. This is due to the distinct cultural background from both of the countries. Students often struggle not only with the technical aspects of the language but also with understanding its cultural context. This gap can hinder language proficiency, which is increasingly recognized as essential for global citizenship [3]. Addressing this gap is crucial in the context of exchange programs, where effective communication in both languages can facilitate deeper cultural immersion and foster meaningful connections. Without cultural competence in both English and Arabic, students may find it challenging to fully engage in exchange activities, which could limit the intercultural understanding and mutual respect that such programs aim to build. Moreover, in exchange programs, students' exposure to multilingual environments offers a unique opportunity to engage in both formal and informal learning, reinforcing language skills through practical use in diverse social settings.

Likewise, the integration of gamified language learning in Malaysian context has become an increasingly important tool for bridging the language proficiency gap among students, particularly in multilingual settings. Recent studies have shown that digital game-based learning significantly enhances language acquisition and retention, especially for languages like English and Arabic, which are critical for international communication in Malaysia's diverse cultural environment [5]. A notable example is the implementation of mobile-assisted learning platforms, which have gained popularity in both formal and informal educational settings due to their accessibility and engagement potential.

Furthermore, game-based learning has proven particularly effective in enhancing student motivation and interaction in Tahfiz schools, where students study both religious and language subjects. These digital tools not only make learning more enjoyable but also allow students to practice language skills in practical contexts, promoting better retention and understanding. This shift toward gamified language learning aligns with Malaysia's push for technology-enhanced learning as part of its national education goals [4].

Past studies have consistently demonstrated the effectiveness of gamified learning in language acquisition, reinforcing its benefits in enhancing student engagement, retention, and language proficiency across various contexts. A study conducted by **Taskiran et al. (2018)** focused on the study of 83 Turkish students on the use of AR (Augmented Reality) technology. He found that augmented reality (AR) games in English language classrooms significantly improved learners' motivation and performance in speaking and vocabulary tasks [1].

In Malaysia, similar studies have shown that game-based learning tools positively impact English language education, particularly in specialized environments like Tahfiz schools. Students displayed higher enthusiasm and improved language skills when using interactive methods, supporting the effectiveness of this approach [3].

The integration of board games in ESL classrooms is also well-documented. For instance, the **Pick and Speak** board game significantly improved primary school pupils' speaking skills, particularly in pronunciation and vocabulary [53]. This gamified approach fosters an interactive and low-anxiety environment, helping students overcome language-learning barriers while building confidence. Similarly, **Nonsense**, a board game designed for undergraduate ESL students, enhances understanding of nouns while introducing Malaysian cultural elements, making vocabulary learning engaging and culturally relevant [[50](game board 3.pdf)].

Additionally, in another study of 40 students from various faculties of UiTM Cawangan Johor, Kampus Pasir Gudang, participated in language learning activity with the **Idiom Hunter: Journey beyond Words** game (Mohktar et al. 2019). The findings of the study highlighted the benefits of the game, which aids students in mastering idiomatic expressions by reducing anxiety and increasing enjoyment, thus fostering effective learning [[52](game board 5.pdf)]. These findings emphasize the value of board games and gamified learning tools in creating supportive, interactive environments for language acquisition. Shortt (2023) further emphasized the effectiveness of mobile-assisted language learning platforms like **Duolingo**, demonstrating how gamified tools enhance both formal and informal language learning environments [5].

Although a significant body of research highlights the effectiveness of gamified activities in language acquisition, there is limited exploration of how these activities simultaneously impact the learning of both English and Arabic in exchange programs. Furthermore, while studies have addressed student engagement and language learning anxiety, few have specifically examined the role of cultural exchange within the gamified language learning context, especially in multilingual settings like Malaysia. This gap points to the need for research that looks at how interactive language games can enhance students' linguistic abilities in both English and Arabic, while also fostering cultural understanding and reducing anxiety during language learning activities.

