Evaluating Qunoot Mastery: Engagement and Perceived Learning among Young Learners in Game-Based Qunoot Prayer Education

Suhanah Rosnan[1]*, Nur Aleyana Zahidah Yazid[2]

[1,2] Universiti Teknologi MARA, Melaka, Malaysia

***Corresponding Author**

DOI: https://doi.org/10.47772/IJRISS.2026.101100054

Received: 29 October 2026; Accepted: 03 November 2026; Published: 20 November 2026

ABSTRACT

Game-based learning offers opportunities to transform conventional learning activities into more interactive and engaging experiences, including in religious education where memorisation and repeated practice are commonly required. This study presents the design and evaluation of Qunoot Mastery, a game-based learning application developed to support Qunoot prayer learning among young learners. Developed using a Game Development Life Cycle (GDLC) approach, the game incorporates progressively structured activities, including audio-to-text matching, fill-in-the-blank tasks, word matching, drag-and-drop interactions, and verse sequencing. User testing was conducted with 32 learners aged 8–9 years using a bilingual learner-experience questionnaire comprising 15 items rated on a five-point Likert scale. Descriptive analysis revealed positive responses across several aspects of the gameplay experience. Participants reported high willingness to continue playing (M = 4.84), perceived skill (M = 4.78), enjoyment (M = 4.72), and focus (M = 4.66), while reported frustration was low (M = 1.35). The evaluation also indicated strong willingness to replay the game (M = 4.94) and enjoyment (M = 4.88). Participants perceived that the game supported their Qunoot learning (M = 4.78) and made learning enjoyable (M = 4.78). These findings suggest that Qunoot Mastery provides an engaging and positively perceived learning experience among the participating learners. The study contributes a practical example of content-aligned game design by demonstrating how auditory recognition, textual completion, word matching, and sequencing can be integrated into interactive activities for Qunoot prayer education. Further research incorporating objective learning assessments and retention measures is recommended to evaluate its educational effectiveness.

Keywords: game-based learning; Qunoot prayer; Islamic education; learner engagement; perceived learning

INTRODUCTION

Digital technologies have expanded the possibilities for presenting and experiencing educational content, including game-based learning (GBL). GBL involves the use of game environments for learning, and can engage the learners cognitively, behaviorally, affectively and socioculturally (Plass et al., 2015). GBL integrates learning into the game experience, instead of adding game elements to traditional learning activities.

GBL has been used in primary education in different subjects and learning contexts. Guan et al. (2024) conducted a systematic review of 35 experimental studies and found more positive than mixed outcomes in the reviewed literature, but they also noted considerable variation in game technologies, learning activities, theoretical frameworks, and research designs. Findings from early childhood education have also documented positive effects across cognitive, social, emotional, motivational, and engagement-related outcomes (Alotaibi, 2024). However, the populations and educational contexts investigated in early childhood research differ from those of older primary learners, and such findings should not be generalised across age groups without appropriate empirical evidence.

The potential of digital and game-based approaches is also applicable to religious education. Religious learning may include repeated practice, recognition, sequencing, recitation and memorization, providing

opportunities for learning activities to be represented in interactive tasks. There has been recent interest in the use of game-based and digital approaches within the framework of Islamic education such as learning the Qur'an, memorization, prayer education, and the teaching of religious concepts (Che Nordin et al., 2025; Djainudin et al., 2025; Ibrahim et al., 2026; Papakostas, 2024; Zulkefli & Jamil, 2024).

One place where this approach might be useful is in learning the Qunoot prayer. To learn Qunoot, you may need to identify the text of the Qunoot, memorize the order, connect the oral recitation with the written content, and practice it repeatedly. These learning processes can be potentially translated to interactive activities. These activities allow the learners to engage the prayer content through different forms of interaction, rather than passive repetition.

Thus, Qunoot Mastery is designed as a game-based learning application which transforms the content of Qunoot prayer into a series of interactive learning activities. Activities include matching audio to text, fill in the blank, word matching, drag-and-drop, sequencing of verses in a progressive learning experience. The project was designed with a GDLC-oriented perspective and then tested with young students.

Game-based learning has been investigated within the framework of primary and Islamic education, but the previous research has focused on different religious content, learning objectives and game designs. Some previous studies have discussed educational games on Qur'anic stories, Qur'an memorization, and Qur'an and Hadith memorization (Che Nordin et al., 2025; Djainudin et al., 2025; Ibrahim et al., 2026). The literature reviewed for this study has paid little empirical attention specifically to digital games that structure Qunoot prayer content into interactive learning activities for young students.

