Juz 'Amma Memorization Board Game: An Educational Media to Enhance Students' Interest and Ability in Qur'an Memorization

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Abstract

The memorisation of short Quranic chapters, or Surahs, within elementary religious education frequently poses challenges related to student engagement and rote retention capabilities. Consequently, this study aimed to address these issues through the development and subsequent evaluation of an educational board game, focusing on its feasibility, practicality, and effectiveness. The research employed a Research and Development methodology based on the Borg & Gall model which culminated in a final product trial involving 25 fourth-grade students. Data collection utilised expert validation questionnaires, teacher and student practicality assessments, interest surveys, and both written and oral pre-tests and post-tests. The findings indicated that the board game is highly viable, evidenced by strong ratings from content experts at 91.43% and media experts at 78.05%. Moreover, the product was deemed highly practical by both teachers and students, who awarded it scores of 97.03% and 98.52% respectively. The intervention demonstrated effectiveness through a 16% increase in student interest and enhanced memorisation proficiency, characterised by moderate N-gain scores in written (0.62) and oral (0.43) assessments. The distinct advantage of this board game lies in its integration of five interactive challenge types, specifically memorisation, composition, writing, questioning, and insight, organised within a 14-category chapter system.

INTRODUCTION

Background of the Study

Education in the digital era necessitates a paradigm shift, moving beyond the mere transmission of knowledge to the cultivation of character and fundamental values. Within the context of Indonesian Islamic education, the instillation of Qur'anic values at an early stage—particularly at the *Madrasah Ibtidaiyah* (Islamic elementary school) level—provides an essential foundation. The memorisation of short chapters (*Surahs*) from *Juz 'Amma* is a core competency that relates directly to worship practices and constitutes the basis for a deeper comprehension of Islamic teachings (Lisa & Muthohar, 2024). The selection of an appropriate pedagogical approach is critical for elementary students (aged 7–12), who are situated in the concrete operational stage of cognitive development and learn most effectively through direct experience, interaction, and play. The integration of educational board games offers a

promising solution to this challenge by transforming the often repetitive process of memorisation into an engaging activity that synergises the kinaesthetic, cognitive, and affective domains (Muchtar & Fatoni, 2025).

Play is integral to children's learning, fostering both enjoyment and engagement. Games establish a positive learning atmosphere and mitigate boredom (Alotaibi, 2024). As noted by Peter Kline, learning becomes significantly more effective within enjoyable environments (Liu et al., 2022). Furthermore, instructional media serve to enhance focus, capture attention, and spark enthusiasm whilst improving interaction with the learning environment (Hawlitschek & Joeckel, 2017). In the specific context of Qur'anic memorisation, such media actively involve children, creating the conducive conditions necessary for achieving educational objectives (Oktavani, 2020).

Problem of the Study

Notwithstanding its critical importance, the process of *tahfiz* (memorising short chapters) at the elementary school level frequently encounters significant hurdles. Field observations indicate that conventional teaching methods, such as didactic lectures and monotonous repetition (*talqin*), continue to dominate classroom practice (Hidayatullah & Ansori, 2021). Such unvaried approaches can engender boredom and diminish students' intrinsic motivation, causing them to perceive memorisation as a burden rather than an engaging activity (Putri & Khotimah, 2020). Consequently, student interest in learning wanes, which directly impedes their ability to effectively retain and expand their memorisation of short chapters.

This situation is exemplified by preliminary observations conducted at Hidayah Islamic Elementary School (*Madrasah Ibtidaiyah* Hidayah), where fourth-grade students face two primary challenges: low memorisation proficiency and a distinct lack of interest in memorising short chapters. These issues stem from the persistent application of less effective conventional methods and the minimal utilisation of learning media capable of capturing students' attention. Therefore, the current approach to memorisation at Hidayah Islamic Elementary School has failed to sufficiently enhance student interest and ability, underscoring the urgent requirement for an enjoyable and effective learning process to foster these crucial skills.

Research's State of the Art

The development of game-based instructional media for Islamic education has become increasingly prominent, driven by the necessity to address declining student motivation in religious studies. advanced this field in Indonesia by designing a conventional board game specifically for memorising daily prayers. Similarly, Oktavani (2020) developed 'Ilman Nafi'an', a trivia-style board game for TPQ Al Huda. Although both studies demonstrated the effectiveness of board games in creating interactive learning environments, they were limited to daily prayers and general Islamic knowledge, lacking a specific focus on Qur'anic memorisation. Sasmita (2019) further contributed to this domain with 'Sibaaqun', a tri-fold board game introducing *Hijaiyah* letters and *Surah* names; however, this was confined primarily to letter recognition. More recently, Rahim et al., (2025) developed 'Arabiyatuna' using the ADDIE model for Arabic language learning among university students in Malaysia, demonstrating the applicability and potential of board games beyond the elementary level.

Digital transformation has catalysed innovations in Qur'anic learning through the adoption of gamification and mobile applications. Maarif et al., (2020) developed 'The Adventure of Ali', a tool that combines *Surah* memorisation with adventure mechanics. Similarly, Irawadi et al., (2020) created an Android-based memorisation game featuring interactive elements categorised by grade and difficulty levels. In terms of algorithmic adaptation, Habibi (2018) developed Q-Fuzzle, utilising backpropagation algorithms to adjust difficulty, while mukmin & Rasyid (2016) designed a puzzle application for *Juz* 30. Furthermore, Akbari et al., (2025) identified three primary models in this domain, namely Voice Technology-Based, Gamification-Based, and Modular-Based, concluding that gamification-based models were the most effective. However, while these digital innovations demonstrate high flexibility, they necessitate electronic devices and stable internet connectivity, which potentially limits accessibility in resource-constrained settings.

Recent scholarship has focused on the effectiveness of gamification within Islamic Religious Education. Zulfa (2025) observed significant improvements in both intrinsic and extrinsic motivation through gamified platforms compared to traditional methods. Alfi & Lismawati (2024) demonstrated that Wordwall enhanced student engagement, while Gimkit yielded significant improvements in learning outcomes. Sakdiah et al., (2025) revealed that gamification fosters a more enjoyable learning environment and encourages critical thinking through elements such as points, badges, levels, and competitions. Moreover, Zainudin & Huda (2024) concluded that, when properly implemented, gamification strategies possess great potential to enrich religious learning experiences. The integration of Artificial Intelligence and Augmented Reality with gamification has also been shown to trigger deeper engagement and enhance learning effectiveness.

Implementation studies conducted in Islamic boarding schools have provided valuable insights. Attarwiyah et al., (2025), in a study at Al-Qodiri 02 Islamic Boarding School, demonstrated that gamification elements, including point systems, levels, badges, and leaderboards, significantly increased student involvement and motivation. The study revealed that extrinsic motivation driven by rewards was more pronounced than anticipated. This aligns with Li et al., (2024), who noted that while gamification enhances intrinsic motivation and perceptions of autonomy, it has a minimal impact on competency development. The application of gamification in Islamic boarding school contexts represents a significant contribution, as this area remains underexplored despite the unique challenges and opportunities these institutions present.