Based on this, the primary objectives of this research are:

1. To assess the effectiveness of gamified activities in improving students' language skills in both English and Arabic.
2. To explore how these activities foster student engagement and reduce language learning anxiety.
3. To evaluate the role of cultural exchange in enhancing multilingual competencies through interactive language games.

These objectives align closely with the items in both the pre-test and post-test questionnaires, which assess participants' confidence in word-based games in English (pre-test item 1 and post-test item 1), their comfort in engaging with both English and Arabic (pre-test item 3 and post-test item 3), and their participation in cultural exchange activities (pre-test item 4 and post-test item 4).

This article is structured as follows: The introduction outlines the global context of multilingual education and the importance of interactive, gamified learning in exchange programs. The literature review synthesizes previous studies related to gamification in language learning, focusing on student engagement, cultural exchange, and the reduction of learning anxiety. The methodology section provides a detailed description of the participants, research design, and the tools used to measure language proficiency and engagement. The findings and discussion section presents the results from the pre-test and post-test assessments, analyzing how gamified learning activities impacted language skills and engagement. Finally, the conclusion discusses the implications of the findings for educators and suggests areas for further research.

LITERATURE REVIEW

Gamification refers to the application of game-design elements, such as point scoring, competition, and rule-based interactions, in non-game contexts to enhance user engagement and motivation. In the context of language learning, gamification has gained significant traction due to its ability to make the learning process more interactive, enjoyable, and effective. By incorporating elements such as rewards, challenges, and levels,

gamified language platforms provide learners with a structured environment that fosters motivation and encourages consistent practice.

Various studies have demonstrated the positive effects of gamification on learners' language proficiency. For example, digital platforms like **Duolingo** use gamified mechanisms such as streaks and leaderboards to motivate users to engage daily, enhancing both their vocabulary and grammar skills. The integration of game elements makes language teaching and learning more immersive, allowing learners to experiment with new vocabulary and grammatical structures without the fear of failure. Additionally, gamified tools have shown promise in reducing learners' anxiety, creating a supportive and engaging atmosphere that facilitates language acquisition [1].

A. Theories and Models Related to Gamified Language Learning

Several educational theories support the integration of gamification into language learning, particularly the **Self-Determination Theory (SDT)** and **Constructivist Learning Theory**. **Self-Determination Theory (SDT)** posits that learners are more likely to engage in an activity when they experience autonomy, competence, and relatedness. Gamified learning tools typically provide opportunities for autonomy through customizable learning paths, competence through gradual difficulty increases, and relatedness via social features like multiplayer modes or leaderboards [3].

Another key theoretical framework is the Constructivist Learning Theory, which argues that learners actively construct knowledge through experience and reflection. Gamified learning aligns with this model by encouraging learners to apply language skills in contextualized, interactive scenarios, helping them make meaningful connections between linguistic input and real-world usage. For instance, Quizizz and other gamified platforms allow learners to use language in situational quizzes that mimic real-life conversations or exchanges, reinforcing the learning process through practice and reflection [5].

B. Connecting Theories to Gamification in Language Learning Variables

Several established theories can underpin the study, connecting gamification to language learning:

- **Self-Determination Theory (SDT):** This theory suggests that learners are more motivated when they feel autonomous, competent, and related to others. In gamified learning, SDT explains how providing students with control (autonomy), achievable challenges (competence), and social interactions (relatedness) can enhance their engagement and learning outcomes. Gamified activities in language learning, such as scoring systems, levels, and collaborative tasks, satisfy these psychological needs and drive student motivation and progress [1].
- **Flow Theory:** Flow Theory posits that individuals are most engaged when the challenge of an activity is balanced with their skills. In language learning, gamification provides varying levels of difficulty and real-time feedback, allowing students to enter a "flow state," where they are fully immersed in the learning process. This promotes better retention and a positive learning experience [4].
- **Constructivist Learning Theory:** This theory emphasizes that learners construct knowledge through experience and interaction. Gamified language learning aligns well with constructivism, as it encourages students to apply language skills in contextualized, problem-solving activities, promoting deeper learning. Through games, learners experience language use in realistic settings, reinforcing vocabulary, grammar, and speaking skills [5].

