

THE IMPACT OF GAMIFICATION ON STUDENT ENGAGEMENT AND ARABIC LANGUAGE PROFICIENCY: A CASE STUDY IN ARABIC AS A FOREIGN LANGUAGE (AFL)

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Abstract

The teaching of Arabic as a Foreign Language (AFL) presents significant challenges, particularly in terms of student engagement and proficiency. Traditional instructional methods often struggle to maintain student interest, leading to suboptimal learning outcomes. Gamification, the integration of game elements into educational settings, has emerged as a potential solution to enhance both engagement and learning outcomes. This study aims to explore the impact of gamification on student engagement and Arabic language proficiency. A mixed-methods approach was employed, with 60 undergraduate students randomly assigned to either a gamified or a traditional learning group. The experimental group engaged in a gamified learning environment, incorporating points, leaderboards, and interactive tasks. Data were collected through pre- and post-tests measuring language proficiency, a student engagement questionnaire, and qualitative interviews. The results indicated that the experimental group demonstrated significantly higher improvements in language proficiency, particularly in speaking and writing, compared to the control group. Engagement levels were also notably higher in the gamified group, as evidenced by their increased participation and motivation. The findings suggest that gamification is an effective tool for enhancing student engagement and proficiency in AFL, offering an innovative approach to language learning. Further research is needed to explore the long-term effects of gamification and its applicability across different educational contexts.

Keywords: Arabic Language Proficiency, Educational Technology, Foreign Language Learning, Gamification, Student Engagement



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INTRODUCTION

In recent years, the integration of digital tools into educational frameworks has sparked significant interest in the field of language learning, particularly through innovative pedagogical strategies like gamification (Galan-Elvira & Palau-Irisarri, 2025). Gamification, the incorporation of game-design elements in non-game contexts, has gained traction in enhancing student engagement, motivation, and learning outcomes. The use of gamification in educational settings offers a dynamic, interactive approach that seeks to immerse students in the learning process, making it both enjoyable and productive. Studies have shown that gamification not only fosters motivation but also encourages active participation and cognitive engagement. In the context of learning Arabic as a Foreign Language (AFL), where traditional methods often struggle to maintain sustained student interest, gamification presents a promising avenue to improve both engagement and language proficiency (Portet Sulla et al., 2025). The global rise in interest for Arabic, combined with the challenges learners face in acquiring it, makes investigating the potential of gamified methods a timely and relevant endeavor.

As Arabic continues to grow in importance on the global stage, the demand for effective methods to teach the language in a compelling and interactive way increases. Gamification, as an emerging teaching tool, provides a unique opportunity to bridge the gap between student motivation and the acquisition of language skills (Sonbul et al., 2026). It leverages the competitive and immersive elements of games to promote interaction, reinforce learning, and provide instant feedback, all of which are crucial for language acquisition. Moreover, in the digital age, the blending of technology with traditional teaching methods has become an indispensable part of educational strategies. This phenomenon is particularly salient in the case of AFL, where students often find the learning process to be tedious and disconnected from real-world applications (Al-Ahdal & Aljabr, 2023). By introducing gamification into the AFL curriculum, it is hypothesized that students will experience an increase in both engagement and proficiency in the language, making the learning process more effective and enjoyable.

Gamification, in its various forms, has demonstrated promising results in diverse educational settings, but its application in AFL remains underexplored (Alammary, 2025). Previous research on gamification in language learning has focused predominantly on European languages, leaving a gap in studies concerning its efficacy in non-Latin language contexts like Arabic. Arabic language learners often face unique challenges, including complex grammatical structures and a script that differs significantly from most other languages. These challenges create a substantial barrier to engagement, especially for beginner students (Dorgham & Obiad, 2025). Understanding how gamification can address these specific hurdles, while also enhancing the proficiency of learners in Arabic, is a significant step towards refining modern AFL pedagogies. Thus, the investigation into the impact of gamification on student engagement and language proficiency holds the potential to revolutionize how Arabic is taught to non-native speakers.

