

Gamifying Formative Assessment: The Use of Baamboozle for Arabic Grammar (Fi'il) Learning in Islamic Boarding Schools

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ABSTRACT

This study aims to explore the utilization of Baamboozle as a digital game platform supported by artificial intelligence (AI) in the innovation of evaluating the comprehension of Fi'il (verbs) and Dhomir (pronouns) among beginner students in the Basyahrain Al Barizi Arabic language program. Conventional paper-based evaluations are considered less effective as they tend to be tedious, induce anxiety, and are not well-suited to the characteristics of students as the digital generation. On the other hand, studies on game-based learning for complex aspects of Arabic grammar remain limited, particularly within the context of Islamic boarding schools (islamic boarding school), and the use of Baamboozle as a digital game-based platform remains largely unexplored. This study employs a qualitative approach with an instrumental case study design involving five students and one ustadzah (female teacher). Data were obtained through observation, interviews, and documentation, and subsequently analyzed using thematic analysis techniques. The findings reveal that Baamboozle is capable of creating a more engaging evaluation atmosphere, reducing anxiety levels, and enhancing students' motivation and active participation. From a pedagogical perspective, this platform is not only effective as a measurement tool but also contributes to the reinforcement of conceptual understanding in a more dynamic manner. In general, this study affirms the potential for integrating digital game technology with evaluation approaches as a relevant, enjoyable, and applicable alternative model for educators within the islamic boarding school environment. Considering the limited number of participants (five students), these findings are contextual in nature and warrant further investigation within a broader scope.

Keywords: Artificial Intelligence, Baamboozle, Formative Evaluation, Game-Based Learning

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INTRODUCTION

Mastery of Arabic grammar, particularly in the context of Nahwu and understanding of verbs in their various forms, is a significant challenge for beginner students (Nurdin & Anshari, 2024). In the context of the Intensive Arabic Language Program, such as in dauroh Basyahrain Al Barizi, limited learning time is an important issue that hinders the process of deep understanding of the complexity of Arabic grammar (Akzam & Zubaidah, 2024). Within the Islamic boarding school tradition, where learning is rooted in moral-spiritual formation (*ta'dib*) and close teacher-student relationships (*talqqi*), the evaluation process should ideally reflect these values yet conventional paper-based tests often create anxiety and are perceived as tedious, distancing students from the supportive guidance of their teachers (Sari et al., 2025; Mustofa, 2025). In addition, students' anxiety levels due to traditional methods such as paper-based tests often hinder their progress, and such methods are considered tedious (Salim, 2024); (Dewi & Riyanto, 2022).

The paradigm of Game-Based Formative Assessment emerges as a state of the art, in contrast to conventional methodologies that have historically placed more emphasis on evaluating end outputs. The novelty of this approach lies in its emphasis on directly monitoring the learning process through engaging and interactive activities, while simultaneously providing applicable feedback (Pitaloka, 2025; N. Fitriani, Sintya Rahmadewi, et al., 2025). This approach is in line with the theory of Game-Based Learning which emphasizes increasing the motivation and active involvement of students (Pramesti et al., 2025); Fitriah & Pusposari, 2022). The latest innovations in this field are reinforced by Artificial Intelligence (AI) technology, which directly addresses the identified research gap by enabling the creation of interactive, adaptive, and personalized evaluation content capabilities that conventional approaches lack (Sugiono, 2024; Hermawan et al., 2024; Hu et al., 2025).

As a basis for research, there are many studies that have examined the effectiveness of gaming platforms such as Educaplay (N. Fitriani, Handayani, et al., 2025) or Classkick (N. Fitriani, Adjiji, et al., 2025) in language learning, their focus has largely been on vocabulary (*mufrodat*) or listening and speaking skills, leaving complex grammatical aspects like *Fi'il* and *Dhomir* structures underexplored. Moreover, no study has specifically investigated the use of Baamboozle a digital game platform supported by AI as a tool for evaluating grammatical comprehension. A more significant gap lies in the absence of research situated within the Islamic boarding school context for beginner students, where learning dynamics are shaped by unique Islamic pedagogical values and the central role of teacher-student interaction in the evaluation process.

