

## DEVELOPING HALAL FINANCIAL JOURNEY: AN EXPERIENTIAL BOARD GAME FOR ISLAMIC FINANCIAL PLANNING

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### ABSTRACT

*Islamic financial planning requires not only knowledge of financial principles, but also the ability to apply them in daily financial decision-making. This study aims to develop Halal Financial Journey, an experiential educational board game designed to support learning in Islamic financial planning through contextual decision-making and game-based learning. The study employed a Research and Development (R&D) approach using the ADDIE model, comprising analysis, design, development, implementation, and evaluation. The analysis stage involved needs analysis and Focus Group Discussion (FGD) to identify participants' financial learning needs and challenges. The prototype was subsequently reviewed by a board game design expert and an Islamic financial planning expert and revised before a limited trial. Evaluation involved a one-group pre-test–post-test design with 24 participants who completed both measurements, complemented by post-game user evaluation and qualitative feedback. The mean score on the understanding measure increased from 87.08 at pre-test to 93.75 at post-test. The Wilcoxon signed-rank test indicated a statistically significant within-participant difference ( $p = 0.012$ ), with a standardized change of Cohen's  $d_z = 0.57$ . User evaluation showed positive perceptions of educational impact, engagement, and interaction, although game duration, learning complexity, and physical components require further refinement. The findings provide preliminary evidence of improvement in measured understanding following gameplay and suggest that the game's educational value is reflected in decision-making, consequences, and reflection. Rather than establishing causal effectiveness, the study contributes a prototype for experiential Islamic financial planning and identifies priorities for subsequent refinement and controlled evaluation.*

**Keywords:** *Islamic financial planning, Halal Financial Journey, experiential learning, board game, game-based learning.*

### ABSTRAK

Perencanaan keuangan syariah tidak hanya membutuhkan pengetahuan mengenai prinsip-prinsip keuangan, tetapi juga kemampuan untuk menerapkannya dalam pengambilan keputusan keuangan sehari-hari. Penelitian ini bertujuan mengembangkan Halal Financial Journey, sebuah board game edukatif berbasis pengalaman yang dirancang untuk mendukung pembelajaran perencanaan keuangan syariah melalui pengambilan keputusan kontekstual dan game-based learning. Penelitian menggunakan pendekatan Research and Development (R&D) dengan model ADDIE yang meliputi analysis, design, development, implementation, dan evaluation. Tahap analisis mencakup analisis kebutuhan dan Focus Group Discussion (FGD) untuk mengidentifikasi kebutuhan dan tantangan pembelajaran keuangan peserta. Prototipe kemudian ditinjau oleh seorang ahli desain board game dan seorang ahli perencanaan keuangan syariah serta direvisi sebelum dilakukan uji coba terbatas. Evaluasi menggunakan desain one-group pre-test–post-test terhadap 24 peserta yang menyelesaikan kedua pengukuran, dilengkapi dengan evaluasi pengguna setelah permainan dan umpan balik kualitatif. Rata-rata skor pada instrumen pemahaman meningkat dari 87,08 pada pre-test menjadi 93,75 pada post-test. Uji Wilcoxon signed-rank menunjukkan adanya perbedaan skor yang signifikan secara statistik pada pengukuran berpasangan ( $p = 0,012$ ), dengan perubahan terstandar sebesar Cohen's  $d_z = 0,57$ . Evaluasi pengguna menunjukkan persepsi positif terhadap dampak pembelajaran serta keterlibatan dan interaksi, meskipun durasi permainan, kompleksitas pembelajaran, dan komponen fisik masih memerlukan penyempurnaan. Temuan memberikan bukti awal mengenai peningkatan skor pemahaman setelah permainan dan menunjukkan bahwa nilai edukatif permainan tercermin dalam pengambilan keputusan, konsekuensi, dan refleksi. Penelitian ini tidak dimaksudkan untuk membuktikan efektivitas kausal, tetapi memberikan kontribusi berupa prototipe pembelajaran perencanaan keuangan syariah berbasis pengalaman serta mengidentifikasi prioritas penyempurnaan dan evaluasi terkontrol pada penelitian selanjutnya.

**Kata Kunci:** *perencanaan keuangan syariah, Halal Financial Journey, pembelajaran berbasis pengalaman, board game, game-based learning.*

## INTRODUCTION

Financial planning is an important component of individuals' capacity to manage economic resources, particularly as they make decisions about income, expenditure, saving, investment, risk, and financial goals. As individuals begin making more independent financial decisions, financial education becomes increasingly important for applying financial knowledge to real-world choices. However, effective financial capability involves more than acquiring factual knowledge. Financial literacy is increasingly conceptualized as a multidimensional construct that integrates financial knowledge, behavioral competencies, attitudes, and the capacity to apply knowledge in real-world contexts. Recent evidence further indicates that financial knowledge alone explains only a limited proportion of performance in dynamic financial decision-making environments, suggesting that declarative knowledge does not fully translate into effective financial decisions. Financial education can improve both knowledge and downstream financial behaviors, but its effects vary according to intervention characteristics and learning contexts. These challenges become more pronounced because everyday financial decisions involve competing priorities, uncertainty, and interconnected consequences rather than isolated choices. Financial decision-making may require individuals to balance multiple goals under changing conditions, while applied financial competencies are difficult to capture when learning remains predominantly declarative or decontextualized.<sup>1</sup> In the present study, this problem was also identified during the needs-analysis stage: participants were familiar with several Islamic financial concepts but experienced difficulties when applying them to concrete situations involving investment risk, competing financial needs, saving, and Shariah-related dilemmas. These findings indicate that the central challenge is not simply whether learners know financial concepts, but whether they can apply those concepts to contextual decisions, evaluate trade-offs, anticipate consequences, and maintain Shariah-oriented considerations under conditions resembling everyday financial life.<sup>2</sup>

Addressing this application gap requires learning environments in which learners can use financial knowledge while making decisions under conditions that resemble real-world complexity. Contextual and simulation-based learning can provide such an environment by allowing learners to actively engage with problems, make choices, receive feedback, and experience the consequences of their decisions. Research on simulation-based assessment similarly emphasizes that complex competencies are difficult to demonstrate through decontextualized formats because meaningful performance requires learners to apply knowledge within relevant situations. Simulation games can create interactive environments in which players exercise choice, receive feedback, and experience consequences while engaging with complex tasks.<sup>3</sup> In financial education, this approach is particularly relevant because financial decision performance is not fully explained by declarative knowledge alone.<sup>4</sup> Therefore, educational approaches that provide opportunities for contextual

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<sup>1</sup> Cindy Chamberland et al., "The Relationship between Financial Literacy, Self-Efficacy, and Performance in a Financial Simulation Game," *Acta Psychologica* 266 (2026): 106906, <https://doi.org/10.1016/j.actpsy.2026.106906>.