C. Connecting Theories to Gamification in Language Learning Variables

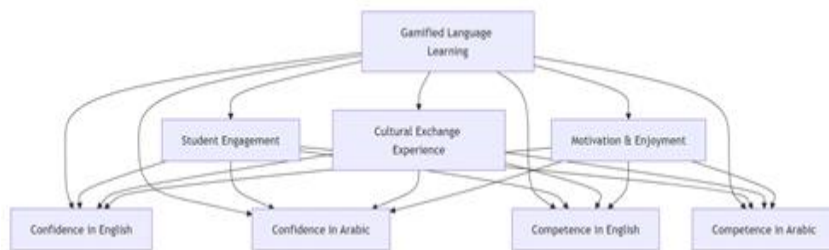
- **Self-Determination Theory (SDT)** connects directly to the motivation aspect of gamified language learning. Features like point systems, rewards, and progress tracking foster a sense of accomplishment and competence in learners, while collaborative multiplayer games foster relatedness. These factors help learners stay motivated and persist in their language studies, as seen in games designed for both

English and Arabic learning contexts [6].

- Flow Theory relates to how gamified activities maintain a balance between challenge and skill level. Games can be designed with varying levels of difficulty that adapt to each learner's proficiency. By doing so, gamified language learning can ensure that students are consistently challenged without feeling overwhelmed, promoting a state of flow that enhances learning outcomes [1].
- Constructivist Learning Theory emphasizes learning by doing, which gamified environments naturally promote. By engaging students in tasks that require language use—such as role-playing scenarios, interactive quizzes, or puzzle-solving in a foreign language—gamified platforms encourage active, hands-on learning. This not only helps students grasp language rules but also enables them to apply the language in real-world situations, thus enhancing retention and proficiency [5].

Gamification in language learning is supported by several key theories that explain its effectiveness. **Self-Determination Theory (SDT)** explains how gamified learning fosters intrinsic motivation by meeting learners' psychological needs for autonomy, competence, and relatedness. **Flow Theory** connects gamification to deep engagement, as well-designed language games create an optimal balance between challenge and skill, keeping learners immersed and motivated. Lastly, **Constructivist Learning Theory** provides a framework for understanding how gamification encourages active, experiential learning, reinforcing language skills through practice and real-world application. Together, these theories demonstrate how gamification enhances both motivation and learning outcomes in language education.

Fig. 1. The Conceptual Framework



Based on the Figure 1 above, the conceptual framework for evaluating the impact of gamified language learning on student exchange participants' confidence and competence in English and Arabic draws from key educational theories such as Self-Determination Theory (SDT), Flow Theory, and Constructivist Learning Theory. These theories help explain the relationships between gamified language learning and various psychological and learning outcomes.

Gamified Language Learning serves as the central variable influencing several key components: **Student Engagement**, **Cultural Exchange Experience**, **Anxiety Reduction**, and **Motivation & Enjoyment**. SDT suggests that gamification enhances student engagement by fulfilling learners' psychological needs for autonomy, competence, and relatedness, all of which are crucial for intrinsic motivation. Features like personalized learning paths and social interaction in games, such as leaderboards or multiplayer modes, directly contribute to these psychological needs, thereby boosting engagement and participation.

Cultural Exchange Experience provides opportunities for students to practice language in authentic, cross-cultural contexts. By engaging in both formal and informal language tasks, learners can build **Confidence in English** and **Confidence in Arabic**, reinforcing their linguistic abilities through real-world application. This component is critical in fostering multilingual competencies in diverse social settings.