Based on the identification of these issues and gaps, this study intends to investigate the innovation of formative evaluation through the application of the Baamboozle game in measuring students' comprehension of *Fi'il* and *Dhomir*. Its novelty lies in three interrelated aspects: its empirical investigation of Baamboozle within the understudied context of Islamic boarding schools (Islamic boarding school), its integration of game-based formative assessment with the distinctive Islamic pedagogical values embedded in Islamic boarding school's education.

Theoretically, this study contributes by examining how the islamic boarding school context with its foundational principles of *ta'dib* (moral-spiritual formation) and *talqqi* (close teacher-student relationship) shapes and is shaped by digital game-based evaluation, providing a critical lens to interrogate the universalizing assumptions of gamification theory and offering insights into how gamification can enhance rather than replace the relational and spiritual dimensions of traditional Islamic pedagogy. Practically, this research is expected to provide a model for educators in the islamic boarding school environment to conduct evaluations that are effective, enjoyable, and aligned with contemporary educational technology while remaining faithful to the core values of Islamic education.

METHOD

This study employs a qualitative paradigm with an instrumental single case study approach to explore in depth the application of Baamboozle AI as an evaluation innovation (Saragih, 2025). The Basyahrain Al Barizi course within the Arabic Language Intensive Program is not examined for its own purpose, but rather as a tool to shed light on the more general phenomenon of incorporating digital game-based formative assessment into a conventional Islamic educational setting, which is why the instrumental case study design was selected. Theoretically, this case is important because it offers a rare opportunity to apply modern gamification principles to the deeply ingrained pedagogical values of Islamic boarding schools (*ta'dib* and *talqqi*). This intersection can help us understand how technology-mediated evaluation can be compatible with and even improve religiously grounded learning cultures.

This qualitative case study was conducted within the context of the Basyahrain Al Barizi course, which is part of the Arabic Language Intensive Program. The course served as the research setting, providing a rich and focused environment to explore the phenomenon under investigation. Participants in this study were selected through purposive sampling, consisting of five beginner-level students enrolled in the intensive Arabic program and one ustadzah (female teacher) who served as the primary instructor.

The student participants were purposively selected based on recommendations from the ustadzah to represent a range of prior achievement levels (low, medium, and high) as indicated by their performance on previous written tests, ensuring diversity in perspectives. The students were all female, aged 13–18 years, spanning from the first grade of *madrasah tsanawiyah* to the third grade of *madrasah aliyah*, and had completed the basic level of Arabic instruction. The ustadzah was selected because she had over five years of teaching experience in the islamic boarding school context and was the sole instructor responsible for delivering the *Fi'il* and *Dhomir* material, making her the most knowledgeable informant regarding the pedagogical process. The selection of a limited number of participants in this qualitative case study was based on a purposive sampling strategy, which is consistent with the principles of qualitative research. This approach enables the researcher to conduct an in-depth and detailed exploration

of the phenomenon under study by focusing on information-rich cases that provide meaningful insights relevant to the research objectives (Subedi, 2021).

Data were collected using method triangulation, combining classroom observations, in-depth interviews with course participants, and analysis of relevant documents. This approach ensures the credibility and trustworthiness of the findings by cross-verifying information obtained through multiple data collection techniques (Vasileiou et al., 2018). Classroom observations were conducted over four sessions of the Baamboozle-based evaluation activity, each lasting approximately 40 minutes. The observations focused on student interactions, engagement levels, peer discussions, and the overall classroom atmosphere during the game. An unstructured observation guide was used to record field notes, which were later expanded into detailed observation transcripts. Semi-structured interviews were conducted individually with the ustadzah and with each of the five students. Interviews with students lasted between 20 and 30 minutes, while the interview with the ustadzah lasted 60 minutes. All interviews were audio-recorded with participants' consent and transcribed verbatim. An interview guide was developed based on the research questions, covering topics such as perceptions of the game-based evaluation, changes in motivation and anxiety, and the perceived impact on the understanding of *Fi'il* and *Dhomir*. Secondary data in the form of documentation, screenshots of game activities, and game scores were collected as supporting evidence.