Apart from the religious content, an important design aspect is how the different learning tasks related to Qunoot can be represented through appropriate game interactions. These tasks include identifying spoken and written content, identifying missing words, interacting with Qunoot phrases and identifying the intended sequence of the prayer.

The opportunity to contribute to the design of digital learning resources for Islamic education is provided by the exploration of the integration of such activities into a coherent game-based learning environment. To cater this focus, Qunoot Mastery was developed as a 2D game based learning application with activities in a gradual manner such as matching audio with text, fill in the blanks, matching words, drag and drop interaction and sequencing of verses. The game was developed following a Game Development life cycle (GDLC) approach, and then evaluated with young students.

This paper makes two contributions. First, it demonstrates how Qunoot prayer content can be translated into a sequence of interactive learning activities that align game interactions with specific Qunoot learning tasks. Second, it provides empirical evidence of young learners' engagement and perceived learning experiences when interacting with the developed game. Together, these contributions offer a design-and-evaluation perspective on the use of game-based learning in Qunoot prayer education. Accordingly, the study addresses the following research questions:

RQ1: How was Qunoot Mastery designed and developed as a game-based learning tool to support Qunoot prayer learning among young learners?

RQ2: What are young learners' engagement and perceived learning experiences when interacting with Qunoot Mastery?

RELATED LITERATURE

Game-Based Learning for Young Learners

Game-based learning is the incorporation of learning activities within a game environment where interaction, goals, challenges, feedback, and progression are part of the learning experience. The literature of GBL (Plass et al., 2015) conceptualizes four dimensions of engagement: cognitive, behavioral, affective and sociocultural

processes. This perspective is especially relevant when games are not only designed for entertaining learners but also for promoting a meaningful interaction with educational content.

GBL has been deployed in primary education covering diverse subjects and technology settings. Guan et al. (2024) conducted a systematic review of experimental studies in primary education and found that the literature generally reported positive findings, but also highlighted considerable variability in the research design, technologies, and learning activities. This variation suggests that the educational potential of GBL depends on how game mechanics and learning objectives are integrated rather than on the presence of game features alone.

Further evidence for the educational potential of game-based approaches comes from early childhood education. A systematic review and meta-analysis by Alotaibi (2024) found that GBL was associated with positive impacts on cognitive, social, emotional, motivational, and engagement-related outcomes. However, the early childhood populations are not directly comparable to the 8–9 years old learners considered in the present study.

Therefore, the results offer a wider contextual support, instead of a direct comparison. More generally, positive learner responses should be distinguished from evidence of learning effectiveness. Enjoyment, motivation, and engagement may contribute to favourable learning experiences, but objective measures are necessary to establish whether such experiences result in measurable learning gains.

Game-Based Learning in Religious and Islamic Education

The use of games in religious education must be mindful of engagement, but also of the appropriateness and accuracy of the educational content. Papakostas (2024) proposed a digital game-based learning framework for religious education that emphasizes the significance of incorporating pedagogical objectives into game design.

This is especially true in religious learning environments, where game mechanics should not detract from the educational content, but rather enhance it. Game-based approaches are increasingly being considered as additional tools for learning in Islamic education. Zulkefli and Jamil (2024) explored the principles, perceived benefits and implementation challenges of game-based learning in Islamic education, emphasizing opportunities for interactive learning and practical and pedagogical considerations.

There are even specific educational games developed around Islamic content. For example, Che Nordin et al. (2025) developed an educational game named Jejak Anbiya' with Qur'anic stories about the prophets to teach children 'Aqidah. Djainudin et al. (2025) developed Qur'an Whiz, an Android-based application to support memorization of the Qur'an among elementary school students.

Ibrahim et al. (2026) also studied game-based learning strategies for Qur'an and Hadith memorization among primary school learners. Collectively, these studies provide evidence that Islamic educational content can be portrayed in interactive and game-based learning activities. However, the design of these games may vary depending on the religious content, target learners and intended learning outcomes. Qunoot Mastery is an extension of this space that focuses on learning Qunoot prayer and transforming its content into more structured digital activities.

Learner Engagement in Educational Games

When designing educational games, engagement is a key consideration, because learners must be sufficiently involved in the activity to interact with its educational content. But engagement is multidimensional and cannot be reduced to a single indicator. Learners may demonstrate enjoyment, attention, willingness to continue, emotional involvement, or immersion at different levels.