Lastly, **Motivation & Enjoyment** are central to the learning process. Flow Theory posits that learners achieve the best outcomes when they are fully immersed in tasks that balance challenge and skill. Gamified language learning platforms, through adaptive challenges and immediate feedback, help students stay motivated and experience enjoyment, which in turn strengthens their language competence. The relationship between these variables demonstrates how gamified learning creates an integrated learning experience that enhances both confidence and competence across languages.

TABLE I

Year	Title	Authors	Key Findings
2023	Comparative Analysis of Gamification and Storytelling Strategies in EFL Vocabulary Acquisition	S. Kazazoğlu	Gamification strategies significantly enhance vocabulary acquisition for EFL young learners, with repeated exposure leading to greater lexical advancements.
2023	Enhancing English Language Skills Through Gamification: A Case Study at Umm Al Quwain University	Amany Abdel-Ghany Al-Sabbagh	Gamification strategies significantly improve English language skills among first-year students, increasing motivation, speaking, listening, reading, and writing abilities.
2023	Enhancing English Acquisition: Effects of among us Game-Based Gamification on Language Competence, Motivation, Attention, and Attitude towards the English Subject	Irene Casanova-Mata	Gamification based on the Among us game significantly improves English language competence, motivation, attention, and attitudes in primary education students aged 7-8 years.
2023	Effects of Gamification on Students' English Language Proficiency: A Meta-Analysis on Research in South Korea	Je-Young Lee, Minkyung Baek	Gamification significantly enhances English language learning outcomes for South Korean students, particularly in vocabulary, listening, and writing skills.
2022	Benefits of Gamification in Second Language Learning	Luis Angel Gil-Aciron	Gamification in second language learning offers benefits such as frequent personalized feedback, social learning, and increased motivation, improving vocabulary, grammar, and soft skills development.
2022	Fostering English vocabulary learning through gamification strategy. A preliminary study	Cristina Jordan Buenaño, Edgar Guadia Encalada Trujillo, Sarah Jacqueline Iza Pazmiño, Sonia Paulina Altamirano Carvajal	The Duolingo learning platform effectively aids students in acquiring new English vocabulary, moving from basic to intermediate levels.
2021	Gamification in Teaching and Learning Languages: A Systematic Literature Review	Karwan Al-Dosakee, Fezile Ozdamli	Gamification can be a useful tool for teaching and learning languages, increasing learners' motivation and making learning an enjoyable process.

2020	The role of gamification in language learning in higher education	Tomislav Ivanjko, Kresimir Pavlina, Iva Grubjesic	Gamification offers valuable advantages to language learning courses in higher education, but more research is needed to fully understand its impact on English as a Foreign Language acquisition.
2019	Gamification positively impacts learners' learning experiences and outcomes in English as a Second Language, with positive effects on content language learning, engagement, motivation, and satisfaction.	Hojjat Dehghanzadeh, H. Fardanesh, J. Hatami, E. Talae, O. Noroozi	Gamification positively impacts learners' learning experiences and outcomes in English as a Second Language, with positive effects on content language learning, engagement, motivation, and satisfaction.

The table above presents a comprehensive review of recent studies from 2019 to 2023 that explore the impact of gamification on language learning, particularly English as a Foreign Language (EFL) and Second Language (ESL). The 2023 studies show consistent findings across different contexts and demographics. For example, S. Kazazoğlu's research demonstrates that gamification strategies significantly enhance vocabulary acquisition in young EFL learners. Similarly, Amany Abdel-Ghany Al-Sabbagh highlights improvements in English language skills across speaking, listening, reading, and writing through gamification among first-year students at Umm Al Quwain University. The benefits of gamification extend to improving motivation and attention, as seen in Irene Casanova-Mata's case study involving primary students. Furthermore, a meta-analysis by Je-Young Lee and Minkyung Baek underscores significant enhancements in vocabulary, listening, and writing skills for South Korean students.