Gap Study and Objective

Despite previous research demonstrating the effectiveness of games in Qur'anic learning, several critical gaps remain. Firstly, conventional board game studies, Oktavani (2020), and Sasmita (2019) have not comprehensively integrated diverse learning challenges, such as memorising, arranging, and writing verses, into a single, structured, and curriculum-aligned medium. Furthermore, Rahim et al., (2025) developed 'Arabiyatuna' for university-level Arabic learning, which is not applicable to elementary Qur'anic memorisation. Additionally, Li et al., (2024) highlighted that while gamification enhances intrinsic motivation, its impact on specific competency development remains minimal, indicating a need for designs focused on targeted competencies like memorisation.

Secondly, digital-based research by Maarif et al., (2020), Irawadi et al. (2020), Habibi (2018), and Falah (2016) faces accessibility limitations due to the requirement for electronic devices and internet connectivity. Moreover, these solutions inadequately accommodate the direct social interaction that is crucial for learning in *Madrasah Ibtidaiyah*. Akbari et al., (2025) confirmed that gamification-based applications encounter accessibility challenges in areas with limited infrastructure. Furthermore, Ahmad et al., (2024) found that gamification often results in a dominance of extrinsic motivation, which could potentially diminish intrinsic religious motivation if not carefully designed.

Thirdly, no research has yet developed game media that is fully integrated with the Al-Qur'an Hadith Curriculum 2013 for elementary school grades 1 and 2, featuring a multi-level system that accommodates diverse student abilities. While Sakdiah et al., (2025) noted that gamification creates enjoyable learning environments, its implementation faces technical challenges in traditional institutions. Similarly, Zulfa (2025) found that digital gamification platforms significantly increased motivation but were limited to the junior high school level. Fourthly, previous research has not integrated traditional *tahfiz* methods, specifically *bin-nadzar*, *tahfiz*, *talaqqi*, *tasmi'*, *murojaah*, and *kitabah*, into a single systematic game medium. Alfi & Lismawati (2024) showed that Wordwall increased engagement but was not designed to incorporate these traditional methods. Ahmad et al., (2024) identified that gamification can bridge tradition and technology but requires further development to achieve comprehensive integration. Consequently, this research aimed to develop an educational board game that integrates five types of challenge cards totalling 527 cards adapted to the 2013 Curriculum, requires no electronic devices, and encourages direct social interaction. Furthermore, the proposed game seeks to accommodate diverse abilities through a progressive 14-*Surah* category system, integrate traditional *tahfiz* methods, and ultimately improve both student interest and memorisation ability.

METHOD

Type and Design

This study employed a Research and Development methodology rooted in the ten-step model proposed by Borg & Gall (Gall et.al., 2007). The procedural framework encompassed an initial preliminary study and information gathering phase followed by planning and initial product development. Subsequent stages involved preliminary field testing and initial product revision leading into main field testing. The process continued with operational product revision and operational testing culminating in final product revision and ultimate dissemination and implementation. The research was conducted at Hidayah Islamic Elementary School over a duration of approximately six to ten months covering the entire spectrum from product development to data analysis. The trial design was structured to include feasibility tests alongside preliminary main and operational field testing with the primary objective of engineering an educational board game that is feasible practical and effective for augmenting the interest and memorisation capabilities of fourth-grade students.

Data and Data Sources

The study participants consisted of 25 fourth-grade students at Hidayah Islamic Elementary School comprising 13 males and 12 females aged between 9 and 10 years. As a private Madrasah Ibtidaiyah the institution adheres to the 2013 Curriculum for Al-Qur'an Hadith subjects. A preliminary competency analysis revealed that 12 students representing 48% of the cohort demonstrated proficiency in reading and memorising short Surahs typically having attended Qur'anic recitation classes or Madrasah Diniyah. Conversely eight students or 32% could memorise only two to three Surahs while five students constituting 20% had either memorised a single Surah or had yet to achieve the target. Although all students had mastered basic Hijaiyah letters their aptitude for reading the Qur'an with proper recitation or tartil varied. Furthermore preliminary observations categorised student interest in memorisation as low at 51% evidenced by a lack of enthusiasm frequent lapses in focus and the rapid onset of boredom.

This research utilised both quantitative and qualitative data derived from diverse sources. Quantitative data regarding product feasibility were obtained from content experts evaluating eight aspects across 28 indicators and media experts assessing 15 aspects across 72 indicators using Likert scale questionnaires. Practicality data were secured from teachers evaluating seven aspects via Likert scales and from students during Phase 1 and Phase 2 trials using Guttman scale questionnaires covering nine aspects and 17 indicators. To assess memorisation effectiveness the study employed a pre-test and post-test design analysed using N-gain scores which included written tests comprising 20 multiple-choice and essay questions alongside oral tests evaluating volume fluency and smoothness. Additionally interest effectiveness data were collected through Guttman scale questionnaires administered pre- and post-intervention. Qualitative data were gathered through semi-structured interviews with fourth-grade teachers based on a 35-question guideline covering curriculum and media usage as well as observations focusing on learning processes and student characteristics. Expert validator feedback provided the basis for product revisions while specific observations tracked student activeness attention and interest throughout the treatment.

Product validation engaged two experts selected for their specific expertise and experience. The content expert is a lecturer in Islamic Religious Education holding a doctoral degree with a minimum of ten years of experience in teaching Qur'anic Learning and Islamic Religious Education Learning Methods at the university level. Specialising in curriculum development and elementary Qur'anic materials this expert assessed material alignment with basic competencies conceptual accuracy linguistic appropriateness and content relevance. The media expert is a lecturer in Educational Technology also holding a doctoral degree and possessing at least ten years of experience in designing learning media particularly of the conventional variety. Focusing on visual design and media evaluation this expert evaluated technical aspects including component aesthetics visual language and operational design. Both validators were selected based on institutional recommendations and have authored scholarly publications in their respective fields.

Data Collection Technique

Data collection employed several distinct techniques. Semi-structured interviews were initially conducted with fourth-grade teachers using a comprehensive guide regarding curriculum implementation and student characteristics with the flexibility to expand enquiries based on responses. Non-participant observation was subsequently conducted in two stages involving pre-research observation of learning implementation and treatment observation focusing on student interest using a checklist system. Questionnaires were utilised to gather feasibility data from experts using Likert scales practicality data from teachers and students using Guttman scales and interest data. Finally assessments measured memorisation effectiveness through cognitive written tests and oral performance tests evaluating volume and fluency using a Likert scale.