Related research on gamified educational environments also exemplifies this multidimensionality. Ramírez Ruiz and colleagues (2024) examined the impact of gamification on school engagement, and they identified different ways in which engagement has been conceptualized and measured across educational interventions.

Although conceptually distinct from game-based learning, this body of literature provides a broader conceptual context for understanding engagement.

This distinction is especially important for educational games, since a high degree of fun or desire to replay a game does not automatically translate to high immersion or better academic outcomes. Evaluating individual dimensions of learner experience can therefore provide a more informative understanding of how learners respond to an educational game.

Digital Approaches to Prayer Learning

Digital technology has also been applied to Islamic prayer learning. For example, Zainol et al. (2025) investigated a technology-supported prayer-learning approach based on the TPACK model, illustrating the application of digital tools within Islamic education.

However, digital religious learning encompasses a range of approaches, from multimedia learning resources to interactive applications and educational games. Within the literature reviewed for this study, comparatively limited empirical attention has been directed specifically towards digital game-based learning centred on Qunoot prayer for young learners.

Qunoot Mastery therefore provides a focused case through which to examine how prayer-learning content can be translated into interactive game activities and how young learners respond to such an environment. The present study concentrates specifically on learner engagement and perceived learning rather than making claims about objective memorisation or retention.

METHODOLOGY

Research Design

This study employed a design-and-evaluation approach to examine the development of Qunoot Mastery and young learners' experiences when interacting with the game. The study comprised two main components. The first involved the design and development of Qunoot Mastery as a game-based learning application for Qunoot prayer learning, while the second involved user testing with young learners to evaluate their experiences with the developed game.

The development component followed a Game Development Life Cycle (GDLC) approach, which provided a structured process for conceptualising, designing, developing, testing, and preparing the game for use. The user evaluation focused on learners' self-reported experiences, including focus, enjoyment, perceived challenge, frustration, willingness to continue playing, connection with the game, usability, and perceived support for learning Qunoot.

The study therefore focuses on learner experience and perceived learning rather than objective learning effectiveness. The evaluation did not include objective measures of changes in Qunoot learning or a comparison group. Consequently, the findings are interpreted in terms of participants' experiences and perceptions rather than causal improvements in memorisation, recitation accuracy, or retention.

Development of Qunoot Mastery

The development of Qunoot Mastery was guided by a Game Development Life Cycle approach. GDLC provides a structured approach for organising activities involved in game development, with dedicated consideration given to game production and testing processes (Ramadan & Widyani, 2013). In the Qunoot Mastery project, the development process was organised into six project-specific phases: Idea and Story, Designing, Technical Analysis, Development, Testing, and Deployment.

During the Idea and Story phase, the educational purpose and overall concept of Qunoot Mastery were established around supporting young learners' interaction with Qunoot prayer content. The Designing phase involved planning the game structure, interface, learning activities, progression, and interaction flow. The

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume X Issue XI November 2026

Technical Analysis phase considered the technical requirements needed to implement the planned game activities.

The Development phase involved implementing the game and integrating its interactive and multimedia components. Construct 3 served as the primary development environment, supported by multimedia authoring and editing tools for preparing game assets. The Testing phase was used to examine the functionality of the developed game and identify issues requiring correction before use. Finally, the Deployment phase prepared the completed game for learner interaction and evaluation.

The six phases represent the development structure applied in the Qunoot Mastery project. They constitute the project-specific organisation through which the GDLC-oriented development process was implemented.

Game Design and Learning Activities

Qunoot Mastery was designed as a 2D game-based learning environment in which Qunoot prayer content was incorporated into progressively structured interactive activities. The game included audio-to-text matching, fill-in-the-blank tasks, word matching, drag-and-drop interaction, and verse sequencing. Each activity provided a different form of interaction with Qunoot content, allowing learners to encounter the prayer through auditory recognition, textual completion, word-level interaction, and sequencing.

Table 1 presents the alignment between the main game activities and their intended learning tasks.

Table 1 Alignment between the main game activities and intended learning tasks.