<sup>2</sup> Tim Kaiser et al., "Financial Education Affects Financial Knowledge and Downstream Behaviors," *Journal of Financial Economics* 145, no. 2 (2022): 255–72, <https://doi.org/10.1016/j.jfineco.2021.09.022>.

<sup>3</sup> Aranka Bijl et al., "Assessing Information Problem Solving through a Simulation Game: Validation Evidence from a Municipal Enforcement Official Context," *Computers & Education* 244 (2026): 105533, <https://doi.org/10.1016/j.compedu.2025.105533>.

<sup>4</sup> Chamberland et al., "The Relationship between Financial Literacy, Self-Efficacy, and Performance in a Financial Simulation Game."

application and higher-order decision processes may complement conventional knowledge-oriented instruction.

Within this broader context, game-based learning and serious games offer a promising approach because they combine structured goals, rules, decision-making, interaction, feedback, and consequential outcomes within a controlled learning environment. A systematic review has shown that serious games can support learning in economics education,<sup>5</sup> while empirical studies in financial education have reported positive learning effects from game-based interventions.<sup>6 7</sup> Evidence syntheses of educational games further indicate that both digital and non-digital formats can support learning outcomes,<sup>8 9</sup> while game-based approaches can enhance behavioral and cognitive engagement when appropriately designed.<sup>10 11</sup> More recent research further emphasizes that the instructional value of financial-literacy games depends not simply on the presence of game elements but on how game mechanics are aligned with the intended learning objectives.<sup>12</sup> Thus, the relevance of game-based learning lies not in gamification for its own sake, but in its capacity to create structured opportunities for learners to make decisions, encounter consequences, and connect those experiences with instructional concepts.

Among game-based learning formats, board games are particularly relevant when learning objectives require learners to interact directly with resources, rules, other players, and evolving decision situations. Their physical and social characteristics create opportunities for face-to-face interaction, strategic planning, problem solving, and shared decision-making,<sup>13, 14</sup> while making the consequences of choices visible within the game environment. A systematic review of board, tabletop, and other analog game-based learning approaches documents their use across educational settings, reinforcing the relevance of these formats as structured learning

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<sup>5</sup> Liane Platz, "Learning with Serious Games in Economics Education a Systematic Review of the Effectiveness of Game-Based Learning in Upper Secondary and Higher Education," *International Journal of Educational Research* 115 (2022): 102031, <https://doi.org/10.1016/j.ijer.2022.102031>.

<sup>6</sup> Panu Kalmi and Jaana Rahko, "The Effects of Game-Based Financial Education: New Survey Evidence from Lower-Secondary School Students in Finland," *The Journal of Economic Education* 53, no. 2 (2022): 109–25, <https://doi.org/10.1080/00220485.2022.2038320>.

<sup>7</sup> Marta Cannistrà et al., "The Impact of an Online Game-Based Financial Education Course: Multi-Country Experimental Evidence," *Journal of Comparative Economics* 52, no. 4 (2024): 825–47, <https://doi.org/10.1016/j.jce.2024.08.001>.

<sup>8</sup> T. Talan et al., "Efficiency of Digital and Non-Digital Educational Games: A Comparative Meta-Analysis and a Meta-Thematic Analysis," *Journal of Research on Technology in Education* 52 (2020): 474–514, <https://doi.org/10.1080/15391523.2020.1743798>.

<sup>9</sup> I. Díaz et al., "Application of Serious Games in Chemical Engineering Courses," *Education for Chemical Engineers* 46 (2024): 22–32, <https://doi.org/10.1016/j.ece.2023.10.002>.

<sup>10</sup> Platz, "Learning with Serious Games in Economics Education a Systematic Review of the Effectiveness of Game-Based Learning in Upper Secondary and Higher Education."

<sup>11</sup> N. Taskın and E. Kılıç Çakmak, "Effects of Gamification on Behavioral and Cognitive Engagement of Students in the Online Learning Environment," *International Journal of Human-Computer Interaction* 39 (2023): 3334–45, <https://doi.org/10.1080/10447318.2022.2096190>.

<sup>12</sup> Liane Platz and Marina Zauner, "Financial Literacy Games Increasing Utility Value by Instructional Design in Upper Secondary Education," *Education Sciences* 15, no. 2 (2025): 227, <https://doi.org/10.3390/educsci15020227>.

<sup>13</sup> D. Gonçalves et al., "Social Gaming: A Systematic Review," *Computers in Human Behavior* 147 (2023): 107851, <https://doi.org/10.1016/j.chb.2023.107851>.

<sup>14</sup> H. T. Hou et al., "Designing an Alternate Reality Board Game with Augmented Reality and Multi-Dimensional Scaffolding for Promoting Spatial and Logical Ability," *Interactive Learning Environments* 31 (2023): 4346–66, <https://doi.org/10.1080/10494820.2021.1961810>.

media.<sup>15</sup> Recent empirical evidence indicates that board games can support formal learning outcomes. Szörényi et al. found that incorporating commercial board games into mathematics instruction was associated with improvements in several learning outcomes among secondary-school students.<sup>16</sup> Similarly, Ariya et al. reported that both digital and non-digital board games enhanced knowledge acquisition among higher-education students, while the physical format retained distinctive *face-to-face* and socially interactive characteristics.<sup>17</sup> Evidence from board-game implementation research also demonstrates the feasibility of using a structured board game to support subject-specific learning through design, implementation, and evaluation.<sup>18</sup> These findings suggest that the educational value of board games does not depend solely on digital sophistication, but can emerge from the interaction between game mechanics, social engagement, and instructional objectives. Such characteristics make board games particularly suitable for financial-planning topics in which multiple variables must be considered simultaneously rather than learned as isolated concepts.