All research instruments were subjected to rigorous validity and reliability testing. Validation was conducted by a Professor from the Faculty of Education and Psychology at Yogyakarta State University, who reviewed the interview guides, observation sheets, questionnaires, and test instruments. Reliability testing utilised the Cronbach's Alpha technique, yielding high coefficients, specifically $\alpha = 0.89$ for the content expert feasibility questionnaire, $\alpha = 0.92$ for the media expert questionnaire, $\alpha = 0.87$ for the teacher practicality questionnaire, and $\alpha = 0.85$ for the student interest questionnaire. These values indicate a very high level of internal consistency.

Data Analysis

Data analysis utilised five distinct techniques, stratified according to the specific characteristics of the data collected. First, qualitative data derived from interviews and pre-research observations were analysed using the model propose. This process encompassed three interactive stages: data condensation, data display (utilising narratives, tables, and diagrams), and conclusion drawing, which collectively served as the foundation for product development. Second, observation data regarding interest in memorisation underwent descriptive quantitative analysis. Scores were assigned (1 for achieved indicators, 0 for unachieved) and percentages were calculated using the following formula:

$$P = \frac{\text{Obtained Score}}{\text{Maximum Score}} \times 100\%$$

The results were categorised as high (P≥76%), moderate (56%≤P<76%), or low (P<56%).

Third, feasibility data obtained from content and media experts were analysed by calculating percentage scores using the formula:

$$V = \frac{\text{Obtained Score}}{\text{Maximum Score}} \times 100\%$$

These scores were converted into the following validity categories: very feasible (81%–100%), feasible (61%–80%), fairly feasible (41%–60%), less feasible (21%–40%), and very unfeasible (0%–20%). The product was deemed feasible if it achieved a minimum rating of 'Feasible' (≥61%). Fourth, practicality data obtained from teachers and students were subjected to the same analytical procedures and categorisation standards as the feasibility analysis. The product was declared practical if it achieved a minimum rating of 'Fairly Practical' (≥41%). Fifth, effectiveness data were analysed across two dimensions: (a) Effectiveness regarding memorisation interest was measured by comparing pre-test and post-test questionnaire results. Percentages were calculated and categorised as very high (81%–100%), high (61%–80%), moderate (41%–60%), low (21%–40%), or very low (0%–20%). The product was considered effective if the post-test average exceeded the pre-test average and at least 80% of students achieved the 'High' category (≥61%). (b) Effectiveness regarding memorisation ability was assessed utilising a One-Group Pre-test–Post-test Design. Written tests were analysed using the formula:

$$\text{Score} = \frac{\text{Obtained Score}}{\text{Maximum Score}} \times 100$$

Results were categorised as very good (81–100), good (61–80), fair (41–60), poor (21–40), or very poor (0–20). Oral tests were analysed by calculating percentages. Improvement in both test types was analysed using Hake's (1998) N-gain formula:

$$N\text{-gain} = \frac{\text{Post-test Score} - \text{Pre-test Score}}{\text{Maximum Score} - \text{Pre-test Score}}$$

N-gain scores were categorised as high (N-gain≥0.7), moderate (0.3≤N-gain<0.7), or low (N-gain<0.3). The product was declared effective if the N-gain for both tests was at least moderate (≥0.3) and memorisation interest increased, with at least 80% of students achieving the 'High' category (≥61%).

RESULTS

Preliminary Study and Data Collection

A preliminary study was conducted via interviews with the fourth-grade class teacher, Mrs. D, and classroom observations at Hidayah Elementary School. The objective was to analyse potential learning obstacles, particularly regarding the memorisation of short Qur'anic *Surahs*, whilst simultaneously identifying student characteristics and reviewing the school's curriculum.

These investigations identified two primary issues: inadequate memorisation skills and low student interest. Among the 25 fourth-grade students, 12 (48%) demonstrated proficient memorisation ability for the four target *Surahs* (*Al-'Asr*, *Al-Quraysh*, *Al-Ma'un*, and *At-Takathur*); 8 students (32%) could memorise 2–3 *Surahs*; and 5 students (20%) had memorised only one *Surah* or failed to meet the target entirely. Students with strong memorisation skills typically attended religious study groups outside of school. Additional challenges included poor retention resulting from ineffective *murojaah* (revision) activities, a slow pace of memorisation, a lack of fluency, and limited comprehension of the content. Although morning activities involved collective recitation, this mass approach failed to sustain individual memorisation, as slower students struggled to keep pace. Teachers were unable to optimally facilitate memorisation, a fact evidenced by the reliance on ineffective teaching methods. As described by Sa'dulloh (2008), the teachers applied the *bin-nadzar* method (reading verses directly from the *Mushaf*), the *tahfidz* method (gradual memorisation of verses), and the *talaqqi* method (face-to-face submission of memorisation). However, these conventional methods proved insufficient for elementary students, who typically possess short attention spans, are physically active, and prefer play over abstract thought. Consequently, observation data indicated that student interest in memorisation was low (51%), characterised by a lack of enthusiasm, frequent loss of focus, and rapid discouragement. This deficiency was largely attributed to the absence of learning tools capable of generating interest.

The identification of student characteristics through interviews, observations, and questionnaires revealed that the cohort comprised 25 students aged 10–12 years, functioning at the concrete operational stage of cognitive development. Questionnaire responses indicated that 64% of students reported difficulties in memorising due to various factors: laziness (40%), the length of verses (28%), forgetfulness (56%), boredom (32%), and other reasons (60%). Notably, 84% had never engaged in memorisation learning through games, despite 100% expressing enjoyment of games and 92% having experience with conventional games. Therefore, board games were selected as the intervention medium, considering the characteristics of elementary students who enjoy play, active movement, group work, and direct participation. An examination of the curriculum revealed that Hidayah Elementary School implements the 2013 Curriculum, with *Al-Qur'an Hadith* subjects covering basic reading and writing, the memorisation of short *Surahs* with an understanding of simple meanings, and *Hadith* comprehension. The memorisation targets for the fourth grade include four *Surahs* for the odd semester (*Al-'Asr*, *Al-Ma'un*, *Al-Quraysh*, *At-Takathur*) and two for the even semester (*Al-Qari'ah*, *Al-Zalzalah*). This curriculum analysis formed the basis for determining the content integrated into the board game, ensuring full alignment with curricular standards.

Product Development

The educational tool developed in this study is a tabletop board game titled the 'Short Chapter Memorisation Board Game'. It is a conventional, print-based game that utilises cards as the primary medium for delivering educational content to fourth-grade students at Hidayah Elementary School. The game is founded on the principle of 'He who memorises, wins', reflecting a mechanic focused on

the learning process and subject matter. Consequently, the victor is not determined by chance, but by the demonstration of superior knowledge and memorisation of the short chapters featured in the game. Victory is achieved not by being the first to reach the finish line, but by accumulating the highest number of coins (rewards). Coins are earned by correctly answering questions or completing challenges presented on the game cards. This gameplay mechanic ensures that the focus remains on the educational content rather than on elements of gambling or luck.