Game activity	Intended learning task	Interaction
Audio-to-text matching	Associate spoken Qunoot content with corresponding written text	Listen and select
Fill-in-the-blank	Recognize missing words or phrases in Qunoot content	Identify and complete
Word matching and drag-and-drop	Recognize and interact with Qunoot words or phrases	Match and arrange
Verse sequencing	Recognize the intended order of Qunoot content	Arrange content in sequence
Progressive challenges	Revisit Qunoot content through increasingly demanding tasks	Complete successive activities

The activities were supported by game elements such as hints, feedback, scoring, audio reference, and progressive difficulty. These elements were incorporated to support learner interaction and provide structure throughout the game.

The design therefore combined multiple forms of interaction with the same religious learning content. Rather than presenting Qunoot exclusively as continuous text for repeated reading, the game organised its content into activities that required learners to recognise, complete, match, and sequence different elements of the prayer.

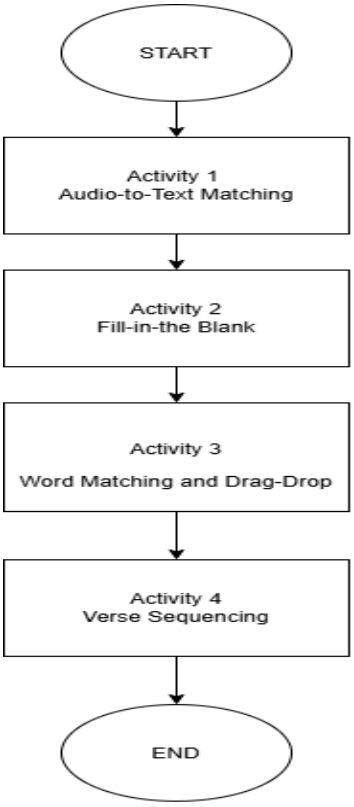
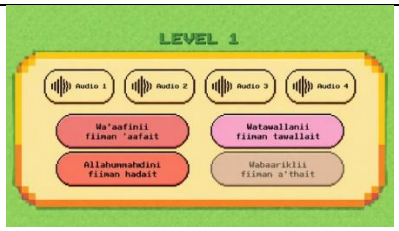


Figure 1 Learning activity flow of Qunoot Mastery.



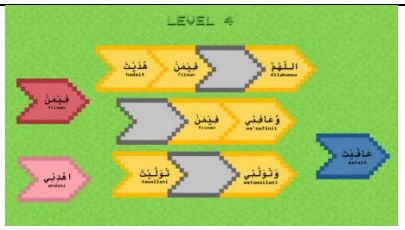
(a) Level 1 Audio-to-text matching



(b) Level 2 Fill-in-the-blank



(c) Level 3 Word matching and drag-and-drop



(d) Level 4 Verse sequencing

Figure 2 Representative learning activities in Qunoot Mastery: (a) audio-to-text matching, (b) fill-in-the-blank,

(c) word matching and drag-and-drop, and (d) verse sequencing.

Participants

A total of 32 young learners participated in the user evaluation of Qunoot Mastery. The participants were reported within the 8–9-year age range, although separate frequencies for each age were not reported.

Of the 32 participants, 13 (40.6%) were boys and 19 (59.4%) were girls. With respect to computer or tablet use, eight participants (25.0%) reported daily use, 13 (40.6%) reported using such devices sometimes, and 11 (34.4%) reported rarely using them.

Ethical Considerations

Ethical approval was obtained prior to the user evaluation involving young learners. The required consent procedures were completed before data collection.

Evaluation Instrument

Learners' experiences with Qunoot Mastery were evaluated using a learner-experience questionnaire administered as part of the user testing. The questionnaire consisted of a demographic section followed by 15 experience items organised into three sections.

The first section contained seven items addressing perceived skill, focus, enjoyment, positive challenge, immersion, frustration, and willingness to continue playing. The second section contained two items concerning participants' involvement and connection with the game. The third section contained six items addressing enjoyment, perceived support for Qunoot learning, replay intention, positive affect, ease of use, and whether the game made learning enjoyable. Responses were recorded using a five-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The questionnaire was presented bilingually in Malay and English.

User Testing Procedure

User testing was conducted with 32 young learners to evaluate their experience with Qunoot Mastery. Participants interacted with the game and subsequently completed the bilingual Malay-English learner-experience questionnaire through Google Forms.

The questionnaire collected demographic information and participants' responses concerning their gameplay experience, engagement and connection with the game, usability, enjoyment, replay intention, and perceived support for learning Qunoot. The responses collected during the user evaluation were subsequently analysed using descriptive statistics.