All data collected were analyzed using Braun & Clarke's (2006) thematic analysis framework. The analysis began with data familiarization, involving repeated readings of interview transcripts and observation notes. This was followed by generating initial codes, where meaningful units related to AI-mediated formative assessment were identified. Coding was performed manually by the researcher, who systematically highlighted and labeled segments of data relevant to the research questions. To enhance the reliability of the coding process, a peer debriefing session was conducted with a fellow researcher experienced in qualitative analysis, who independently coded a sample of the transcripts; discrepancies were discussed and resolved through consensus, leading to the refinement of the coding scheme. These codes were then collated into potential themes, which were subsequently reviewed and refined to ensure internal coherence and distinctiveness. The final stage involved defining and naming the themes, leading to the preparation of a thematic report supported by strong data excerpts that illustrate each theme in the context of the Arabic Language Intensive Program (Nurhaliza et al., 2025).



Chart 1. Thematic Analysis (Braun & Clarke Model)

In order to triangulate and contextualize the qualitative findings, quantitative data in the form of students' Baamboozle game scores were used descriptively as supplemental evidence rather than being statistically analyzed. In particular, the scores are displayed as a frequency distribution (Table 1) to show how student performance varied throughout the game session, offering a glimpse of accomplishment that supplements observational and interview data about student comprehension and involvement. These scores are not intended for generalization but serve as an additional layer of descriptive support within the qualitative case study framework.

To ensure the trustworthiness of the findings, several strategies were applied. Data triangulation was achieved by comparing information from multiple sources: students, the ustadzah, and documentary evidence (game scores and screenshots). Methodological triangulation was employed by combining observations, interviews, and document analysis, allowing cross-verification of emerging themes. Member checking was conducted by providing each participant with a summary of the preliminary findings and inviting them to comment on the accuracy of interpretations; their feedback was used to refine the final analysis. Additionally, the presentation of rich and detailed descriptions of the research context (thick description) enables readers to assess the transferability of the findings to other settings (Nurhayati et al., 2024). From an ethical point of view, this study adheres to the main principles by obtaining informed consent from all participants, ensuring the anonymity and confidentiality of their identities through the use of pseudonyms, and committing to apply the principles of non-maleficence and beneficence throughout the research process.

RESULTS AND DISCUSSION

RESULT

This section presents the key findings derived from observations, interviews, and documentary evidence. The analysis revealed three main themes: (1) transformation of the learning atmosphere, (2) enhanced cognitive engagement, and (3) increased motivation and participation. Each theme is presented below with supporting data excerpts.

Theme 1: Transformation of the Learning Atmosphere

The key findings of this study are that the use of Baamboozle effectively reduced anxiety levels, promoted student engagement and intrinsic motivation, and changed the stressful and uninteresting atmosphere of *Fi'il* and *Dhomir's* comprehension evaluation into a fun learning environment. This transformation occurs because the game mechanics in Baamboozle, such as points, leaderboards, and positive competition elements, manage to shift students' focus from the typical "fear of mistakes" in conventional exams to the "desire to complete challenges". Students who had previously appeared tense and disengaged during paper-based tests became more relaxed and enthusiastic during the game-based session. This transformation was consistently observed across all four evaluation sessions.

All students' participation in the evaluation session significantly increased, according to observation data. In the game Baamboozle, the five students actively

respond to a variety of questions hidden behind the number choices, resulting in an engaging learning environment. As students completed the exercises on paper, the classroom environment, which had been originally passive and individualistic, transformed into an engaged discussion space where they discussed and worked together to determine the correct solutions.

This is strengthened by the statement of the learning teacher in the results of the interview with Ustadzah.