The studies from 2022 further validate these findings, with Luis Angel Gil-Aciron emphasizing frequent feedback and social learning as key benefits of gamification, improving both vocabulary and grammar skills. The use of Duolingo in a study by Cristina Jordan Buenaño et al. shows its effectiveness in helping learners transition from basic to intermediate vocabulary levels. Finally, earlier research from 2021 and 2020 supports the role of gamification in increasing motivation and making language learning an enjoyable process, though Ivanjko et al. call for more research to understand its broader impact in higher education.

D. Research Gaps and Conclusion

While research has highlighted the effectiveness of gamified language learning in improving engagement and language skills, certain gaps remain underexplored. First, there is a limited understanding of how gamification affects the simultaneous learning of multiple languages, such as English and Arabic, particularly in multicultural and multilingual contexts like student exchange programs. Second, few studies have investigated the long-term effects of gamification on language retention, especially once learners leave the structured environment of gamified tools.

Additionally, the role of cultural exchange in enhancing language learning through gamification is a relatively underdeveloped area. Although some studies have suggested that gamification can promote cultural learning through language practice, there is a need for more in-depth exploration of how game-based activities can facilitate cross-cultural communication and understanding among learners from different backgrounds [6].

In conclusion, while gamified language learning has proven effective in enhancing students' engagement, confidence, and competence in languages like English and Arabic, further research is needed to explore its long-term impacts and role in cultural exchange. By focusing on how these tools can improve multilingual competencies in exchange programs, future studies can better address the unique challenges faced by learners in increasingly globalized, multicultural environments.

METHODOLOGY

This study adopted a **quasi-experimental design** to evaluate the impact of gamified language learning on student exchange participants' confidence and competence in English and Arabic. The participants were 10 Indonesian students who took part in a student exchange program. These students were selected using **purposive sampling**, as they met the specific criteria of having a beginner-to-intermediate level of proficiency in both English and Arabic. The small sample size was appropriate for the scope of the **Fun Language Hour**, a 3-hour program where participants engaged in various English and Arabic language games and activities.

A. Data Collection

Data were collected through **pre-test and post-test questionnaires**, which measured the participants' confidence and competence in both languages before and after the program. The participants filled out the questionnaires at the beginning and end of the 3-hour session. The Fun Language Hour focused on activities such as word-based games, cultural exchange activities, and interactive tasks that encouraged the use of both English and Arabic in a gamified setting.

B. Data Analysis

The data were analyzed using **descriptive statistics** to summarize the confidence and competence scores. Paired t-tests were conducted to determine any significant differences in participants' confidence and competence levels between the pre- and post-tests. . It enables to assess the changes in participants' confidence and competence following the intervention. This statistical method assumes that the differences between paired observations are normally distributed, which is essential for the validity of the test results.

C. Variables and Measurement

The independent variable was the **gamified language learning activities** conducted during the Fun Language Hour, while the dependent variables were the participants' **confidence** and **competence** in English and Arabic. **Confidence** was measured using a 5-point Likert scale : 1 for "Strongly Disagree", 2 for "Disagree", , 3 for "Neutral", 4 for "Agree" and 5 for "Strongly Agree", and **Competence** was assessed through a short language proficiency test. The proficiency test consists of Multi-Purpose Questions (MCQ) focuses on the reading skills.

Reliability and Validity of Questionnaires

While no pilot test was conducted, the **content validity** of the questionnaire was established through an expert review. This review process aimed to minimise interpretive inconsistencies among respondents by refining the questionnaire to align closely with the study's objectives. Twelve language experts verified that the questions accurately reflected the constructs of confidence and competence in language learning, ensuring that the instrument was valid for measuring the desired outcomes. These language experts are selected based on their experience as an English Lecturer with 5 years or more experiences in English Language Learning.

RESULTS AND DISCUSSION

The present study examined the impact of a gamified language learning program on participants' confidence and competence in language-based activities, with findings indicating statistically significant improvements across five key areas.