Data Analysis

Descriptive statistics were used to analyse the learner-experience questionnaire responses. Frequencies and percentages were calculated to describe participants' demographic characteristics, including gender and frequency of computer or tablet use. Mean scores were calculated for the 15 questionnaire items using the five-point Likert scale.

Item-level analysis was employed to examine learners' responses to specific aspects of their interaction with Qunoot Mastery. This approach enabled the study to describe different dimensions of the gameplay experience, including perceived skill, focus, enjoyment, challenge, immersion, frustration, and willingness to continue playing. It also provided insight into learners' involvement and connection with the game, usability, replay intention, and perceived support for Qunoot learning.

The findings were organised according to the three questionnaire sections and interpreted descriptively to address the second research question concerning young learners' engagement and perceived learning experiences.

RESULTS

Design and Development Outcome

The development process resulted in a 2D game-based learning application in which Qunoot prayer content was organised into a sequence of interactive activities. Rather than presenting the prayer solely as a continuous text for repeated reading, Qunoot Mastery represented the learning content through different interaction formats.

The resulting learning sequence included auditory recognition through audio-to-text matching, textual completion through fill-in-the-blank activities, word-level interaction through matching and drag-and-drop tasks, and sequencing activities in which learners arranged Qunoot content in the intended order. The project also incorporated progressively increasing task difficulty across the learning experience.

The alignment presented in Table 1 illustrates how Qunoot Mastery incorporates different learning tasks within a single game-based environment. Auditory recognition is addressed through audio-to-text matching, while textual completion and word-level interaction are incorporated through fill-in-the-blank and matching activities. Verse sequencing introduces an additional activity requiring learners to recognise the intended order of Qunoot content. Collectively, these activities demonstrate how the developed game represents different aspects of Qunoot learning through interactive tasks.

This development outcome addresses RQ1 by demonstrating how Qunoot content was translated into an interactive game-based learning structure. Figure 1 summarises the activity flow, and Figure 2 illustrates representative activities from the developed game.

Participant Characteristics

A total of 32 learners participated in the user evaluation. The participants were reported within the 8–9-year age range. Boys accounted for 40.6% (n = 13) of the sample, while girls accounted for 59.4% (n = 19). Participants differed in their reported frequency of computer or tablet use. Eight learners (25.0%) reported using such devices every day, 13 (40.6%) reported using them sometimes, and 11 (34.4%) reported rarely using them.

Table 2 Participant Characteristics

Characteristic	Category	n	%
Gender	Boys	13	40.6
	Girls	19	59.4
Computer/tablet use	Every day	8	25.0
	Sometimes	13	40.6
	Rarely	11	34.4

Note. The participant age range was 8–9 years; separate frequencies for each age were not available.

Gameplay Experience

Table 3 presents participants' responses regarding their experiences while interacting with Qunoot Mastery.

Table 3 Gameplay Experience

Code	Item	Mean
B1	I felt skillful while playing	4.78
B2	I was focused on the game	4.66
B3	I enjoyed the game	4.72
B4	The game was challenging in a good way	4.44
B5	I forgot everything else while playing	2.81

B6	I felt frustrated	1.35
B7	I wanted to keep playing	4.84

Note. Five-point Likert scale: 1 = Strongly Disagree; 5 = Strongly Agree.

The highest mean within the gameplay-experience items was recorded for willingness to continue playing (M = 4.84), followed by perceived skill (M = 4.78), enjoyment (M = 4.72), and focus (M = 4.66). Participants also reported a positive response to the game's challenge (M = 4.44).

In contrast, the item concerning forgetting everything else while playing recorded a lower mean (M = 2.81), while frustration produced the lowest mean (M = 1.35). Descriptively, these results indicate positive enjoyment, focus, perceived skill, and willingness to continue playing alongside relatively low reported frustration.

Engagement and Connection with the Game

The two items concerning participants' involvement and connection with Qunoot Mastery are presented in Table 4.

Table 4 Engagement and Connection with the Game

Code	Item	Mean
C8	I cared about what happened in the game	4.72
C9	I felt connected to the game	4.56

Participants reported a mean of 4.72 for caring about what happened in the game and 4.56 for feeling connected to the game. These results indicate that participants reported positive involvement and connection with Qunoot Mastery during the user evaluation.

Learner Experience and Perceived Learning

Table 5 presents participants' responses concerning enjoyment, perceived learning, replay intention, positive affect, usability, and learning enjoyment.