Despite the increasing attention to gamification as a tool for educational innovation, its application in the realm of Arabic language learning has not been adequately addressed. Although gamification has shown effectiveness in other disciplines, the unique characteristics of AFL, such as its script, phonology, and syntax, present additional challenges that have not been explored through this lens (Liontas et al., 2025). For Arabic as a Foreign Language learners, traditional methods often fail to address motivational barriers, leading to disengagement and insufficient language proficiency development. Many students, especially beginners, experience frustration due to the complexity of the Arabic script and its morphological intricacies, which can lead to a lack of sustained effort. This disengagement

hinders their ability to master the language effectively, particularly in terms of speaking and writing skills, which are essential for full language proficiency.

Furthermore, while some research exists regarding the use of gamification in language acquisition, the focus has largely been on Western languages. Research that specifically addresses the impact of gamification on student engagement and proficiency in Arabic is sparse (Asthana, 2025). As such, the question remains: can gamification, in its various forms, bridge the gap between students' intrinsic motivation and the cognitive demands of learning Arabic? This study aims to fill this gap by investigating the effectiveness of gamified strategies in enhancing student engagement and proficiency in Arabic (Marpuah, 2019). The research focuses on understanding how the elements of gamification such as point systems, leaderboards, and narrative-driven tasks can affect the attitudes and performance of students learning Arabic as a foreign language.

This study also seeks to address the broader issue of student disengagement, a challenge that transcends language learning. In the case of AFL, student motivation can be significantly impacted by the perceived difficulty of the language and the perceived relevance of the learning experience (Akour & Alenezi, 2025). Gamification's potential to turn learning into an interactive and rewarding experience provides an alternative to traditional methods. By focusing on the specific challenges faced by Arabic learners and testing how gamified approaches can address these issues, this research seeks to offer practical solutions to educators and policymakers aiming to improve AFL teaching methodologies (Kamaladin, 2025). The insights derived from this study could pave the way for the adoption of gamification as a regular component in AFL curricula, potentially transforming the way Arabic is taught to students worldwide.

This study aims to assess the impact of gamification on both student engagement and Arabic language proficiency in an AFL classroom. The primary goal is to investigate whether integrating gamified elements into the Arabic language curriculum can enhance student motivation and active participation (Mariani et al., 2024). This research will specifically explore how gamification affects the students' willingness to engage with challenging aspects of the language, such as grammar, vocabulary acquisition, and script writing. Additionally, the study will measure the improvements in language proficiency that result from the use of gamification, with a focus on both receptive and productive skills listening, speaking, reading, and writing.

By employing a mixed-methods approach, the study will evaluate both quantitative and qualitative data to gain a comprehensive understanding of how gamification influences student experiences and outcomes in AFL (Ikpat, 2025). The expected outcome is that gamification will lead to a significant improvement in student engagement, reflected in their increased participation, enthusiasm, and time spent on task. In terms of language proficiency, it is anticipated that students exposed to gamified learning environments will exhibit higher levels of proficiency compared to those who receive traditional instruction (Elias et al., 2025). Furthermore, this research seeks to explore the underlying factors that contribute to the success of gamification, such as the type of game mechanics used, the level of challenge, and the role of rewards in maintaining student motivation.

This study will also investigate the broader implications of gamification for language acquisition. Specifically, the research will consider how gamification can facilitate language acquisition by promoting repetition, reinforcement, and immediate feedback elements that are crucial for mastering a new language (Alnufaie, 2024). By addressing these questions, the study hopes to provide valuable insights into how gamification can be used as an effective pedagogical tool in the context of AFL, contributing to the ongoing efforts to improve foreign language education.

The existing literature on gamification in language learning predominantly focuses on European and Asian languages, with limited attention paid to Arabic (Shi, 2025). While studies

on the benefits of gamification for student motivation and engagement are numerous, research that specifically investigates its impact on AFL remains underdeveloped. Most studies have concentrated on languages with simpler orthographies and grammatical systems compared to Arabic, which presents a unique set of challenges for learners. The distinctive features of the Arabic language, such as its root-pattern system, script complexity, and morphology, require specialized pedagogical approaches that may differ significantly from those used in the instruction of other languages (Tan et al., 2025). The absence of research exploring the intersection of gamification and AFL highlights a significant gap in the literature, one that this study aims to address.