The application challenge becomes more complex in the context of Islamic financial planning because learners must apply financial concepts while taking Shariah-oriented principles and values into account. In this study, Islamic financial planning is operationalized through income, expenditure, saving, financial goals, investment, risk management, and wealth distribution within a Shariah-oriented framework. Learners may therefore need to navigate situations in which immediate financial needs conflict with Shariah considerations or in which different financial objectives compete for limited resources. Prior research in Indonesia also shows that family and social factors are associated with Islamic financial literacy, indicating that Islamic financial understanding develops within social and everyday contexts. The needs analysis conducted in the present study reflected these challenges. Participants were familiar with concepts such as halal and haram and terminology such as gharar, yet they reported uncertainty when applying these principles to ambiguous situations. They also identified difficulties in balancing saving, consumption, investment, risk, charitable giving, and unexpected financial needs. These findings suggest that Islamic financial planning requires more than the recognition of individual Shariah concepts; it requires learners to evaluate alternatives, prioritize competing objectives, anticipate consequences, and integrate financial considerations with Shariah-oriented principles in contextual decision-making.<sup>19</sup>

Game-based approaches have also been introduced into Islamic financial education, demonstrating the feasibility of using interactive board games to support Islamic finance literacy. Riwayatanti et al., for example, developed an Islamic economics board game using the ADDIE framework to familiarize learners with Islamic finance principles and support recognition and evaluation of Shariah-compliant investment

<sup>15</sup> C. Sousa et al., “Playing at the School Table: Systematic Literature Review of Board, Tabletop, and Other Analog Game-Based Learning Approaches,” *Frontiers in Psychology* 14 (2023), <https://doi.org/10.3389/fpsyg.2023.1160591>.

<sup>16</sup> Sára Szörényi et al., “The Impact of Commercial Board Games on Secondary School Mathematics Performance and Thinking Skills,” *International Journal of Educational Research Open* 10 (2026): 100569, <https://doi.org/10.1016/j.ijedro.2025.100569>.

<sup>17</sup> Pakinee Ariya et al., “Digital Literacy through Gaming: A Comparative Study of Knowledge Acquisition, Social Presence, and Emotional Reactions in Digital and Non-Digital Board Games,” *Social Sciences & Humanities Open* 11 (2025): 101387, <https://doi.org/10.1016/j.ssaho.2025.101387>.

<sup>18</sup> A. Saithongdee and T. Sirirat, “Learning Mole Calculation through a Board Game in an Engaging and Enjoyable Environment: Design, Implementation, and Evaluation,” *Journal of Chemical Education* 101 (2024): 1551–63, <https://doi.org/10.1021/acs.jchemed.3c01010>.

<sup>19</sup> Rita Rahayu et al., “Examining the Role of Family and Social Factors on Islamic Financial Literacy: Evidence from Indonesia,” *Journal of Islamic Marketing* 15, no. 9 (2024): 2165–80, <https://doi.org/10.1108/JIMA-07-2023-0213>.

options.<sup>20</sup> This study provides an important foundation for the use of board games in Islamic financial education. However, the learning task represented in this approach is primarily centered on the recognition and evaluation of individual Islamic financial options, particularly investment compliance, rather than the broader interconnected process of personal financial planning. In real-life financial planning, decisions concerning income, expenditure, saving, financial goals, risk, investment, and unexpected events interact with one another and may produce consequences for subsequent decisions. This distinction suggests an opportunity to extend Islamic financial game design from concept- and option-oriented learning toward a more interconnected and consequential simulation of financial planning. Building on this opportunity, the present study developed Halal Financial Journey as an experiential board game in which Islamic financial planning is represented as an interconnected decision process. Rather than focusing on individual financial concepts or the compliance status of specific investment options, the game requires players to manage limited resources across multiple financial priorities, pursue life goals, maintain emergency funds, respond to risk and life events, consider investment alternatives, and navigate Shariah-oriented dilemmas. Decisions made during gameplay affect subsequent financial conditions, allowing players to experience consequences and reconsider their strategies. The contribution of Halal Financial Journey therefore lies not simply in applying the board-game format to Islamic finance, but in integrating financial planning, decision-making, Shariah considerations, and consequential experiential learning within a single gameplay environment.

Accordingly, this study aims to develop and conduct an initial evaluation of Halal Financial Journey as an experiential board game for Islamic financial-planning learning. The study follows a Research and Development approach using the ADDIE model, incorporating needs analysis and Focus Group Discussion, prototype design and development, expert review, limited implementation, pre-test and post-test assessment, user evaluation, and qualitative feedback. The study contributes to Islamic financial education in three respects. Firstly, it conceptually extends game-based Islamic finance education from the recognition and evaluation of individual financial concepts toward the experiential simulation of interconnected financial-planning decisions. Secondly, it contributes a game-design approach that integrates financial goals, resource allocation, risk, investment, life events, ethical dilemmas, Shariah Compliance, and reflection within a single learning environment. Thirdly, it provides preliminary empirical evidence on changes in measured understanding and user experience while identifying specific design features requiring further refinement and controlled evaluation.

## METHOD

### Research Design

This study employed a Research and Development (R&D) approach to develop and conduct an initial evaluation of *Halal Financial Journey*, an experiential board game designed to support Islamic financial planning learning through contextual decision-making. Product development followed the ADDIE model, comprising Analysis, Design, Development, Implementation, and Evaluation stages.<sup>21</sup>

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<sup>20</sup> Nur Indah Riwijanti et al., “Designing Islamic Economics Board Games for Education to Improve Islamic Finance Literacy,” *Review of Integrative Business and Economics Research* 15, no. 2 (2026): 142–56.