Table 5 Learner Experience and Perceived Learning

Code	Item	Mean
D10	I enjoyed playing the game	4.88
D11	The game helped me learn the Qunoot prayer	4.78
D12	I want to play the game again	4.94
D13	I felt happy during the game	4.75
D14	The game was easy to use	4.66
D15	The game made learning fun	4.78

Note. Five-point Likert scale: 1 = Strongly Disagree; 5 = Strongly Agree.

The strongest response was willingness to play the game again (M = 4.94), followed by enjoyment (M = 4.88). Participants also reported that the game helped them learn Qunoot (M = 4.78) and made learning fun (M = 4.78). The happiness item recorded a mean of 4.75, while ease of use recorded a mean of 4.66.

These findings represent participants' perceptions during the user evaluation. In particular, the response to the statement that the game helped them learn Qunoot is interpreted as perceived learning rather than objective evidence of improved learning achievement.

DISCUSSION

Learner Engagement and Gameplay Experience

The findings indicate that Qunoot Mastery was positively received by the participating young learners, particularly in terms of their willingness to continue playing, enjoyment, perceived skill, and focus. These responses suggest that the game provided an experience in which learners were willing to remain involved with the interactive Qunoot learning activities. The relatively low frustration score further indicates that participants generally did not perceive the gameplay experience as frustrating.

These findings can be considered in relation to the multidimensional nature of engagement in game-based learning. Plass et al. (2015) describe game-based learning as involving cognitive, behavioural, affective, and sociocultural dimensions, suggesting that learners' experiences may be reflected through different forms of participation and involvement. In the present study, positive responses concerning focus, enjoyment, and willingness to continue playing provide complementary indicators of learners' engagement with Qunoot Mastery.

An interesting pattern emerges when willingness to continue playing is considered alongside the immersion-related item. Although participants expressed strong willingness to continue playing (M = 4.84), their response to forgetting everything else while playing was comparatively lower (M = 2.81). This difference suggests that learners may enjoy an educational game and remain willing to engage with its activities without necessarily experiencing complete absorption in the game environment.

The distinction is relevant to educational game design because an enjoyable learning experience does not necessarily require learners to become fully immersed in the game. In the context of Qunoot Mastery, the observed response pattern indicates that participants reported positive engagement across several aspects of gameplay, even though the immersion-related response was comparatively lower. This finding supports the value of examining individual engagement indicators rather than treating engagement as a single uniform experience.

Perceived Learning and Learning Enjoyment

Beyond their gameplay experience, participants expressed positive perceptions of Qunoot Mastery as a learning activity. Their responses indicated that they perceived the game as helpful for learning Qunoot and considered the learning experience enjoyable. The strong willingness to replay the game further suggests that participants were receptive to continued interaction with the learning content.

These findings are relevant to religious learning contexts in which repeated exposure to learning material forms part of the learning process. By representing Qunoot content through audio-to-text matching, textual completion, word-level interaction, and verse sequencing, Qunoot Mastery provides several opportunities for learners to encounter the prayer content through different activities.

Previous research has explored interactive approaches to Islamic learning, including digital applications for Qur'an memorisation and game-based strategies for Qur'an and Hadith learning (Djainudin et al., 2025; Ibrahim et al., 2026). The present study extends this area of investigation by examining young learners' experiences with a game designed specifically around Qunoot prayer content.

The findings indicate that participants perceived Qunoot Mastery as a helpful and enjoyable learning resource. These perceptions provide useful evidence about the acceptability of the game-based approach among the participating learners and establish a basis for subsequent studies examining its educational outcomes.

Pedagogical Alignment of Game Activities

One of the principal contributions of Qunoot Mastery lies in its organisation of Qunoot prayer content into a sequence of interactive learning activities. The game incorporates different forms of interaction that correspond to specific learning tasks, including auditory recognition, textual completion, word-level interaction, and sequencing.

This alignment provides a pedagogical basis for the game design. Audio-to-text matching allows learners to associate spoken content with its written representation, while fill-in-the-blank activities require them to identify missing words or phrases. Word matching and drag-and-drop activities introduce direct interaction with Qunoot content, whereas verse sequencing focuses on recognising the intended order of the prayer.

The progressive organisation of these activities also provides a structured way for learners to revisit Qunoot content through different interaction formats. Supporting features such as hints, feedback, scoring, and audio references accompany these activities throughout the game.