Moreover, while gamification has been shown to improve engagement in other educational contexts, its impact on language proficiency in AFL is yet to be fully understood. Much of the existing research on gamification and language learning has not specifically measured language proficiency outcomes, focusing instead on motivation and attitudes towards learning (Jayaraman, 2018). This study will contribute to the existing body of literature by offering a direct link between gamification strategies and measurable improvements in language proficiency, providing evidence of the effectiveness of gamification in overcoming the challenges of AFL (Bensalem, 2018). Furthermore, this research will provide insights into the specific elements of gamification that are most effective for enhancing engagement and language proficiency in AFL, a topic that remains largely unexplored.

By addressing these gaps, the research will make a significant contribution to both the field of gamification studies and AFL pedagogy (Srivastava et al., 2025). The findings will offer valuable insights into how gamification can be applied in Arabic language classrooms to foster greater student engagement and proficiency, thus improving the overall effectiveness of AFL instruction. In doing so, this study will provide a robust foundation for future research on the use of gamification in language learning and its potential to revolutionize the teaching of Arabic to non-native speakers.

This study's novelty lies in its focus on Arabic as a Foreign Language, a language that presents unique challenges in terms of script, phonology, and grammar. While gamification has been explored in various educational settings, its application to Arabic language learning remains largely unexplored (Duymun-Demirtaş, 2025). The integration of gamification into AFL classrooms is an innovative approach that has the potential to address both motivational and cognitive barriers faced by learners. By providing a gamified learning environment, this research aims to make the process of learning Arabic more engaging, interactive, and enjoyable for students.

The justification for this study is rooted in the increasing demand for effective language teaching methods that address both the cognitive and affective aspects of learning. Arabic, being a language with a distinct script and complex morphology, often poses significant challenges for students, particularly beginners (Akgül & Güler, 2025). Traditional language learning methods frequently fail to sustain student interest and engagement, leading to frustration and, ultimately, suboptimal learning outcomes. Gamification offers an alternative by providing a dynamic and rewarding environment that fosters both engagement and learning. Given the growing importance of Arabic in global communication, enhancing the efficacy of AFL instruction is a pressing need. This research not only addresses this need but also opens new avenues for the integration of digital technologies into language education (Ateş & Kölemen, 2025). By examining how gamification can improve both student engagement and proficiency in Arabic, this study will provide valuable insights for educators, policymakers, and future researchers.

RESEARCH METHOD

The following sections detail the mixed-methods approach used to investigate how gamification influences student engagement and Arabic language proficiency among non-native speakers.

Research Design

This study employs a mixed-methods design, integrating both quantitative and qualitative approaches to explore the impact of gamification on Arabic as a Foreign Language (AFL) learning (Gaggioli et al., 2025). This design is specifically chosen to capture both the cognitive gains (language proficiency) and the motivational shifts (engagement levels) that occur within a gamified environment. By triangulating numerical evidence from pre- and post-tests with rich descriptive data from interviews and observations, the research provides a comprehensive view of how game-design elements influence the overall learning experience.

Research Target/Subject

The primary objective is to evaluate the effectiveness of gamification in improving student engagement and Arabic language proficiency (Ukgoda, 2025). The study targets the measurement of four core language skills—reading, writing, listening, and speaking—while simultaneously assessing motivational factors such as participation and interest. By comparing a gamified curriculum to traditional methods, the research aims to determine if game-design elements like leaderboards and point systems can accelerate language acquisition and sustain learner motivation in the AFL context.

The study involves a population of undergraduate students with no prior formal exposure to the Arabic language (Triantafyllou et al., 2025). A sample of 60 students was randomly assigned to two groups: an experimental group of 30 students who engaged with the gamified learning environment, and a control group of 30 students who followed a traditional curriculum. Participants were selected based on their baseline language proficiency to ensure that both groups were comparable at the start of the study, allowing for a rigorous statistical comparison between the two instructional methods.