<sup>21</sup> Michael Molenda, “In Search of the Elusive ADDIE Model: Performance Improvement,” *Performance Improvement* 54, no. 2 (2015): 40–42, <https://doi.org/10.1002/pfi.21461>.

The study was designed as an initial product-development and prototype-evaluation study rather than a controlled effectiveness experiment. The development process consisted of needs analysis, game design, prototype development and expert review, limited implementation, and formative evaluation. Learning outcomes were examined using a one-group pre-test-post-test design,<sup>22</sup> complemented by post-game user evaluation and qualitative feedback.



Figure 1. ADDIE-based development process of *Halal Financial Journey*.

## Development Procedure

### *Analysis Stage*

The Analysis stage identified learning needs, financial-management challenges, and requirements for an experiential Islamic financial-planning medium. The analysis combined a literature review, preliminary observation, and Focus Group Discussion (FGD). The FGD explored participants' experiences, difficulties, learning needs, and expectations concerning Islamic financial planning. Particular attention was given to everyday financial decision-making, including income and expenditure management, saving, financial priorities, investment and risk, financial goals, and Shariah compliance. The findings were subsequently translated into design requirements for *Halal Financial Journey*, particularly the need for contextual financial scenarios, interactive decision-making, life events, ethical dilemmas, financial goals, and explicit Shariah-oriented indicators. Participants also reported previous exposure to Islamic financial-planning topics through seminars, which was considered when interpreting their baseline understanding and subsequent learning outcomes.

### *Design Stage*

The Design stage translated the identified learning needs into learning objectives, financial-planning structure, game progression, decision mechanisms, and gameplay sequence. The game was designed around game-based and experiential learning principles, allowing players to make financial decisions under resource constraints, encounter consequences, evaluate their financial condition, and adjust their strategies during subsequent rounds. The game uses a five-level Islamic financial planning structure: Financial Foundations, Risk Management, Financial Growth, Financial Comfort, and Wealth Distribution. Each level represents a progressive stage of financial development and contains conditions that must be addressed before players can advance. The game architecture incorporates character cards, life-goal cards, financial decision cards, life-event cards, and ethical-dilemma cards, together with financial and value-oriented indicators including Cash, Emergency Fund, Halal Assets, Risk, Barakah, Shariah Compliance, and Takaful. The gameplay consists of 10 rounds, with each round comprising seven stages: Income, Living Cost, Financial Decision, Life Event, Level-up Check, Life-goal Check, and Evaluation.

<sup>22</sup> Thomas R. Knapp, "Why Is the One-Group Pretest-Posttest Design Still Used?," *Clinical Nursing Research* 25, no. 5 (2016): 467–72, <https://doi.org/10.1177/1054773816666280>.

## Design Architecture of Halal Financial Journey

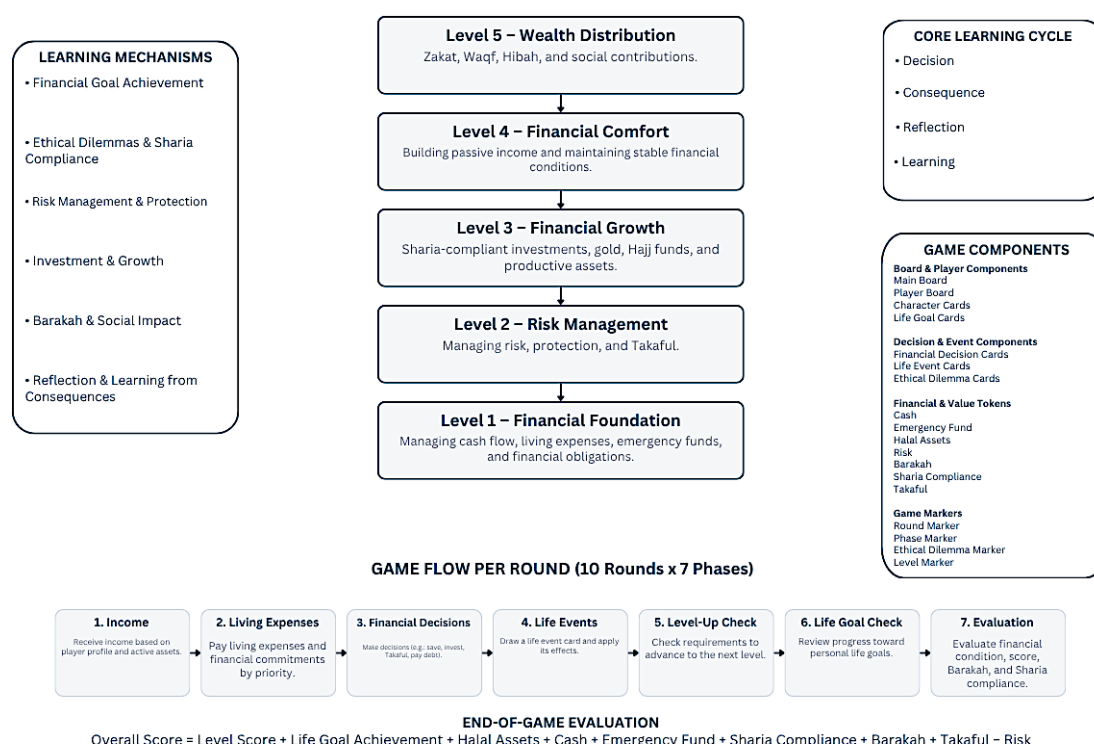


Figure 2. Design architecture integrating the five-level financial planning structure with the game sequence and experiential learning mechanism.