This approach is consistent with the broader principle that educational game design should integrate game interactions with intended learning activities. Papakostas (2024), for example, highlights the importance of pedagogical considerations in digital game-based religious education.

The present study contributes a practical example of this alignment by demonstrating how Qunoot prayer content can be represented through multiple interactive activities within a single game-based learning environment. Although the evaluation did not examine the individual effects of specific game mechanics, the design illustrates how religious learning content can guide the selection and organisation of game activities.

Implications for Game-Based Islamic Education

The findings of this study contribute to the growing discussion on the application of digital games in Islamic education. Previous studies have explored different approaches to presenting religious learning content through interactive digital environments. Che Nordin et al. (2025) examined an educational game based on Qur'anic narratives, while Djainudin et al. (2025) investigated an Android-based application supporting Qur'an memorisation. Ibrahim et al. (2026) addressed game-based strategies for Qur'an and Hadith memorisation. These studies demonstrate the range of religious learning content addressed through digital and game-based approaches. Qunoot Mastery differs from these applications primarily in its instructional focus and the organisation of its learning activities. Rather than addressing broader Qur'anic narratives or memorisation content, the game concentrates on Qunoot prayer and translates its content into a structured sequence of audio-to-text matching, fill-in-the-blank, word matching, drag-and-drop, and verse-sequencing activities. These interactions correspond to different learning tasks, including recognising spoken content, identifying missing text, matching words or phrases, and recognising the intended sequence of the prayer.

This distinction is relevant because the contribution of an educational game should not be evaluated solely through the inclusion of game elements. The relationship between instructional content and gameplay activities is equally important. In Qunoot Mastery, the learning material informs the selection and progression of the activities, providing a practical example of content-aligned game design in Islamic education. This approach is consistent with the emphasis on pedagogical considerations in digital game-based religious education discussed by Papakostas (2024).

The learner evaluation provides an additional perspective on this design. Participants reported positive experiences concerning enjoyment, replay intention, willingness to continue playing, and perceived support for learning Qunoot. These responses suggest that the participating learners were receptive to the game's interactive presentation of religious learning content. However, the findings represent learners' experiences and perceptions rather than direct evidence of improved memorisation or recitation performance. From a practical perspective, Qunoot Mastery may serve as a supplementary resource alongside teacher-guided instruction and conventional memorisation activities. Its structured interactions offer an alternative format for engaging with

Qunoot content, while future evaluations incorporating objective learning assessments would help determine its educational contribution more precisely.

LIMITATIONS AND FUTURE RESEARCH

Limitations

Several limitations should be considered when interpreting the findings. First, the evaluation involved 32 participants within a narrow age range. The findings therefore should be interpreted within the characteristics of the participating learners and the specific educational context examined. Second, the evaluation relied on self-reported learner responses. Although these responses provide information about learners' experiences and perceptions, they do not directly measure changes in memorisation, comprehension, recitation accuracy, or retention. Third, the present study focused primarily on descriptive learner-experience measures. Future research could complement these measures with additional validated measures of engagement and usability and with objective measures of learning outcomes. Finally, the study examined a single educational game focusing specifically on Qunoot prayer. The findings should therefore be interpreted within this particular learning and religious context.

Future Research

Future studies could evaluate Qunoot Mastery with larger and more diverse samples across different age groups and educational contexts. Such studies could incorporate additional measures of learner engagement and usability together with qualitative methods such as interviews, observations, and teacher feedback.

More importantly, subsequent evaluation could include objective measures of Qunoot learning. Such assessment could examine changes in recognition, sequencing, memorisation, or recitation accuracy and include a comparison condition to provide stronger evidence regarding the educational contribution of the game-based approach.

Delayed assessment would also be useful for examining retention after interaction with the game. This would help determine whether positive learner experiences are accompanied by sustained learning.

Future research could additionally examine individual game activities or levels to identify how different interaction types relate to engagement and learning. Such analysis could inform the refinement of difficulty progression, feedback, accessibility, and the overall learning experience.

CONCLUSION

This study presented the design and evaluation of Qunoot Mastery, a game-based learning application developed to provide young learners with an interactive approach to Qunoot prayer learning. Developed using a GDLC-oriented approach, the game translates Qunoot content into progressively structured activities involving auditory recognition, textual completion, word-level interaction, and sequencing.