Ustadzah affirmed:

"From my experience, this method of gaming is very effective because it manages to combine two main benefits. Cognitively, I can directly observe the in-depth thinking process and analysis of the students, for example when they are actively discussing determining the form of Fi'il. Psychologically, there is a change in perception of evaluation activities that were once considered a stressful 'test', now feel like a fun 'game'. This increases their participation, enthusiasm, and motivation to learn. The integration of these two aspects is what makes learning more meaningful and effective. What strikes me most is the change in their faces. During written tests, they often look down, anxious. During Baamboozle, they are smiling, even laughing when someone makes a funny mistake. The tension is gone." (UI, personal communication, November 17, 2025)

Theme 2: Enhanced Cognitive Engagement

Beyond the affective domain, the game-based approach appeared to stimulate deeper cognitive processing. Students were not merely recalling memorized rules but actively applying them in varied contexts presented by the game. Observation notes confirmed this pattern. During one session, when a question required distinguishing *Fi'il Madhi* from *Fi'il Mudhori* in a sentence, students spent nearly two minutes discussing the contextual clues before arriving at a consensus. This collaborative problem-solving was observed repeatedly.

Table 1. The Impact of Game Methods on Students' Cognitive and Psychological Aspects

No	Aspects	Achievement Indicators
1.	Assessing the effectiveness of the game method	The method is very effective, the impact can be seen from two points of view: cognitive and psychological.
2.	Cognitive aspects	1. Observe the thought process: Teachers can see firsthand the student's analysis process, not just the final result. 2. Concrete example: It can be seen when students argue about determining the form of <i>Fi'il</i> (Madhi, Mudhori', Amar). 3. More refined analysis: Students actively consider rules and context, not just memorization.
3.	Psychological aspects	1. Perception shift: Evaluation goes from a stressful "test" to a fun "game."

No	Aspects	Achievement Indicators
		2. Impact of the atmosphere: The atmosphere of the classroom changes from tense to lively and full of laughter.
		3. Participation drivers: These changes in perception increase enthusiasm and eliminate fear of being wrong. Intrinsic motivation emerges.
4.	The conclusion that the method touches on both aspects.	The method successfully integrates the cognitive (honing analysis) and psychological (building motivation & engagement) aspects. This combination makes learning more meaningful and effective.

Theme 3: Increased Motivation and Active Participation

All five students demonstrated increased motivation to participate compared to traditional evaluation settings. The game mechanics points, immediate feedback, and the element of chance in question selection appeared to reframe the evaluation as an enjoyable challenge rather than a high-stakes assessment. The students revealed a significant motivational shift during the interviews. One student (Student 1) explained that her drive to achieve a high score was no longer due to a fear of failure, but rather the desire to see her name appear on the leaderboard. This motivated her to study more diligently and understand the material before the game began. In line with this, another student (Student 4) added that unlike the written tests, which she usually completed in a rushed manner, during the Baamboozle game she actually felt the need to think more carefully. The presence of peers who were also observing and discussing made her feel more responsible for truly understanding the material.

Comparative Performance: Previous Tests and Baamboozle Scores

To provide context for student performance, Table 1 presents the distribution of Baamboozle game scores alongside their average scores on previous written tests covering similar material.

Table 2. Comparison of Student Performance: Previous Written Tests and Baamboozle Scores

Student	Previous Written Test Average (%)	Baamboozle Game Score	Score Range Classification
Student 1	68	92	90-99
Student 2	72	85	80-89
Student 3	65	78	70-79
Student 4	70	83	80-89
Student 5	75	76	70-79
Average	70	83	

Previous written test averages were calculated from two paper-based formative tests administered prior to the Baamboozle session. Baamboozle scores reflect performance during the game-based evaluation session. These scores are presented descriptively to illustrate individual student performance within this specific context and are not intended for statistical generalization. Based on the

distribution of students' Baamboozle game points presented in Table 1, it is evident that there is considerable variation in achievement levels among the five students. The scores range from 70 to 90, indicating differing levels of material mastery. One student in the 90–99 range demonstrated a very high level of comprehension, while two students in the 70–79 range showed understanding that still requires improvement. The remaining two students, with scores in the 80–89 range, displayed a moderate to good level of mastery.