### Development and Expert Review

The Development stage transformed the design into a physical prototype consisting of the main board, player boards, character cards, life-goal cards, financial decision cards, life-event cards, ethical-dilemma cards, financial tokens, value-oriented indicators, and gameplay markers. The prototype was reviewed by two experts with complementary expertise: one board-game design expert and one Islamic financial planning expert. The Islamic financial planning expert holds AWP Syariah certification. The expert review focused on gameplay mechanics, clarity and comprehensibility of rules, visual design and layout, suitability of game components, and alignment of game content with Islamic financial planning and Shariah principles. Expert feedback was used for formative refinement before the limited implementation. The review resulted in revisions to the game opener, rules, board layout, terminology of ethical-dilemma cards, explanation of *musyarakah*, and the mechanism associated with the entrepreneur character.

### Implementation Stage

The Implementation stage involved a limited prototype trial with 24 participants who were members of the Kelompok Studi Ekonomi Islam (KSEI) FEB UNJ. These participants were distinct from those involved in the FGD conducted during the Analysis stage. The gameplay session was conducted in a structured setting with facilitator support. The same 24 participants completed the pre-test and post-test, producing 24 paired observations for the learning-outcome analysis. Participants played the prototype according to the developed rules and gameplay sequence, including decisions concerning income, living costs, saving, investment, risk, financial goals, life events, and Shariah Compliance. Following gameplay, participants provided

user evaluation and open-ended feedback concerning their experience with the prototype. These data were used as formative user-evaluation evidence to assess perceived educational value, engagement and interaction, usability, duration and comfort, physical components, and priorities for further prototype refinement.

### **Evaluation Stage**

The Evaluation stage assessed the preliminary learning value, user experience, and areas requiring further refinement of the prototype. Evaluation was based on three sources of evidence: pre-test and post-test results, post-game user evaluation, and open-ended participant feedback. The pre-test and post-test were used to examine changes in participants' understanding of Islamic financial planning concepts. The post-game questionnaire assessed perceived educational value, engagement and interaction, ease of use and complexity, duration and comfort, and the quality of physical components. Open-ended responses were used to identify participants' experiences, perceived learning benefits, usability difficulties, and suggestions for prototype improvement. The evaluation findings were treated as formative evidence for identifying the strengths and limitations of the prototype and determining priorities for subsequent refinement. Because the study used a one-group pre-test-post-test design without a control group, the evaluation was not intended to establish causal effectiveness.

### **Research Instruments**

Several instruments were used across the development and evaluation stages. An FGD guide was used to explore participants' experiences, needs, difficulties, and expectations concerning Islamic financial planning and game-based learning. An expert-review form was used to obtain assessments and recommendations concerning gameplay mechanics, rules, visual design, game components, and Islamic financial-planning content. Learning outcomes were assessed using a 10-item test measuring participants' understanding of Islamic financial planning concepts. The same instrument was administered before and after gameplay. The instrument covered concepts related to financial goals, financial priorities, emergency funds, risk protection, investment, debt and *riba*, and other Islamic financial-planning principles represented in the game. The items were developed based on the learning objectives and the financial-planning concepts incorporated into the prototype. In this initial R&D evaluation, the test was used as a formative assessment of participants' measured understanding and had not undergone formal psychometric validation. Accordingly, the pre-test and post-test findings should be interpreted as preliminary evidence based on a formative assessment rather than as evidence from a fully validated measurement instrument. Post-game evaluation examined participants' perceptions of duration and comfort, ease of use and complexity, engagement and interaction, educational impact, and design and physical components. The evaluation also included open-ended questions through which participants could describe their learning experiences, difficulties, and recommendations for improving the prototype.

### **Data Analysis**

The Quantitative and qualitative approaches were used to analyze the evaluation data. Pre-test and post-test scores were treated as paired observations because the same 24 participants completed both measurements. Descriptive statistics included the number of observations, mean, median, standard deviation, minimum, and maximum scores. The normality of the difference scores was assessed using the Shapiro-Wilk test. Because the difference scores did not satisfy the normality assumption ( $p = 0.014$ ), the Wilcoxon signed-rank test was used as the primary inferential procedure. Cohen's  $d_z$  was additionally reported as a standardized measure

of within-participant change. Item-level analysis compared the proportion of correct responses for each pre-test and post-test item. This analysis was used to identify item-level patterns of change and concepts that may require further instructional reinforcement. User-evaluation data were analyzed descriptively using mean scores and percentages of the maximum possible score for each evaluation dimension. The analysis was used to identify perceived strengths and weaknesses of the prototype, particularly regarding educational value, engagement, usability, duration, complexity, and physical components. Open-ended responses were analyzed thematically. Responses were reviewed to identify recurring meaning units and then grouped into themes concerning learning experience, financial decision-making, consequences of gameplay, usability and gameplay mechanics, and prototype-refinement priorities. Quantitative and qualitative findings were subsequently interpreted together to assess the preliminary learning value, user experience, and refinement requirements of the prototype.

### **Methodological Scope and Interpretation**

The study was designed to provide initial evidence concerning prototype development and learning experience rather than definitive evidence of causal effectiveness. The one-group pre-test-post-test design provides information about within-participant change but does not permit causal attribution because no control group was included. Accordingly, changes in test scores were interpreted as preliminary evidence of improvement in measured understanding. Similarly, user-evaluation data were interpreted as formative evidence concerning the prototype's perceived educational value, usability, engagement, and refinement needs rather than as evidence of population-level acceptability or generalizability.

## **RESULTS AND DISCUSSION**

### **User Needs and Learning Challenges**

The Analysis stage identified several challenges in learning and applying Islamic financial planning. Although participants had prior familiarity with basic Islamic financial concepts, the Focus Group Discussion (FGD) indicated that they still experienced difficulties in applying these concepts to everyday financial decisions. The discussion highlighted issues related to income and expenditure management, saving, financial priorities, investment and risk, financial goals, and Shariah compliance. The findings indicated a gap between conceptual understanding and practical financial decision-making. Participants were generally familiar with concepts such as halal and haram financial practices, but they needed greater contextualization when dealing with situations involving competing needs, limited resources, investment uncertainty, and unexpected financial events. Participants also described difficulties in maintaining savings when other financial needs emerged and in balancing financial priorities with social and religious considerations. These findings provided the empirical basis for developing a learning medium that could place participants in realistic financial decision-making situations. Rather than presenting Islamic financial planning only as a set of concepts, the prototype was designed to allow learners to make decisions, experience consequences, and evaluate their financial conditions within an interactive environment.