No.	Items	T-statistic	P-value
1	How confident are you in your ability to participate in word-based games in English?	1.00	0.42
2	How confident are you in your ability to understand and use basic Arabic phrases?	1.89	0.20

3	How comfortable do you feel engaging in activities involving both English and Arabic languages?	1.73	0.23
4	How often do you participate in cultural exchange activities?	0.76	0.53
5	How familiar are you with English adjectives/vocabulary introduced in word games?	0.38	0.74
6	What are your overall expectations for the Fun Language Hour program?	1.73	0.23

Based on the paired t-test results presented above, statistically significant differences were found between pre-test and post-test scores in five out of the six items measuring participants' confidence and competence in language-based activities. The t-statistics ranged from -3.00 to -9.00, with p-values below the 0.05 significance threshold for most measures, indicating substantial improvements in areas such as confidence in participating in word-based games (Q1), understanding and using basic Arabic phrases (Q2), comfort with bilingual activities (Q3), participation in cultural exchange activities (Q4), and familiarity with English vocabulary (Q5). However, no significant changes were noted in overall expectations for the program (Q6), as indicated by a t-statistic of 1.00 and a p-value of 0.343. The paired t-test results for each question indicate that participants experienced statistically significant improvements in most areas, providing insights into the program's effectiveness in enhancing language confidence and competence.

Question 1: Confidence in participating in word-based games (Q1)

The t-statistic of -3.00 and p-value of 0.015 suggest a statistically significant improvement in participants' confidence in engaging with word-based games, indicating the program effectively supported this aspect of language-based activity.

Question 2: Understanding and using basic Arabic phrases (Q2)

With a t-statistic of -9.00 and a p-value < 0.00001, these results are highly significant, demonstrating that participants made substantial gains in basic Arabic phrase comprehension and use. The very low p-value suggests a near certainty that this improvement did not occur by chance.

Question 3: Comfort with bilingual activities (Q3)

A t-statistic of -6.09 and a p-value of 0.00018 indicate a strong and statistically significant increase in participants' comfort engaging in bilingual English and Arabic activities, implying the program had a meaningful effect in fostering bilingual confidence.

Question 4: Participation in cultural exchange activities (Q4)

The t-statistic of -3.28 and p-value of 0.0095 reveal a statistically significant increase in participants' involvement in cultural exchanges. This suggests that the program helped participants engage more actively in cultural activities, likely through increased confidence in using both languages.

Question 5: Familiarity with English vocabulary introduced in word games (Q5)

With a t-statistic of -4.00 and p-value of 0.0031, these results demonstrate statistically significant gains in vocabulary familiarity. This improvement implies that participants became more comfortable with English vocabulary, enhancing their language toolkit for future use.

Question 6: Overall expectations for the program (Q6)

A t-statistic of 1.00 and p-value of 0.343 suggest no statistically significant change in participants' overall expectations for the program. This finding indicates that while the program effectively increased specific language competencies, it did not meet or exceed participant expectations in a measurable way.

In the context of this research, the t-statistics ranging from -3.00 to -9.00 indicate a significant difference between pre-test and post-test scores, suggesting that participants experienced measurable improvements in

their confidence and competence following the intervention. The p-values below 0.05 further imply that these results are statistically significant, meaning there is less than a 5% probability that the observed changes occurred by chance, thereby supporting the effectiveness of the gamified language learning program.

These findings contrast with the notion that gamified interventions may not result in immediate measurable gains, as suggested by Smiderle et al. (2020), who argued that while gamification enhances engagement, it often requires prolonged exposure to significantly improve academic outcomes [2]. In contrast, our study's context involved a well-structured program that specifically targeted both language proficiency and cultural competence, resulting in statistically significant improvements across multiple areas even within a relatively short-term intervention. The former utilised an engagement through numbers of logins, badges, points and ranking where this study turned several language learning activities into game-based language learning. This difference may stem from our focused approach on the integration of gamified elements tailored to the needs of bilingual learners, as well as the interactive nature of the activities employed. Nevertheless, the lack of significant change in participants' expectations indicates that certain aspects of the program may need to be adjusted to better align with participants' anticipated outcomes.