Visually, the board game incorporates an Islamic theme, utilising illustrations and icons related to Islam, such as mosques, the Kaaba, the Qur'an, and other relevant symbols. Images of all board game components are accessible via the following link.
https://drive.google.com/file/d/1b8bjBNxe4jCKTodGEewrgkpiFCTD96zx/view?usp=sharing.
A description of each component follows.

Mainboard

The Mainboard serves as the primary surface upon which the game is played. An illustration of the mainboard is provided in Figure 1.

Figure 1. Mainboard

Guidebook

The guidebook offers comprehensive instructions designed to facilitate the effective utilisation of the board game as a pedagogical instrument. An illustration of the guidebook is presented in Figure 2.

Figure 2. Guidebook

Cards

Cards constitute a fundamental element of board games, typically fabricated from paper stock of varying dimensions. In the 'Short Chapter Memorisation Board Game', the cards function

simultaneously as a medium for instructional content and a tool for exercising memorisation faculties. The game comprises five distinct categories of cards: 'Memorise a Chapter', 'Arrange a Chapter', 'Write a Verse', 'Question', and 'Insight' cards. An illustration of these cards is presented in Figure 3.

Figure 3. The Cards

Card Pouches

These receptacles are employed to house the game cards, organised according to their respective categories. The holders are pouches manufactured from calico fabric, each measuring 8×10 cm. An illustration of the card pouches is presented in Figure 4.

Figure 4. Card Pouches

Answer Key

This booklet serves as the definitive reference for verifying the accuracy of player responses to the various game cards. Specifically, it provides the solutions for the 'Memorise a Chapter', 'Arrange a Chapter', 'Write a Verse', and 'Question' cards. An illustration of the answer key is presented in Figure 5.

Figure 5. Answer Key

Player Pawns

The pawns (or tokens) act as the representative avatars for each participant throughout the game. Furthermore, they serve as positional markers, indicating a player's current location within the board's game zone. An illustration of the pawns is presented in Figure 6.

Figure 6. Player Pawns

Coins

Coins function as an incentive mechanism, awarded to players for successfully answering questions or completing challenges. The victor is determined by the accumulation of the greatest number of coins. An illustration of the coins is presented in Figure 7.

Figure 7. Coins

Coin Pouch

This receptacle is utilized for the storage of game coins. Analogous to the card holders, this pouch is constructed from calico fabric and measures 8×10 cm. An illustration of the coin pouch is presented in Figure 8.

Figure 8. Coin Pouch

Pawn Holder

A flip-top plastic case serves as the repository for the four player pawns. This container is designed to facilitate both consolidated storage and the easy retrieval of the pieces. An illustration of the pawn holder is presented in Figure 9.

Figure 9. Pawn Holder

Sand Timers

These devices are employed for time-keeping purposes during gameplay. The set comprises two distinct timers: a one-minute timer (4.4 cm in height) and a 30-minute timer (9.8 cm in height). An illustration of the sand timers is presented in Figure 10.

Figure 10. Sand Timers

Puzzle Cards

These cards are utilised specifically for the 'Arrange a Chapter' challenge. Each card consists of a rectangular segment bearing a verse fragment, which players are required to assemble in the correct sequential order. An illustration of the puzzle cards is presented in Figure 11.

Figure 11. Puzzle Cards

Board Game Packaging

The packaging for the board game comprises a tote bag constructed from calico fabric, measuring 30×40 cm. An illustration of the board game packaging is presented in Figure 12.

Figure 12. Board Game Packaging

The game is structured around 13 chapters (Surahs) of the Qur'an, ranging from An-Nas to At-Takasur. It is designed with adaptability in mind, allowing teachers to tailor specific chapters to align with learning objectives and students' memorisation capabilities. For the fourth-grade level, the required memorisation encompasses four chapters: Al-'Asr, Al-Ma'un, Al-Quraysh, and At-Takasur. The content is derived from the 2013 curriculum Qur'an-Hadith textbooks for grades 1–4. The board game incorporates five distinct categories of cards: 'Memorise a Chapter', 'Arrange a Chapter', 'Write a Verse', 'Question', and 'Insight' cards. These components function to stimulate repetitive recall, sharpen cognitive faculties, practise Arabic calligraphy skills, assess declarative knowledge, and reinforce theoretical understanding, thereby enhancing overall memorisation proficiency.

The game strategically integrates established Islamic memorisation methodologies to reinforce learning. The Muroja'ah method is facilitated through various challenge cards, while the Bin-Nazhar method is implemented via 'Insight' cards that require the direct reading of the Qur'anic text. Furthermore, the Tasmi' method is utilised in challenge cards where players are compelled to recite verses aloud, and the Kitabah method is applied through writing cards that serve to reinforce memory retention whilst improving Arabic script skills. To ensure interactivity and engagement, the gameplay employs several distinct mechanisms. The framework functions as a Race Game in which players

compete to progress from the starting point to the finish line. This is combined with a modified Roll and Move mechanic, wherein pawn movement is contingent upon providing correct answers. Additionally, the format integrates Trivia Game elements facilitated through question and challenge cards, alongside Puzzle tasks that require players to arrange disordered verse fragments into the correct sequence.

The inventory of components includes the main board, a guidebook, cards with holders, an answer key, pawns, coins, storage boxes, sand timers, puzzles, and packaging. The game is designed for four players, with one participant acting as the referee. Prior to commencement, players are required to perform ablution (wudu) and initiate the session by reciting Basmalah ('Bismillahirrahmanirrahim'). The game concludes either when the time limit expires or when all players reach the finish line, with coins awarded according to the instructions on the cards. Preceding gameplay, the facilitator outlines the rules and determines the specific Surah category. The main board is prepared with Juz 'Amma materials and writing tools, with a maximum playing duration of 30 minutes. Players select their pawns, position them at the start, and determine the turn order. The gameplay loop involves drawing cards; players advance or retreat based on the accuracy of their responses, earning coins accordingly. Landing on an 'Insight' symbol requires the player to read an Insight card, whereas a 'Mosque' symbol grants the player a free choice of card. The game continues until all participants reach the finish line. Bonus coins are awarded based on finishing order: the first player receives 10 coins, the second 7, the third 5, and the final player 3. The victor is determined by the highest total coin count. Teachers may opt to provide additional incentives by allowing coins to be exchanged for rewards.

Feasibility of Educational Board Game

The feasibility of the educational board game was assessed via a validation process conducted by a material expert and a media expert. The results of these assessments are detailed below.