Research Procedure

The research procedures were carried out in a systematic sequence beginning with a pre-testing phase to establish baseline proficiency and engagement levels (Blake et al., 2008). Following this, the experimental group was exposed to a 12-week intervention featuring points, leaderboards, and narrative-driven tasks, while the control group continued with non-gamified instruction. The process concluded with a post-test and a follow-up questionnaire for both groups, supplemented by semi-structured interviews and classroom observations to capture the overall reflections and experiences of the learners.

Instruments, and Data Collection Techniques

Data were collected using a battery of quantitative and qualitative instruments. A language proficiency test covering the four core skills was used to measure cognitive growth, while a 5-point Likert scale questionnaire assessed engagement, interest, and motivation. Qualitative insights were gathered through semi-structured interview guides and observation protocols, which allowed the researcher to document real-time student interactions and perceptions (Arubaiy'a, 2023). This multi-instrument approach ensures that the findings are supported by both statistical data and nuanced contextual observations.

Data Analysis Technique

The study utilizes a dual-analytical approach to synthesize the findings (Arifa et al., 2025). Quantitative data are analyzed using inferential statistics, such as t-tests, to compare the performance gains between the experimental and control groups. Qualitative data from interviews and observations are processed through thematic analysis to identify recurring

patterns in student motivation and classroom dynamics (Masich et al., 2025). By integrating these results, the research provides a methodologically sound conclusion on the transformative potential of gamification in Arabic language pedagogy.

RESULTS AND DISCUSSION

The results of this study highlight the effects of gamification on student engagement and Arabic language proficiency in the context of Arabic as a Foreign Language (AFL). Data from pre- and post-tests were analyzed to assess the changes in language proficiency, while engagement levels were measured through a survey and qualitative data from interviews and observations. The language proficiency test covered the four core language skills: reading, writing, listening, and speaking. A comparison of the pre-test and post-test scores revealed significant differences in the performance of the experimental group, who were exposed to the gamified learning environment, compared to the control group, which followed the traditional teaching method. Table 1 presents the descriptive statistics for both groups, illustrating the mean scores, standard deviations, and changes between the pre- and post-test results.

Table 1: Descriptive Statistics of Language Proficiency Scores

Group	Pre-Test Mean	Post-Test Mean	Standard Deviation (Pre)	Standard Deviation (Post)
Experimental	55.2	75.4	10.1	7.3
Control	56.4	58.2	9.8	8.2

As shown in Table 1, the experimental group exhibited a notable improvement in language proficiency after the intervention, with a mean increase of 20.2 points. In contrast, the control group demonstrated a relatively minor increase of 1.8 points. This indicates that the gamified approach significantly contributed to the improvement of language skills. The increased proficiency in the experimental group was particularly evident in the areas of speaking and writing, which are often the most challenging for AFL learners. The data suggest that gamification provided a more engaging and motivating learning environment, encouraging greater effort and participation in the learning process.