### **Development of the *Halal Financial Journey* Prototype**

The identified learning needs were translated into a physical prototype of *Halal Financial Journey*. The developed prototype consisted of the main board, player boards,

character cards, life-goal cards, financial decision cards, life-event cards, ethical-dilemma cards, financial tokens, value-oriented indicators, progression markers, and the game guide.

Halal Financial Journey Prototype and Core Components



Figure 3. Prototype and core components of *Halal Financial Journey*.

The prototype operationalized the financial-planning structure established during the Design stage into tangible gameplay components. Character cards established different initial financial conditions, while life-goal cards provided individual financial orientations. Financial decision cards required players to make choices concerning their financial conditions, while life-event cards introduced uncertainty and financial consequences. Ethical-dilemma cards presented situations involving excessive consumption, investment uncertainty, excessive lifestyle spending, FOMO-driven investment decisions, and *paylater* use. The prototype also incorporated financial and value-oriented indicators, including Cash, Emergency Fund, Halal Assets, Risk, Barakah, Shariah Compliance, and Takaful. Barakah was operationalized as a value-oriented game mechanism represented by Barakah tokens. Players could obtain Barakah tokens when they performed designated good actions during their financial journey. This mechanism was designed to complement monetary indicators by representing value-oriented dimensions of financial decision-making within the game's Shariah-oriented framework. These components allowed financial progress to be represented through multiple dimensions rather than through accumulated cash and assets alone.

Table 1. Core Game Components of *Halal Financial Journey* and Their Functions

| Component       | Function in the Prototype                                      |
|-----------------|----------------------------------------------------------------|
| Main board      | Provides the physical environment for gameplay and progression |
| Player board    | Records the player's financial condition and game status       |
| Character cards | Establish different initial financial conditions               |
| Life-goal cards | Provide individual financial objectives                        |

|                          |                                                                                                                 |
|--------------------------|-----------------------------------------------------------------------------------------------------------------|
| Financial decision cards | Require players to make financial choices and allocate resources                                                |
| Life-event cards         | Introduce uncertainty, opportunities, and financial consequences                                                |
| Ethical-dilemma cards    | Present Shariah-oriented ethical decision-making situations                                                     |
| Cash                     | Represents liquid financial resources                                                                           |
| Emergency Fund           | Represents reserves for unexpected financial conditions                                                         |
| Halal Assets             | Represents halal assets or investments held by players                                                          |
| Risk                     | Represents financial risk accumulated during gameplay                                                           |
| Barakah                  | Represents a value-oriented game mechanism through tokens obtained from designated good actions during gameplay |
| Shariah Compliance       | Represents adherence to Islamic financial principles                                                            |
| Takaful                  | Represents financial protection and risk mitigation                                                             |
| Round and stage markers  | Track gameplay progression                                                                                      |
| Level marker             | Indicates the player's current financial-planning level                                                         |
| Ethical-dilemma marker   | Identifies relevant ethical-dilemma conditions                                                                  |

Source: Authors' design and prototype documentation.

The resulting prototype transformed Islamic financial-planning concepts into an interactive decision environment. Players were required to allocate limited resources, prioritize competing needs, respond to uncertainty, and consider the consequences of their decisions. This orientation is consistent with the broader potential of game-based learning to promote active and participatory learning when game mechanics are aligned with instructional objectives.<sup>23</sup> The prototype also extends the application of board games in financial education. Previous studies have demonstrated the potential of board games and serious games to support financial literacy and financial learning.<sup>24</sup> However, *Halal Financial Journey* places integrated Islamic financial planning at the center of the gameplay, connecting financial goals, resource allocation, risk, life events, and Shariah-oriented considerations.

### Expert Review and Prototype Refinement

The developed prototype was reviewed by two experts with complementary expertise: one board-game design expert and one Islamic financial planning expert. The

<sup>23</sup> Meihua Qian and Karen R. Clark, "Game-Based Learning and 21st Century Skills: A Review of Recent Research," *Computers in Human Behavior* 63 (October 2016): 50–58, <https://doi.org/10.1016/j.chb.2016.05.023>.

<sup>24</sup> R. Y. Alamin et al., "Board Game as Financial Literacy Education Media for Indonesian High School Students," *2022 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)*, December 7, 2022, 0022–0026, <https://doi.org/10.1109/IEEM55944.2022.9989646>; Kalmi and Rahko, "The Effects of Game-Based Financial Education"; Cannistrà et al., "The Impact of an Online Game-Based Financial Education Course."

review focused on gameplay mechanics, clarity of rules, visual design and layout, suitability of game components, and alignment between the game content and Islamic financial-planning principles. The expert review generated several refinements before the prototype was implemented in the limited trial. These refinements concerned both the usability of the game and the accuracy of its Islamic financial content.

Table 2. Expert Review and Prototype Refinement

| Expert Area                | Main Feedback                                            | Prototype Refinement                         |
|----------------------------|----------------------------------------------------------|----------------------------------------------|
| Board-game design          | Opening sequence required clearer orientation            | Added a game opener                          |
| Board-game design          | Rules were relatively complex                            | Simplified the rules                         |
| Board-game design          | Board layout required improvement                        | Improved board layout                        |
| Board-game design          | "Temptation cards" could be misleading                   | Changed terminology to ethical-dilemma cards |
| Islamic financial planning | Collaboration card required clearer contract information | Added an explanation of <i>musyarakah</i>    |
| Islamic financial planning | Entrepreneur character required adjustment               | Revised entrepreneur-character rules         |

Source: Authors' expert-review documentation.