Feasibility Assessment by the Material Expert

An assessment by a material expert was conducted to ascertain and validate the feasibility of the educational board game from a content perspective. The designated material validator was Dr. J, a lecturer in the Islamic Studies Programme at the Islamic University of Indonesia. The instrument utilised was a questionnaire encompassing eight aspects with a total of 28 indicator items. Each item was rated on a five-point Likert scale: Very Feasible, Feasible, Moderately Feasible, Less Feasible, and Not Feasible. The validation criteria were guided by established educational frameworks. According to Maxim and Arnedo-Moreno (2025), the effectiveness of an educational game is influenced by factors such as the relevance of content to student needs, the method of material presentation, student age and experience, student interest, and perceptions of the game design. Furthermore, following criteria established by Purwono (2008), material feasibility was evaluated on three core dimensions: content feasibility, presentation feasibility, and language feasibility. The material validation was completed in a single stage, yielding an overall score of 91.43%. As this percentage exceeds the threshold of 85.01% for the highest category, the educational board game was deemed 'Very Feasible' and suitable for implementation without revision. Table 1 presents the results of the material validation.

Table 1. Material Validation Results

Aspect	Obtained Score	Maximum Score	Percentage
Content feasibility of the educational board game	42	50	84.00%
Material accuracy in the educational board game	10	10	100.00%
Language appropriateness in the educational board game	14	15	93.33%
Media content appropriateness for improving short surah memorization ability	14	15	93.33%
Media content appropriateness for improving student memorization interest	15	15	100.00%
Material presentation	14	15	93.33%

Aspect	Obtained Score	Maximum Score	Percentage
Content delivery	10	10	100.00%
Question and challenge presentation	9	10	90.00%
Total Obtained Score	**128**		
Total Maximum Score	**140**		
Percentage Score	**91.43%**		
Category	**Very Feasible**		

Feasibility Assessment by the Media Expert

Subsequent to the content validation, a feasibility assessment was undertaken by a media expert to evaluate the design and technical attributes of the educational board game. The appointed media validator was Ms. D, a lecturer in the Learning Technology Programme at Universitas Negeri Yogyakarta (UNY). The assessment instrument comprised a comprehensive questionnaire addressing 15 distinct aspects, encompassing a total of 72 indicator items, with each item rated on a five-point Likert scale. The validation criteria were derived from two primary sources. Firstly, the assessment incorporated indicators from the National Education Standards Agency (BSNP), as cited in Purwono (2008), which focus on typography and display elements such as colour, imagery, and layout.

Secondly, the evaluation utilised criteria proposed by Walker and Hess, as cited in Suartama et al. (2023, which assess media feasibility based on design and visual characteristics; these include aesthetic appeal, image resolution, text readability, font selection, colour usage, language, and layout composition. The media validation process was executed in two stages. In the initial stage, the educational board game achieved an overall score of 63.33%. Falling within the range typically defined as greater than 50.01%, this score categorised the product as 'Less Feasible'.

Consequently, the media expert advised that the game was unsuitable for immediate use and necessitated major revisions. Following the implementation of the recommended improvements, a second validation stage was conducted. In this subsequent phase, the product attained a score of 78.05%. Surpassing the 70.01% threshold, the educational board game was re-categorised as 'Moderately Feasible' (or 'Feasible'). Accordingly, the official recommendation declared the game suitable for implementation, subject to minor revisions. Table 2 presents the comparative results of the Stage 1 and Stage 2 media validation processes. Figure 13 illustrates the comparative results of the media validation across the two stages.

Table 2. Stage 1 and 2 Media Validation Results

Aspect	Stage 1			Stage 2		
	Obtained Score	Maximum Score	Percentage	Obtained Score	Maximum Score	Percentage
Board game material selection	8	10	80.00%	8	10	80.00%
Main board display appropriateness	19	30	63.33%	24	30	80.00%
Board game packaging display appropriateness	10	25	40.00%	17	25	68.00%
Guidebook display appropriateness	12	20	60.00%	20	20	100.00%
Card display appropriateness	25	40	62.50%	32	40	80.00%
Card holder display appropriateness	16	20	80.00%	16	20	80.00%
Pawn/token display appropriateness	11	15	73.33%	12	15	80.00%
Coin display appropriateness	11	15	73.33%	12	15	80.00%

| Aspect	Stage 1			Stage 2		
	Obtained Score	Maximum Score	Percentage	Obtained Score	Maximum Score	Percentage
Pawn holder display appropriateness	16	20	80.00%	16	20	80.00%
Coin holder display appropriateness	16	20	80.00%	16	20	80.00%
Sand timer display appropriateness	11	15	73.33%	15	15	100.00%
Puzzle display appropriateness	10	25	40.00%	20	25	80.00%
Language	23	35	65.71%	26	35	74.29%
Media operationalization	28	55	50.90%	35	55	63.64%
Learning design	12	15	80.00%	12	15	80.00%
Total Obtained Score	**228**			**281**		
Total Maximum Score	**360**			**360**		
Percentage Score	**63.33%**			**78.05%**		
Category	**Less Feasible**			**Feasible**		
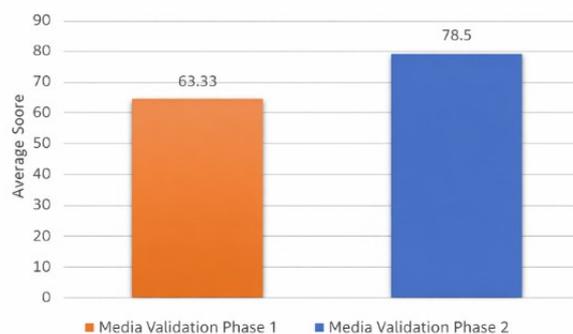
Figure 13. Graph of the Two-Stage Media Validation Results

The Practicality of Educational Board Game

The practicality of the Educational Board Game was evaluated through a two-phase field testing process: a preliminary field test involving four students, and a subsequent main field test comprising eight students and one fourth-grade teacher from Hidayah Elementary School. The initial student practicality assessment aimed to determine the usability of the product from the perspective of the students as end-users. The data collection instrument employed was a questionnaire encompassing nine distinct aspects represented by 17 indicator items. Each item utilised a dichotomous response scale ('Yes' or 'No'). The assessment criteria were adapted from the instrument previously used for the media expert's feasibility assessment.

The assessment was executed in two stages:

1. **Stage 1 (Preliminary Field Test):** Conducted with four fourth-grade students, this stage yielded a total score of 52. This corresponded to a percentage of 76.47%, categorising the product as 'Moderately Practical'. Qualitative feedback in the form of notes and suggestions for improvement was also collected from the students. Based on this input, the product underwent revisions prior to the main trial.

2. **Stage 2 (Main Field Test):** Following the revisions, the practicality and effectiveness were re-evaluated with eight students. This stage resulted in a total score of 134, equating to a percentage of 98.52%. This score elevated the product to the 'Very Practical' category.

Given these highly positive outcomes, the study proceeded to the operational trial phase to assess the game's effectiveness in enhancing students' interest and memorisation abilities. Table 3 presents the comparative results from both stages of the student practicality assessment. Figure 14 illustrates the comparative results of the two-stage student practicality assessment for the educational board game.