As shown in Table 1, the average score during the Baamboozle session (83%) was higher than the students' average on previous written tests (70%). While this difference is noteworthy, it should be interpreted with caution given the small sample size and the qualitative nature of this study. The scores suggest a potential positive trend, but claims of "effectiveness" must be understood as context-specific findings rather than generalizable evidence.

Qualifying the Findings: Context-Specific Insights

The positive outcomes described above transformed atmosphere, enhanced engagement, and increased motivation emerged within the specific context of five beginner-level students in one islamic boarding school program. These findings offer valuable insights into how game-based formative assessment may function in similar traditional educational settings. However, given the limited number of participants, these results should be viewed as indicative rather than conclusive. The study prioritizes depth of understanding over breadth of generalization, consistent with its qualitative case study design.

Clarification Regarding AI Terminology

The name "Baamboozle AI" refers to the platform's branding as an AI-supported tool throughout this investigation. Nevertheless, the operationalization of artificial intelligence elements in the assessment process was not explicitly examined in this study. The gamification features of the platform (points, leaderboards, interactive format) are mostly responsible for the observed engagement, motivation, and participation outcomes rather than adaptive or clever AI capabilities. Therefore, claims regarding "AI effectiveness" are not made in this study. Instead, the findings focus on the pedagogical and affective impacts of game-based formative assessment using the Baamboozle platform within the islamic boarding school context.

From a pedagogical perspective, the use of Baamboozle has undergone a significant functional shift from just a tool for measuring summative learning outcomes to a partner in a dynamic formative learning process. Its game mechanics that present random and visually engaging questions create a learning environment that demands analytical speed and cognitive flexibility. Students are not only challenged to remember grammatical rules, but also apply them spontaneously and contextually in a variety of possible questions. This process facilitates a more holistic and profound understanding, where they actively build an understanding of the relationship between *Fi'il* (verbs) and *Dhomir* (pronouns) as a living and interconnected system.

These findings on increased motivation and learning engagement reinforce evidence from previous research on similar platforms such as Educaplay or Classkick (N. Fitriani, Adjiji, et al., 2025) in the context of language learning.

However, this study makes an original contribution by showing that Baamboozle's gamification approach may also be beneficial for complex and analytical Arabic grammar materials, such as the formation of *Fi'il* Madhi, Mudhori', and Amar, a field that has rarely been explored in previous research. While other studies have generally focused on vocabulary acquisition, this study suggests that gamified platforms can support language structure evaluation that requires in-depth logic and analysis, while retaining the fun elements of a game.

In summary, within the specific context of this small-scale qualitative study, the use of Baamboozle for formative evaluation was associated with positive changes in classroom atmosphere, student engagement, and motivation. These findings contribute to understanding how gamified approaches may support Arabic grammar learning in islamic boarding school settings, while acknowledging the need for further research with larger samples to explore broader applicability. (Hajar & Qohar, 2024);(Ikhwan & Aan, 2025);(Suci & Syaifudin, 2024).

DISCUSSION

This study explored the use of Baamboozle as a gamified formative assessment tool for learning *Fi'il* and *Dhomir* among five beginner students in a islamic boarding school context. The discussion below interprets the findings in relation to theoretical frameworks while emphasizing the context-bound nature of the results due to the limited sample size. The aim is to highlight the study's distinct theoretical contribution rather than make broad claims of effectiveness.

Psychological Transformation in Learning Evaluation

The findings revealed increased student participation and decreased anxiety during the Baamboozle-based evaluation. This psychological shift can be understood through the lens of psychological safety, a concept referring to environments where individuals feel safe to take risks and make mistakes without fear of negative consequences. In this study, psychological safety was directly evidenced by Student 3's statement: "Usually, when there's a test, I feel scared and nervous. But playing Baamboozle is different it feels like a game, so I'm not afraid anymore." This specific utterance illustrates how the game mechanics created conditions where fear of judgment was diminished, supporting (Wardani & Kiptiyah, 2024) assertion that gamification can foster psychological safety in educational settings.