The review functioned as formative evaluation rather than quantitative validity testing. Expert feedback was used to identify aspects of the prototype requiring refinement before implementation. This process strengthened the alignment between game mechanics, usability, and Islamic financial-planning content. The expert review also illustrates the importance of multidisciplinary expertise in educational game development. Game mechanics and instructional usability require different forms of expertise from Islamic financial content and Shariah principles. The complementary review therefore contributed to refining both the experiential and substantive dimensions of the prototype.

### Preliminary Learning Outcomes

Learning outcomes were assessed using the same 10-item test before and after gameplay among the 24 participants. The mean score increased from 87.08 in the pre-test to 93.75 in the post-test, representing an increase of 6.67 points or 7.66%. The median increased from 90 to 100, while the standard deviation decreased from 14.59 to 8.75.

Table 3. Descriptive Statistics of Pre-test and Post-test Understanding Scores

| Statistic          | Pre-test | Post-test |
|--------------------|----------|-----------|
| N                  | 24       | 24        |
| Mean               | 87.08    | 93.75     |
| Median             | 90       | 100       |
| Standard deviation | 14.59    | 8.75      |
| Minimum            | 50       | 70        |
| Maximum            | 100      | 100       |

Source: Authors' analysis.

Because the same participants completed both measurements, the scores were treated as paired observations. The Shapiro–Wilk test indicated that the difference scores did not satisfy the normality assumption ( $p = 0.014$ ). Therefore, the Wilcoxon signed-rank test was used as the primary inferential procedure and produced a statistically significant result ( $p = 0.012$ ), with Cohen's  $d_z = 0.57$ . This standardized change indicates a measurable within-participant shift, but its educational importance should not be inferred from the effect-size magnitude alone.

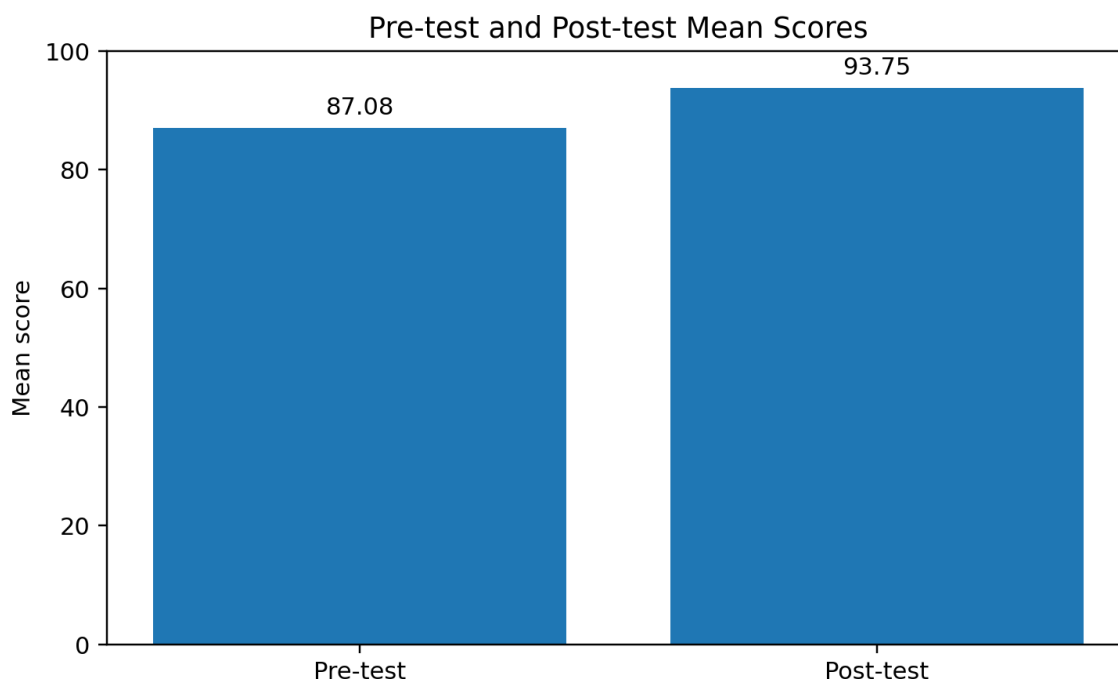


Figure 4. Mean pre-test and post-test scores of the 24 participants.

The increase in scores provides preliminary evidence of within-participant change in measured understanding following gameplay. However, the result should not be interpreted as definitive evidence that the game caused the improvement. The relatively high pre-test mean (87.08) and median (90) indicate that participants entered the trial with substantial prior understanding of the assessed concepts. This interpretation is consistent with the FGD, in which participants reported previous exposure to Islamic financial-planning topics through seminars. Such prior exposure may have provided participants with basic conceptual familiarity before the gameplay session, suggesting that the board game functioned not only as a source of new information but also as an experiential environment in which previously encountered concepts could be applied to contextual financial decisions. The one-group pre-test-post-test design limits causal interpretation because no comparison group was included. Testing effects, maturation, and demand characteristics therefore cannot be completely ruled out. Participants may have become more familiar with the assessed concepts through repeated exposure to the test or the learning session, while their responses may also have been influenced by perceptions of the activity's purpose. The findings should consequently be interpreted as preliminary evidence supporting further prototype development and controlled evaluation rather than causal evidence of game effectiveness.

The participant characteristics also constrain generalizability. Participants were members of KSEI FEB UNJ and reported previous exposure to Islamic financial-planning topics through seminars. Such prior exposure may have contributed to their relatively high baseline performance and may limit the magnitude of observable

change. Although this group was appropriate for an initial prototype trial, future studies should include participants with more diverse levels of prior financial and Islamic financial knowledge. The statistical significance of the pre-post difference should also be distinguished from practical educational significance. The 6.67-point mean increase and standardized change indicate a measurable within-participant shift, but statistical significance alone does not establish that the magnitude of change is educationally substantial. The item-level findings are therefore particularly informative for this R&D study because they identify concepts that showed improvement as well as those requiring further instructional reinforcement.