Table 3. Comparative Student Practicality Results (Stage 1 and Stage 2)

| Aspect	Stage 1 (Preliminary Field Test)			Stage 2 (Main Field Test)		
	Obtained Score	Max Score	Percentage	Obtained Score	Maximum Score	Percentage
Media safety	3	4	75.00%	8	8	100%
Media attractiveness	4	4	100%	8	8	100%
Media display	13	16	81.25%	32	32	100%
Media portability	4	8	50.00%	15	16	93.75%
Material ease	3	4	75.00%	8	8	100%
Game instructions clarity	2	4	40.00%	8	8	100%
Ease of play	4	8	50.00%	16	16	100%
Media capability in improving memorization ability	7	8	87.05%	15	16	93.75%
Media capability in increasing memorization interest	12	12	100%	24	24	100%
Total Obtained Score	**52**			**134**		
Total Maximum Score	**68**			**136**		
Percentage Score	**76.47%**			**98.52%**		
Category	**Fairly Practical**			**Very Practical**		
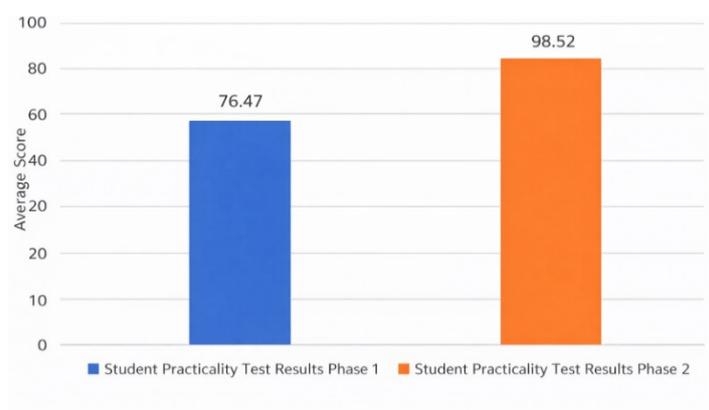
Figure 14. Graph of the Two-Stage Student Practicality Assessment Results

Complementing the student feedback, a practicality assessment was undertaken by the class teacher during the main field test. The primary objective was to evaluate the utility of the educational board game from the perspective of an instructional practitioner. This assessment was completed by Ms D, the fourth-grade teacher at Hidayah Elementary School. The assessment instrument consisted of a questionnaire addressing two primary domains, specifically media and material. These domains were further subdivided into seven specific aspects, encompassing a total of 22 indicator items. Each item was rated utilising a five-point Likert scale ranging from 'Very Practical' to 'Not Practical'. The criteria employed were derived from a synthesis and modification of the feasibility questionnaires previously utilised by the media and material experts. The assessment was conducted in a single phase. The teacher's evaluation resulted in an aggregate score of 97.03%. As this figure surpasses the 85.01% threshold established for the highest classification, the product was categorised as 'Very Practical' and

deemed suitable for implementation without the need for further revision. Table 4 details the results of the teacher practicality assessment.

Table 4. Teacher Practicality Assessment Results (Main Field Test)

Aspect	Obtained Score	Maximum Score	Percentage
Educational board game content feasibility	24	25	96.00%
Material appropriateness for improving short S*urah* memorization ability	19	20	95.00%
Material appropriateness for increasing memorization interest	15	15	100.00%
Language appropriateness	9	10	90.00%
Board game display	25	25	100.00%
Media operationalization	19	20	95.00%
Learning design	20	20	100.00%
Total Obtained Score		**131**	
Total Maximum Score		**135**	
Percentage Score		**97.03%**	
Category		**Very Practical**	

Effectiveness of Educational Board Game

The efficacy of the product was evaluated during the operational trial, a comprehensive assessment designed to determine the impact of the educational board game on student interest and memorisation proficiency. The trial involved the entire cohort of 25 fourth-grade students at Hidayah Elementary School. The study employed a pre-test, treatment, and post-test experimental design conducted over the course of three class sessions. To measure effectiveness, three distinct instruments were utilised, including pre-test and post-test questionnaires regarding student interest in memorisation, pre-test and post-test assessments of declarative knowledge concerning the short chapters or *Surahs*, and an oral examination of short chapter memorisation.

Student Memorization Interest Test

To evaluate changes in student interest regarding memorisation, a questionnaire was administered both prior to the intervention as a pre-test and subsequent to it as a post-test. This instrument employed a Guttman scale with dichotomous response options, namely 'Yes' and 'No'. The data revealed a significant enhancement in student interest following the intervention. Prior to the implementation of the educational board game, the distribution comprised nine students in the low-interest category, 14 in the moderate category, and two in the high-interest category. Following the intervention, a notable shift was observed wherein no students remained in the low-interest category, while the moderate and high-interest categories rose to 16 and nine students respectively. Overall, the data indicated a 16% aggregate increase in memorisation interest. These comparative results are illustrated in Figure 15.

Assessment of Memorization Ability (Written Test)

A written examination was conducted to assess the cognitive aspects of student knowledge and mastery of short *Surahs* both before and after the treatment. This phase involved the participation of all 25 students. Initially, a pre-test consisting of 20 items comprising 15 multiple-choice and five essay questions was administered to establish baseline proficiency. These items were validated by subject matter experts. Subsequently, students underwent the intervention utilising the educational board game as a pedagogical tool. Following this treatment, a post-test containing the same question format was administered. Analysis of the written test data revealed that the mean score rose from a pre-test average of 70.36 to a post-test average of 88.72, representing a mean differential of 18.36 points. The score distribution shifted from a range of 55 to 85 in the pre-test to 77 to 100 in the post-test. The

normalised gain (N-Gain) calculation yielded a value of 0.62, categorising the improvement as 'Moderate'. These results demonstrate a significant statistical improvement between pre-treatment and post-treatment scores, confirming the effectiveness of the educational board game in enhancing memorisation ability. The comparative analysis of these results is presented in Figure 16.
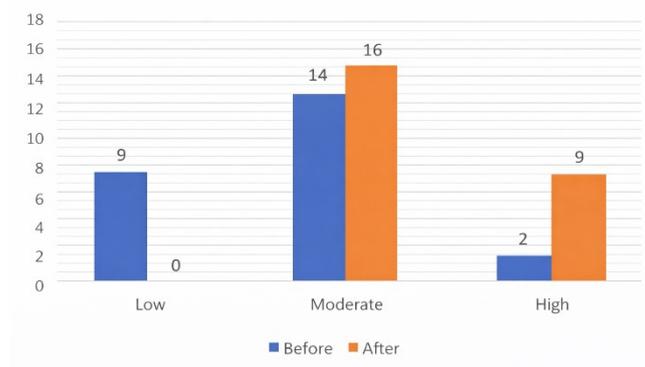