The development outcome demonstrates one way in which Qunoot prayer content can be operationalised as a sequence of interactive game-based activities. User testing involving 32 young learners showed generally positive self-reported experiences. Participants reported positive responses regarding focus, enjoyment, perceived skill, positive challenge, and willingness to continue playing, while reported frustration was low. The strongest learner response concerned willingness to play the game again ($M = 4.94$), followed by enjoyment ($M = 4.88$). Participants also perceived that the game helped them learn Qunoot ($M = 4.78$) and made learning enjoyable ($M = 4.78$).

The study therefore provides an application-focused example of how Qunoot prayer content can be translated into structured game-based learning activities and offers empirical evidence concerning young learners' responses to the resulting learning experience. However, the findings represent learner experience and perceived learning rather than objective evidence of learning effectiveness.

Further research incorporating larger samples, objective learning assessments, comparison conditions, and delayed retention measures could determine whether positive learner experiences with Qunoot Mastery are accompanied by measurable improvements in Qunoot learning and retention.

Overall, Qunoot Mastery provides a basis for further investigation of digital game-based approaches to Qunoot prayer education and illustrates the potential role of such applications as supplementary learning environments within Islamic education.

REFERENCES

1. Alotaibi, M. S. (2024). Game-based learning in early childhood education: A systematic review and meta-analysis. Frontiers in Psychology, 15, 1307881. https://doi.org/10.3389/fpsyg.2024.1307881
2. Che Nordin, M. K. N., Syed Abdul Rahman, S. M. H., Mohd Zabidi, A. Z., Zulkharnane, M. F., & Azhar, M. N. (2025). The development of the educational game 'Jejak Anbiya': A pedagogical approach to teaching 'Aqidah to children through the Qur'anic stories of the prophets. QURANICA - International Journal of Quranic Research, 17(1), 142–168. https://doi.org/10.22452/quranica.vol17no1.17
3. Djainudin, H., Saputra, A. A., Rahmat, N. N., & Aprilio, T. (2025). Qur'an Whiz: Developing an Android-based application to enhance Qur'an memorization skills for elementary school students. Jurnal Prima Edukasia, 13(1), 85–97. https://doi.org/10.21831/jpe.v13i1.80349
4. Guan, X., Sun, C., Hwang, G.-J., Xue, K., & Wang, Z. (2024). Applying game-based learning in primary education: A systematic review of journal publications from 2010 to 2020. Interactive Learning Environments, 32(2), 534–556. https://doi.org/10.1080/10494820.2022.2091611
5. Ibrahim, A. E., Al Barami, Y. A., & Al Jaadi, J. S. (2026). The impact of game-based learning strategies on developing Holy Quran and Hadith memorization skills among first-grade primary students. Journal of Educational and Psychological Researches, 23(89), 160–170. https://doi.org/10.52839/0111-000-089-013
6. Papakostas, C. (2024). Faith in frames: Constructing a digital game-based learning framework for religious education. Teaching Theology & Religion, 27(4), 137–154. https://doi.org/10.1111/teth.12685
7. Plass, J. L., Homer, B. D., & Kinzer, C. K. (2015). Foundations of game-based learning. Educational Psychologist, 50(4), 258–283. https://doi.org/10.1080/00461520.2015.1122533
8. Ramadan, R., & Widyani, Y. (2013). Game development life cycle guidelines. In 2013 International Conference on Advanced Computer Science and Information Systems (ICACSIS) (pp. 95–100). https://doi.org/10.1109/ICACSIS.2013.6761558
9. Ramírez Ruiz, J. J., Vargas Sanchez, A. D., & Boude Figueredo, O. R. (2024). Impact of gamification on school engagement: A systematic review. Frontiers in Education, 9, 1466926. https://doi.org/10.3389/feduc.2024.1466926
10. Zainol, M. Z., Muhamad, N., & Mohd Sabri, M. N. (2025). Canva AI-assisted prayer learning approach in Islamic education based on the TPACK model: Pendekatan pembelajaran solat berbantu Canva AI dalam pendidikan Islam berasaskan model TPACK. ATTARBAWIY: Malaysian Online Journal of Education, 9(2), 272–284. https://doi.org/10.53840/attarbawiy.v9i2.379
11. Zulkefli, M., & Jamil, A. I. (2024). Advancing Islamic education with game-based learning: Principles, effects, and implementation obstacles. Journal of Islamic Educational Research, 10(1), 1–12. https://doi.org/10.22452/jier.vol10no1.1