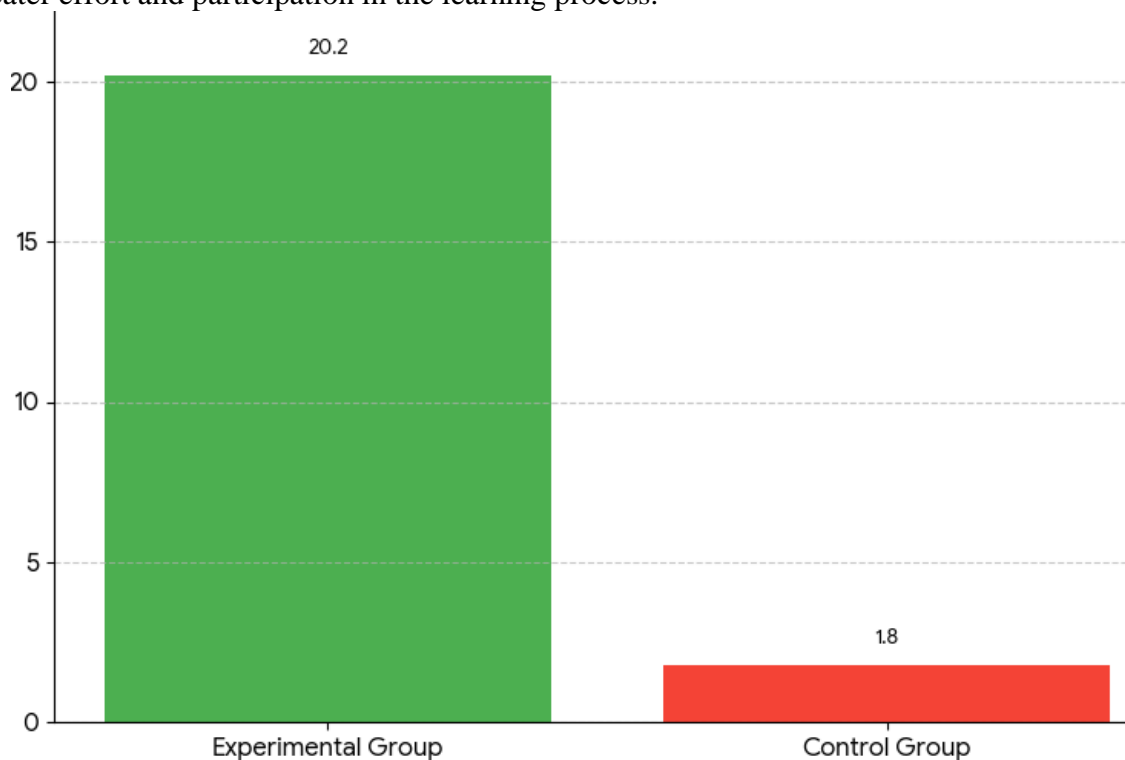


Figure 1. Comparison of Language Proficiency Improvement

The analysis also revealed a positive correlation between student engagement and language proficiency. Engagement levels, measured by the student engagement questionnaire, were higher in the experimental group compared to the control group. The questionnaire focused on aspects such as participation, interest, and intrinsic motivation. The experimental group scored higher in all categories, with an average score of 4.2 (on a 5-point Likert scale), indicating increased engagement during lessons. The control group, however, had an average score of 2.8, reflecting lower levels of engagement. These results suggest that the gamified environment successfully captured students' interest and sustained their motivation throughout the study, leading to improved learning outcomes.

The inferential analysis using a paired samples t-test further supports these findings. The results showed a statistically significant difference between the pre-test and post-test scores of the experimental group ($t = 7.92, p < 0.001$), indicating that the gamified intervention had a substantial effect on language proficiency. On the other hand, the control group did not show a statistically significant improvement ($t = 1.02, p = 0.32$), confirming that the traditional teaching method had a minimal impact on students' proficiency. The comparison of engagement scores also revealed a significant difference between the groups ($t = 6.35, p < 0.001$), reinforcing the idea that gamification enhances student involvement in the learning process.