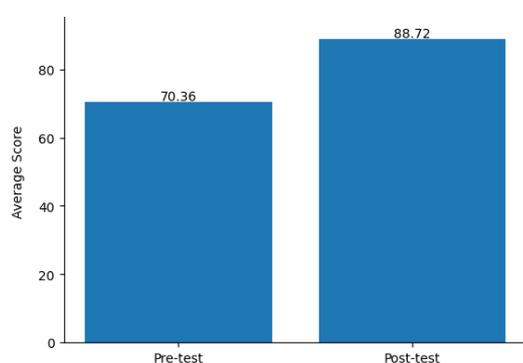**Figure 15.** Graph of Student Memorization Interest Results

Figure 16. Graph of Operational Test Results for the Written Test (Pre-test & Post-test)

Assessment of Memorization Ability (Oral Test)

An oral examination regarding the memorisation of short chapters was conducted both before and after the treatment period. This assessment employed a performance rubric designed to evaluate oral recitation based on three specific criteria, specifically pronunciation, accuracy, and fluency. The observer recorded performance by placing a tick in the appropriate column, with proficiency rated on a four-point Likert scale ranging from 1 for Poor to 4 for Very Good. The results indicated a distinct improvement in performance as the mean pre-test score of 75.76 increased to a post-test mean of 86.32, reflecting an average gain of 10.56 points. Furthermore, the range of scores expanded from 50 to 92 in the pre-test to 58 to 100 in the post-test. The calculated normalised gain (N-Gain) was 0.43, which falls within the 'Moderate' classification. These data evidence a significant increase in oral memorisation proficiency following the intervention. Consequently, it can be concluded that the educational board game is effective in enhancing memorisation ability, demonstrating a moderate level of effectiveness. The comparison between the pre-test and post-test oral results is depicted in Figure 17.

Product Revision

Modifications to the educational board game designed for the memorisation of short *Surahs* were implemented in response to feedback provided by media experts, material experts, educational practitioners, and end-users, alongside findings derived from field trials. The revision process encompassed three distinct stages, as delineated in Table 5.
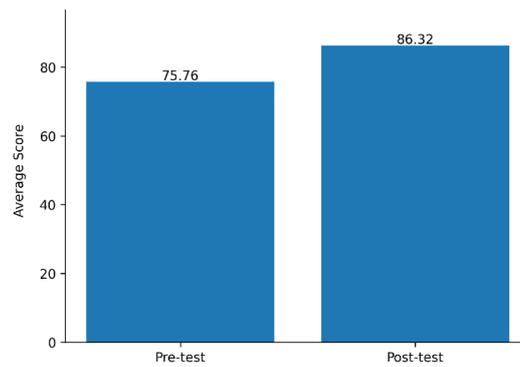
Figure 17. Graph of Operational Test Results: Oral Test (Pre-Test and Post-Test)

Table 5. Revision Stages and Process

Revision Stage	Aspect	Before Revision	After Revision
Media Expert Revision Stage 1	Developer Profile Card Information	Absence of a developer profile on the board game Ambiguity regarding card placement and nomenclature; lack of clear naming for challenge cards.	Inclusion of a developer profile on the reverse of the main board. Simplification of card nomenclature (e.g., Memory Card, Writing Card); inclusion of supplementary information on the main board, such as player characteristics, participant count, and playing duration.
	Card Terminology	Inconsistencies in the use of terms (e.g., '*Surah*' vs 'verse'), causing user confusion.	Standardisation of terminology to ensure consistency throughout the game components.
	Guidebook Design	Content was excessively dense, overwhelming the user.	Streamlining of the guidebook to feature clear, concise points highlighting rules and components.
	Answer Keys	Fragmentation of answer keys into separate booklets.	Consolidation of all answer keys into a single, unified booklet.
	Packaging Design	Box-style packaging presented difficulties regarding portability and storage.	Transition to a tote bag manufactured from calico fabric (30×40 cm) to facilitate portability and storage.
	Puzzle Component	Absence of puzzle components despite the assessment instrument requiring their evaluation.	Integration of puzzle cards as a component of the 'Arrange Verses' challenge.
Media Expert Revision Stage 2	Card Naming	Ambiguity regarding the naming and specific functions of challenge cards.	Clarification of card names and functions to mitigate user confusion.
	Card Margins	Irregular margins compromised the visual aesthetics of the cards.	Adjustment of margins to ensure a neater, professional appearance.
Teacher and	Game Rules	Complexity of the rules hindered student comprehension.	Simplification of rules to facilitate easier gameplay for students.

Revision Stage	Aspect	Before Revision	After Revision
Student Revision	Challenge Content	Certain challenges and questions were deemed inefficient during gameplay.	Modification of challenges and questions to align with student cognitive abilities.
	Language Clarity	Linguistic complexity of challenges and questions was excessive.	Simplification of syntax and vocabulary to suit the characteristics of the target demographic.
	Text Spacing	Inconsistent typography and spacing on cards.	Standardisation of text spacing across all card types.
	Arabic Text Readability	Suboptimal legibility of Arabic script.	Enhancement of readability through optimised spacing and increased font size.
	Card Packaging	Paper-based art carton packaging was susceptible to damage.	Replacement with drawstring pouches made of calico fabric to enhance durability.

DISCUSSIONS

The development of this educational board game aimed at facilitating the memorisation of short *Surahs* was undertaken to address three fundamental research objectives: establishing the validity, practicality, and effectiveness of the instructional media. The empirical findings demonstrate that the developed educational board game comprehensively satisfies all three criteria.

Validity of the Educational Board Game

The validity of the educational board game was established through rigorous expert assessment, which confirmed the medium's suitability for pedagogical application. The validation of a developmental product is of paramount importance, as it ensures the appropriateness of the medium prior to implementation. In the context of this research, validation was conducted by experts in subject matter, media design, and linguistics. This process ensured that the instructional content aligns with the *Al-Qur'an Hadith* curriculum, that the design is both aesthetically appealing and functional, and that the linguistic complexity is appropriately tailored for fourth-grade students in elementary schools and *madrasahs*.

Practicality in Implementation

The practicality of the educational board game is evidenced by the positive feedback received from both the educators and students who engaged with the tool. Instructional media are deemed practical when they exhibit ease of use, necessitate minimal preparatory effort, and are readily applicable within authentic educational settings. The research findings indicate that teachers were able to integrate the board game into their instruction without the need for extensive specialised training. Concurrently, students rapidly grasped the gameplay mechanics and demonstrated enthusiastic participation. Furthermore, the practicality of this medium is reflected in its cost-effectiveness, rendering it a highly viable alternative for *madrasahs* operating with limited financial resources.