Furthermore, the transformation from perceiving evaluation as a stressful "test" to an exciting "challenge" was captured in Student 1's reflection: "I wanted to get a high score, but not because I was afraid of failing. I just wanted to see my name on the leaderboard." This shift aligns with Alsswey and Malak's (2024) characterization of gamification elements points, leaderboards, competition—as catalysts for reframing student perceptions (Alsswey & Malak, 2024). The presence of immediate feedback and peer collaboration, observed during classroom sessions where students debated answers together, created conditions conducive to what Vygotsky termed the Zone of Proximal Development (ZPD). Student 4's observation provides empirical grounding for this theoretical link: "In written tests, I usually rush to finish. Here, I wanted to think carefully because my friends were

watching and we were discussing." This statement exemplifies how peers served as "more knowledgeable others," helping each other construct understanding within the ZPD framework, as discussed by (Insani, 2024; Ma et al., 2024).

The Effectiveness of Gamification for Complex Materials

The variation in the values in Table 2 (70-90) actually reveals Baamboozle's strength as an authentic and data-rich diagnostic tool. The distribution of these values is not just a ranking but manages to map the landscape of student understanding in detail, clearly revealing which areas have been mastered and which concepts still need to be deepened. More than that, these quantitative data come to life and find their context in the dynamics of the discussion observed in the classroom, where students with better understanding (scores 85-90) naturally act as peer tutors for their peers who are still having difficulties (score 70-75). It is important to emphasize that these scores are used as formative indicators to map the learning process, not as statistical evidence for generalization consistent with the qualitative nature of this study which prioritizes depth of understanding over breadth of sample.

The most significant contribution of these results is proof that gamification is successful beyond surface-level memorization. Baamboozle's success in improving students' understanding of Arabic grammar, complex, analytical, and rule-packed material is strong evidence that this approach is capable of reaching higher cognitive realms (Ferri et al., 2020). The types of questions given to students were designed to target cognitive levels C2 (understanding), C3 (applying), and C4 (analyzing), such as distinguishing *Fi'il Madhi* from *Fi'il Mudhori* in sentences, analyzing the suitability of *Dhomir* with the verb form, and constructing simple sentences using the correct verb and pronoun pairs. Research by Kim and Castelli shows that gamification can significantly facilitate behavioral change in education, including increased motivation and engagement in the learning process (Kim & Castelli, 2021). Gamification in this context successfully transforms the abstract and often daunting learning of grammatical structures (*nahwu*) into a series of interesting analytical challenges to solve (Mufid & Anwar, 2024). This shows that with the right design, gamification not only triggers extrinsic motivation, but is also capable of practicing critical thinking, analysis, and rule-making skills in dynamic contexts, while breaking down the dichotomy between engaging learning and deep learning (Dinihari et al., 2024).

The success of this integration lies in the understanding that technology is most effective when it serves as an "enabler" or enabler, not a replacement. In the learning ecosystem that has been formed, Ustadzah still holds a central role as a critical facilitator, discussion guide, and provider of the context of Islamic values that cannot be automated by machines. The Baamboozle sessions were conducted over four meetings, each lasting approximately 30-40 minutes, allowing students sufficient time to engage with the material without losing focus. Meanwhile, Baamboozle serves as a tool that increases engagement and facilitates formative assessments (Yunita & Indrajit, 2022). Teachers offer purpose, wisdom, and a framework of values that make learning not only engaging but also significant, and technology successfully brings the dynamics and engagement that the digital generation desires due to this symbiotic mutualistic role sharing (Fadlillah, 2024).

For conventional education to adopt technology without losing its character and educational spirit, this integration model provides a guide.

Implications for Islamic Pedagogy and Islamic boarding school Learning Culture

The findings of this study resonate strongly with the values of Islamic pedagogy and the distinctive culture of islamic boarding school. First, the concept of *ta'dib* (moral-spiritual formation), which serves as the foundation of islamic boarding school education, is reflected in the way Baamboozle is utilized, where the platform functions not only as a cognitive measurement tool but also as a medium for cultivating honesty, patience, and sportsmanship inherent values in the evaluation process as students are indirectly trained to accept defeat graciously and celebrate peers' successes as manifestations of noble character (*akhlak karimah*) in the learning context (Hikmayati et al., 2025).