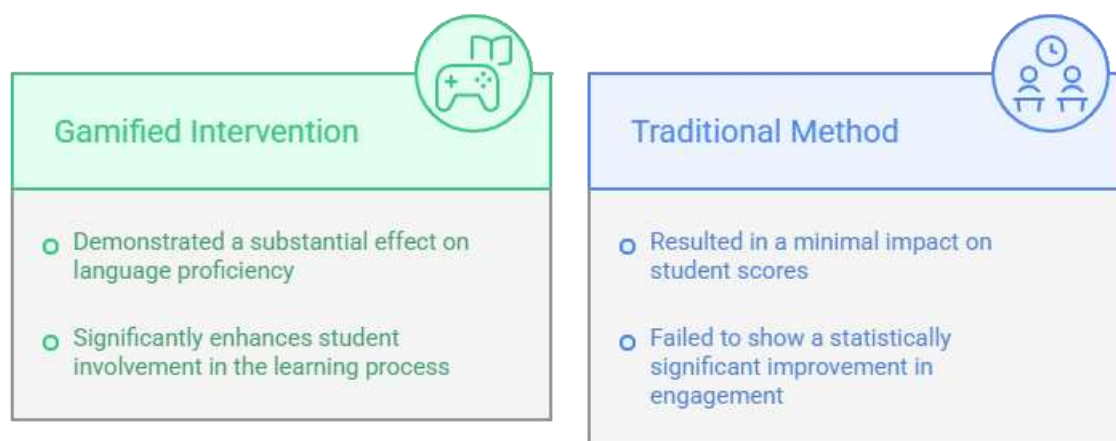


Figure 2. Which Teaching Method Yields Superior Student Outcomes

The data from the case study provide further insights into the specific benefits of gamification. A participant in the experimental group, a beginner-level student, reported increased confidence in speaking Arabic after engaging in role-play activities within the gamified environment. This student mentioned that the immediate feedback from the system and the competitive elements of the game made them more willing to participate in oral exercises, which were previously a source of anxiety. This personal account reflects the general trend observed in the experimental group, where students appeared more motivated and less apprehensive about engaging with the language, particularly in speaking tasks.

Additionally, observational data from the classroom provided evidence of increased interaction among students in the experimental group. During gamified lessons, students were observed discussing vocabulary, grammar, and pronunciation in small groups, with many taking the initiative to help one another. In contrast, the control group exhibited more passive learning behaviors, such as listening to the teacher without engaging in peer-to-peer interactions. These observations suggest that gamification not only enhanced individual engagement but also fostered collaborative learning, which is essential for language acquisition.

In summary, the data from both quantitative and qualitative analyses provide strong evidence that gamification positively affects both student engagement and language proficiency in AFL. The experimental group demonstrated significant improvement in language skills, particularly in speaking and writing, and showed higher levels of engagement throughout the

course. The use of gamification appears to have created a more dynamic and motivating learning environment, which encouraged active participation and fostered better learning outcomes. These findings support the hypothesis that gamified learning environments can enhance the teaching and learning of Arabic as a Foreign Language, offering a valuable alternative to traditional instructional methods.

The results of this study indicate that the incorporation of gamification in Arabic as a Foreign Language (AFL) instruction has a significant positive effect on both student engagement and language proficiency (Adam, 2016). The experimental group, exposed to a gamified learning environment, demonstrated substantial improvements in language skills, particularly in speaking and writing. In contrast, the control group, which received traditional teaching methods, showed minimal progress. The engagement levels of the experimental group were also significantly higher, as measured through the student engagement questionnaire, suggesting that gamification successfully fostered a more participatory and motivating learning environment (Namiq & Zafarghandi, 2025). These findings are consistent with the hypothesis that gamification can enhance student involvement and proficiency in language learning, particularly in challenging languages like Arabic.

When comparing these results to previous studies on gamification in language learning, the outcomes of this research align with findings from studies on European languages, which also indicate that gamification boosts student engagement and learning outcomes. For instance, research by Surendeg et al. (2019) demonstrated that gamification in language learning increased motivation and engagement, particularly among students who initially struggled with traditional methods. However, this study extends previous research by focusing specifically on Arabic, a language with unique challenges such as its complex script and grammar. While gamification has been studied in languages like English and Spanish, its impact on Arabic has been less explored (El-Dakhs et al., 2024). This study's results suggest that gamified strategies can overcome the motivational barriers typically faced by students learning Arabic, making it a valuable addition to language pedagogy.

The findings of this study raise significant implications for teaching Arabic as a Foreign Language (Alzahrani et al., 2025). The marked improvement in language proficiency and engagement among students exposed to gamification suggests that traditional methods may not be sufficient for maintaining student interest and maximizing learning outcomes, especially in languages with complex structures like Arabic. This indicates a need for educational innovation in AFL teaching methodologies. The results challenge the traditional, lecture-based approach that often leads to student disengagement, as demonstrated by the minimal improvement in the control group (Özdemirel, 2025). Gamification, with its emphasis on interaction, feedback, and motivation, presents a promising alternative for enhancing both the enjoyment and effectiveness of language learning.