Effectiveness in Increasing Interest and Memorization Ability

The efficacy of the educational board game is substantiated by two primary indicators: the enhancement of student interest and the improvement of memorisation proficiency. The increase in interest is quantitatively evidenced by a significant shift in student distribution from the low category to the moderate and high categories, representing a total aggregate increase of 16%. Furthermore, the improvement in memorisation ability is confirmed by gain scores falling within the 'moderate' category, achieving a value of 0.62 in written tests alongside observed improvements in oral assessments. These findings indicate that the educational board game successfully transformed student perceptions of memorisation from a monotonous process into an enjoyable and interactive

activity, a result that aligns with the perspective of Liu et al. (2022), who posit that effective learning occurs within a pleasant atmosphere.

Comparison with Previous Research

The success of the educational board game is consistent with prior research regarding the effectiveness of game-based learning. A systematic review by Alotaibi (2024) observed that game-based learning yields moderate to large effects on cognitive, social, emotional, and motivational outcomes, as well as student engagement in early childhood education. The moderate gain score of 0.62 obtained in the present study suggests that traditional, analogue board games can possess an effectiveness equivalent to that of digital games within specific learning contexts. Regarding cognitive skill development, research by Estrada-Plana (2024) established that mathematics and memory-based board games can improve visuospatial short-term memory and working memory updating in children aged 8 to 9 years when compared to standard lessons. This parallels the results of the educational board game study, wherein fourth-grade students aged approximately 9 to 10 years demonstrated significant improvement in memorisation ability, indicating that this developmental stage is optimal for board game-based learning interventions.

Furthermore, a systematic review by Noda et al., (2019), which evaluated 71 studies, found that board games have positive effects on educational knowledge, with effect sizes ranging from 0.12 to 1.81, and cognitive function, with effect sizes between 0.04 and 2.60. The results of the educational board game research, specifically the gain score of 0.62, fall within this significant effectiveness range, thereby demonstrating consistency with international findings. Research on card games in medical education also yields promising results. For instance, a randomised controlled trial by Yu et al., (2025) found that the Neurological Syndrome Card Game significantly improved learning outcomes and memory retention whilst reducing cognitive load. The same principle applies to the educational board game, where elements such as the Race Game, Trivia, and Puzzle create engaging learning experiences while simultaneously training memory retention.

In the specific context of Qur'anic learning, this research provides a distinct contribution. Ramli & Salim (2020) noted that although *Murajaah* plays a vital role, students experience major obstacles when it is conducted monotonously. The educational board game offers a solution by rendering repetition more attractive and interactive, thereby motivating students to perform *Murajaah* more consistently. Research by Haryono et al., (2023) on Qur'anic memorisation technologies found that gamification-based models are proven effective in supporting learning. The present study reinforces that claim by demonstrating that even in a non-digital form, gamification principles remain effective in increasing interest and memorisation ability. This provides an important alternative for *madrasahs* with limited access to technology. Additionally, Akbari et al., (2024) found that among three *tahfiz* application models, the gamification-based model proved the most effective in supporting learning. This research demonstrates that gamification principles can be applied not only in digital forms but also in physical board games with effective results.

Theoretical Foundation of Educational Board Game Success

The success of the educational board game can be elucidated through Bandura's Social Cognitive Learning Theory. Educational games create an interactive learning environment where students acquire knowledge not only from teachers but also from peers through processes of observation, imitation, and social modelling (Nabavi & Bijandi, 2024). This interaction strengthens intrinsic motivation whilst building student confidence in mastering the material. In the context of *Al-Qur'an Hadith* learning, group play activities can be integrated with the *Tasmi'* method, which involves reciting memorisation to others. This mechanism encourages social validation and correction, thereby strengthening student memory retention while fostering shared responsibility for learning outcomes (Muchtar & Fatoni, 2025).

The effectiveness of this medium also aligns with Game-Based Learning (GBL) principles, specifically the utilisation of game elements to create enjoyable, challenging, and meaningful learning experiences. GBL has been proven to increase engagement, active participation, and student learning outcomes by combining healthy competition, instant feedback, and group collaboration (Prensky, 2021; Squire, 2011). Several studies further confirm that implementing GBL in Islamic Religious

Education, including *Al-Qur'an Hadith*, can enhance student motivation, concept understanding, and memory retention (Hidayah, 2023; Samsu et al., 2025; Lisa & Muthohar, 2024). The finding that the improvement in memorisation ability falls into the 'moderate' category is both logical and realistic. This aligns with research by Marlena et al., (2023), which established that Qur'anic memorisation is a complex process requiring not only repetition but also understanding and commitment. Although this intervention successfully integrated various memorisation methods into an enjoyable format, the *tahfiz* process fundamentally requires continuous repetition, or *Murajaah*, over a distinctively longer period to achieve optimal results and permanent memorisation.

CONCLUSION

The novelty of this research lies in the innovative integration of traditional *tahfidz* Al-Qur'an methodologies with a Game-Based Learning (GBL) approach, realised through a non-digital board game format. In contrast to extant scholarship, which predominantly examines digital applications or conventional methods in isolation, this study presents a distinct pedagogical alternative. It synthesises gamification principles with *Tasmi'* and *Muraja'ah* methods into a single, practical, and cost-effective medium. This innovation offers a viable solution for *madrasahs* possessing limited digital infrastructure, whilst simultaneously preserving the values of social interaction that are pivotal to Al-Qur'an and Hadith education. The scientific contribution of this study encompasses three key dimensions that address the research objectives. Theoretically, this research enriches the literature on the efficacy of Game-Based Learning within Islamic education, providing empirical evidence that gamification principles can be effectively applied to non-digital formats for the instruction of Al-Qur'an and Hadith. This study is subject to several limitations, specifically its implementation within a single *Madrasah Ibtidaiyah* with a restricted sample size. Furthermore, the brevity of the intervention period precluded the assessment of long-term knowledge retention, while the attainment of moderate gain scores indicates that the instructional media warrants further refinement. Consequently, future research should encompass a more diverse array of madrasahs and employ longitudinal approaches to evaluate the sustainability of learning outcomes. It is also recommended that experimental designs be utilised to isolate the specific effects of individual game components. Concurrently, efforts should be made to enhance content, visual aesthetics, and supportive technology, whilst preserving the intrinsic pedagogical value of the physical board game format. Notwithstanding these constraints, this study reinforces the applicability of Social Cognitive Learning Theory and Game-Based Learning within the context of Islamic education. Crucially, it demonstrates that instructional innovation can be realised through teacher creativity and pedagogical ingenuity, rather than a reliance on prohibitively expensive digital technologies. In terms of practical implications, educators are encouraged to integrate educational board games alongside traditional pedagogical methods. Concurrently, school administrators should foster an environment conducive to innovation by providing necessary training and financial support. At a policy level, these findings should inform strategies to promote the development of innovative media and teacher professional growth. Finally, the deployment of educational board games merits expansion into other formal and non-formal Islamic educational settings.

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