Second, the teacher-student relationship (*talqqi* and *sanad*), a hallmark of islamic boarding school, is actually strengthened rather than weakened by the presence of technology, as the Ustadzah remains the central authority of knowledge and spiritual guide, utilizing quantitative score data as a basis for providing more personalized attention (*ri'ayah fardiyah*) to students experiencing difficulties for instance, a score of 70 is not viewed as failure but as an indicator of the need for more intensive guidance, aligning with the concept of *tarbiyah fardiyah* (individualized education) in Islam (Putri Mukharomah, 2025).

Third, the islamic boarding school culture that upholds togetherness and *barakah* (divine blessing) in seeking knowledge is accommodated through the collaborative features of the game, where peer discussion processes that emerge naturally during Baamboozle sessions reflect the spirit of *ta'awun* (mutual cooperation) in goodness while simultaneously strengthening social bonds among students. This demonstrates that technological innovation, when thoughtfully designed and implemented, can harmoniously coexist with the noble values of Islamic education and enrich the learning landscape of islamic boarding school without diminishing its identity (Coelho et al., 2025).

Pedagogical Implications for the Future

Future education will be significantly impacted by the transition from passive to active learning made possible by Baamboozle. Play-based "learn by doing" has been demonstrated to be more successful for long-term comprehension since it directly involves students (Nugraha et al., 2024). This is in line with the learning theory from Kolb's experience which emphasizes the importance of hands-on practice in learning (Stuart et al., 2025). Baamboozle's ability to provide direct feedback also makes the learning process more efficient, mistakes are immediately corrected and understanding is immediately strengthened (Pratama et al., 2025). This system helps build a growth mindset in students where challenges are seen as opportunities to grow.

Theoretical and Practical Contributions

There are two implications to this research for theory and educational practice. The study's findings suggest that gamification works not only for easy materials, but also for analytical topics like Arabic grammar. These results make it possible to apply comparable techniques to other topics that require in-depth

research. Practically speaking, this study provides educators and teachers with practical answers to the problems of instructing the digital age while preserving the value of traditional education in the contemporary world. Most importantly, this research proves that technology can reinforce, not replace, traditional educational values, while equipping students with essential 21st-century skills such as critical thinking and the ability to collaborate.

CONCLUSION

The purpose of this study was to investigate the application of Baamboozle as a gamified formative assessment tool for assessing beginner students' comprehension of *Fi'il* and *Dhomir* in Arabic grammar in an Islamic boarding school context. By providing initial insights into the applicability of game-based learning for complicated grammatical materials—an area traditionally dominated by studies on vocabulary acquisition—the study fills a gap in the literature. Furthermore, this study is one of the first to focus on the application of such a gamified platform in the particular educational setting of Islamic boarding schools a setting that is frequently disregarded in research on educational technology.

The key findings indicate that within this specific setting, the use of Baamboozle was associated with a transformed evaluation atmosphere from tense to engaging as well as reduced anxiety and increased active participation and intrinsic motivation among the five student participants. Theoretically, this study contributes by extending the application of gamification principles to complex Arabic grammar learning and by illustrating how gamified assessment can be contextualized within the pedagogical framework of Islamic boarding school, suggesting that such approaches can coexist with traditional Islamic educational values. Practically, this study offers a modest illustration for educators in Islamic boarding schools seeking to incorporate technology into their evaluation practices in ways that align with traditional values, while emphasizing that the teacher remains central as a knowledge guide and spiritual mentor.

Due to a number of constraints, such as the limited number of participants (five students) and the brief two-month intense program, the results of this study are context-bound and should not be extrapolated to other similar contexts. Larger and more varied samples from several Islamic boarding schools should be included in future study, along with longitudinal studies to see if the noted motivating gains translate into long-term learning outcomes. The exploration of similar gamified approaches for other analytical subjects within the Islamic boarding school curriculum also represents a promising research agenda.

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