The implications of these findings are far-reaching. First, the study supports the idea that gamification can be a powerful tool for improving student outcomes, particularly in language learning environments (Elbourkhissi & Houssaini, 2025). Educators and curriculum developers should consider integrating gamified elements into AFL programs to increase engagement and improve proficiency. Given the increasing demand for Arabic globally, this approach could be pivotal in making the learning process more accessible and engaging for a wider range of learners. Additionally, the success of gamification in this study suggests that its benefits could extend beyond AFL to other language courses or subjects that traditionally struggle with student motivation and engagement (Haddad-Najjar & Abu-Rabia, 2025). The study underscores the importance of adapting teaching strategies to the evolving needs and preferences of students in the digital age.

The results of this study can be attributed to several key factors. First, gamification in language learning provides immediate feedback, which is crucial for skill development, particularly in speaking and writing (Namiq & Zafarghandi, 2025). This feedback helps

students identify mistakes and improve quickly, which is essential for mastering a language. Second, the competitive elements of gamification, such as point systems and leaderboards, tap into intrinsic motivation, encouraging students to participate more actively and consistently. The interactive nature of the gamified lessons also likely contributed to the students' higher engagement levels, as they were more involved in their learning process (Zhang & Yang, 2025). These factors combined created an environment where students were more willing to engage with the challenges of learning Arabic, leading to improved proficiency.

Looking forward, the findings of this study point to several potential avenues for further research and practical application. Future studies could explore the long-term effects of gamification on language proficiency, particularly in terms of retention and fluency (Alsoweed et al., 2025). Additionally, research could investigate the specific types of gamified elements that are most effective in different contexts, such as online versus in-person learning environments. The implementation of gamification in diverse cultural contexts would also be valuable, as different student populations may respond to gamification in varying ways. In practice, educators should consider piloting gamified programs in their own classrooms, adjusting the level of gamification to suit their specific student demographics and teaching goals (Alshehri, 2025). These steps could further validate the effectiveness of gamification as a teaching strategy and help refine its application in language education.

CONCLUSION

One of the key findings of this study is the significant impact of gamification on both student engagement and language proficiency in Arabic as a Foreign Language (AFL). The results revealed that students who were exposed to a gamified learning environment showed marked improvements in their language skills, particularly in speaking and writing, compared to those in the traditional learning group. The experimental group exhibited not only better language performance but also higher levels of engagement, as evidenced by their active participation and increased motivation. This finding is noteworthy because it highlights gamification as an effective pedagogical tool that can overcome traditional barriers to learning Arabic, a language often perceived as challenging due to its complex script and grammar.

The value of this research lies in its contribution to the integration of gamification into the teaching of Arabic, an area that has received limited attention in previous studies. By exploring how gamified elements such as points, leaderboards, and interactive tasks can enhance student engagement and proficiency in AFL, this study introduces a novel approach to Arabic language pedagogy. The research also emphasizes the potential for gamification to address the motivational issues faced by students learning a foreign language. By providing a dynamic and rewarding learning environment, the study demonstrates how gamification can foster sustained interest and active participation, which are critical for mastering a language.

While the study provides valuable insights, it does have certain limitations. The sample size, although adequate for statistical analysis, was relatively small and limited to one university, which may not fully represent the broader diversity of AFL learners. Additionally, the study focused on a short-term intervention (12 weeks), and the long-term effects of gamification on language proficiency were not assessed. Future research should aim to explore the long-term impact of gamification on language retention and fluency. Additionally, studies with larger, more diverse samples across different educational contexts could provide a broader understanding of the generalizability of these findings. Research could also investigate specific gamified elements that contribute most to engagement and proficiency in AFL, further refining the approach for diverse student populations.

AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-vestigation.

Author 3: Data curation; Investigation.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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