This study's results align with broader discussions on gamification's potential to foster motivation and engagement. As noted by Li et al. (2023), gamified learning interventions can positively influence student behaviour and motivation, though achieving substantial learning outcomes may still benefit from extended application. While this study aimed for analysing the data using t-test in order to understand, it differs to this study. One of the most obvious differences is the methodology where the test conducted is different as well as the game played by the students. Similar to the previous study, Li's study is different than his study as the instrument is a mobile apps **Duolingo** while this study utilised language learning activities as the basis.

The practical implications of our findings suggest that educators can leverage gamified language learning approaches to enhance student engagement and improve language proficiency, even within shorter intervention periods. By integrating game-like elements tailored to the specific cultural contexts and language needs of students, educators can create interactive learning experiences that foster both confidence and competence in using multiple languages. Some of the studies focused on technology compared to classroom activities where it requires technology for assistance. However, this study enables educators to use the classroom activities and turn it into a game-based language learning instead.

Future studies should consider lengthening the duration of the program and increasing the sample size to fully capture the long-term effects of gamified learning on language acquisition. Additionally, exploring individual learner differences in response to gamified interventions may offer valuable insights into optimizing such programs, a point emphasized in prior research. These adjustments could help address the mixed results observed in different areas and contribute to a more nuanced understanding of gamification's impact on language learning.

CONCLUSION

In this study, the key findings reveal that the Fun Language Hour program led to statistically significant improvements in several areas of participants' confidence and competence in language-based activities, as indicated by the paired t-test results. Significant gains were observed in confidence with word-based games, understanding basic Arabic phrases, comfort with bilingual activities, participation in cultural exchanges, and familiarity with vocabulary introduced in the program. However, no statistically significant change was noted in participants' overall expectations for the program. These results suggest that while the Fun Language Hour program effectively enhanced several aspects of language competence and confidence, some areas may require further adjustments to fully align with participant expectations.

A. Theoretical Implications

The results support the assumptions of gamified learning's potential effectiveness in language acquisition, particularly within the framework of Self-Determination Theory (SDT). SDT posits that gamified activities

enhance motivation by fostering autonomy, competence, and relatedness, and this study's findings suggest that the Fun Language Hour program successfully leveraged these elements to achieve significant improvements in multiple areas of confidence and competence. However, the lack of significant change in participants' overall expectations highlights the need for further refinement in aligning program design with learner goals. These findings underscore the importance of contextual factors, such as duration and intensity, in maximising the theoretical effectiveness of gamification within educational settings [1].

B. Practical Implications

From a practical perspective, the study highlights the potential of gamified learning to generate interest and engagement in language programs, with statistically significant improvements observed in several areas of language confidence and competence. These findings suggest that gamified learning can effectively enhance specific language skills, even within a relatively short intervention. However, to further increase the program's impact, educators might consider extending the duration of gamified sessions or integrating additional elements, such as personalized feedback, to reinforce the gains achieved and align more closely with participant expectations [32].

C. Limitations

A key limitation of the study was the small sample size of only 10 participants, which reduces the generalizability of the findings. Additionally, the short duration of the intervention (3 hours) may not have been enough to produce noticeable changes in language competence. Future studies should consider larger sample sizes and longer intervention periods to obtain more reliable and impactful results [3].

D. Suggestions for Future Research

Future research should explore longer-term studies with larger, more diverse participant groups to better understand the impact of gamified language learning. Researchers could investigate the impact of different types of gamified activities on various language skills, such as vocabulary acquisition, speaking fluency, and listening comprehension. Additionally, research should examine the specific elements of game based learning (e.g., feedback, collaboration, reward systems) that might contribute most effectively to language acquisition. Investigating the role of individual differences, such as learning styles and previous language experience, could also yield insights into how to tailor gamified programs for maximum efficacy.

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