Taken together, these findings suggest that Halal Financial Journey may be particularly useful as an experiential bridge between previously encountered Islamic financial-planning concepts and their application in contextual financial decision-making. Rather than replacing conceptual instruction, the game provides an environment in which learners can make financial decisions, experience consequences, and reconsider strategies. Its value at this stage should therefore be understood in terms of experiential application and prototype feasibility rather than established causal effectiveness.

### Item-Level Changes in Understanding

The item-level analysis showed that changes were not uniform across the assessed concepts. The largest observed increase concerned long-term financial goals, for which the proportion of correct responses increased from 79.2% to 100%. In contrast, the proportion of correct responses for the emergency-fund item decreased from 75.0% to 66.7%, indicating that this concept requires further instructional reinforcement. Performance on the Islamic investment instruments item remained unchanged at 95.8%, suggesting a possible ceiling effect given the high baseline level. Other concepts addressed by the assessment, including financial protection before investment, investment after risk protection, and interest-bearing debt (*riba*), were incorporated into the learning content and gameplay but are not reported as separate quantitative changes here because item-level percentages are not presented in the current analysis.

Table 4. Item-Level Changes in Islamic Financial Planning Understanding

| Concept                        | Pre-test | Post-test | Interpretation                     |
|--------------------------------|----------|-----------|------------------------------------|
| Long-term financial goals      | 79.2%    | 100.0%    | Largest observed improvement       |
| Emergency-fund amount          | 75.0%    | 66.7%     | Decline; requires reinforcement    |
| Islamic investment instruments | 95.8%    | 95.8%     | No change; possible ceiling effect |

Source: Authors' analysis.

The improvement in understanding of long-term financial goals is particularly relevant to the game's design because life goals are explicitly incorporated into gameplay. Players receive individual goals and must manage their financial resources while attempting to achieve them. The result suggests that concepts embedded within repeated decision-making and goal-oriented gameplay may be particularly responsive to this type of learning experience. However, the decline in the emergency-fund item demonstrates that the overall increase did not represent uniform mastery. This finding identifies a specific concept requiring additional instructional reinforcement.

Conversely, the unchanged result for Islamic investment instruments may reflect a ceiling effect because the pre-test performance was already high. Interestingly, this quantitative pattern differs from the qualitative feedback, in which participants described a more concrete understanding of the role of emergency funds in managing unexpected financial conditions. This divergence suggests that a single item-level score may not fully capture changes in applied or experiential understanding. The item-level findings therefore provide an important diagnostic function. They show not only whether overall scores changed but also which financial-planning concepts may have benefited from the gameplay and which still require further instructional support.

### User Evaluation of *Halal Financial Journey*

Post-game evaluation indicated generally positive perceptions of *Halal Financial Journey*. Participants perceived the game as engaging and distinctive and considered the gameplay sufficiently varied to maintain interest. The evaluation also indicated that the game mechanics were generally capable of representing the Islamic financial principles incorporated into the gameplay.

The overall evaluation score was 3.49 on a four-point scale, equivalent to 87.13% of the maximum possible score.

Table 5. User Evaluation of *Halal Financial Journey*

| Evaluation Dimension           | Mean        | % of Maximum  |
|--------------------------------|-------------|---------------|
| Duration and comfort           | 3.38        | 84.38%        |
| Ease of use and complexity     | 3.38        | 84.52%        |
| Engagement and interaction     | 3.63        | 90.71%        |
| Educational impact             | 3.68        | 91.96%        |
| Design and physical components | 3.24        | 80.95%        |
| <b>Overall</b>                 | <b>3.49</b> | <b>87.13%</b> |

Source: Authors' analysis.

The highest-rated dimension was educational impact (91.96%), followed by engagement and interaction (90.71%). These findings indicate that the prototype's perceived value was not limited to entertainment. Participants also perceived the game as supporting learning and interaction. This result is consistent with evidence that game-based learning can create active learning environments and facilitate engagement when gameplay mechanics are meaningfully connected to instructional objectives. Research across educational settings also indicates that both digital and non-digital games can support learning, although their effects depend on the design of the learning task and the alignment between game mechanics and instructional goals.<sup>25</sup> In financial education, game-based interventions have likewise been used to provide more interactive learning experiences and to engage learners with financial decision contexts.<sup>26, 27</sup> The relatively lower score for design and physical components (80.95%) indicates that the prototype still has room for physical refinement. Similarly, the evaluation of duration and comfort suggests that the richness of the game mechanisms

<sup>25</sup> Talan et al., "Efficiency of Digital and Non-Digital Educational Games: A Comparative Meta-Analysis and a Meta-Thematic Analysis."

<sup>26</sup> Kalmi and Rahko, "The Effects of Game-Based Financial Education."

<sup>27</sup> Cannistrà et al., "The Impact of an Online Game-Based Financial Education Course."

needs to be balanced against the time and cognitive demands placed on first-time players. This design tension is consistent with simulation and game-based learning research, which emphasizes the need to balance task authenticity, instructional scaffolding, usability, and cognitive demands.<sup>28</sup> Thus, the evaluation highlights an important design trade-off: greater simulation richness can strengthen experiential learning but may simultaneously increase complexity and implementation demands. This reinforces the view that educational game design should prioritize the instructional function of mechanics rather than increasing complexity for its own sake.<sup>29</sup>

### Qualitative Feedback and Learning Experience

The qualitative feedback provided further insight into how participants experienced the prototype. Participants reported a more concrete understanding of managing living costs and maintaining an emergency fund. They recognized that expenditure needs to remain aligned with income and that liquidity reserves are important when unexpected events occur. Life-event cards contributed to participants' understanding of financial uncertainty. Events involving situations such as vehicle damage or family illness generated immediate financial consequences and required players to reconsider their available resources. Through these situations, risk management became an experience rather than merely a concept presented through instruction. Participants also identified connections between financial decisions, risk, Shariah Compliance, and Barakah. This indicates that the game was able to introduce a broader conception of financial outcomes in which financial decisions are considered not only in terms of monetary consequences but also in relation to Shariah-oriented values. An important theme emerging from the feedback was learning through mistakes and consequences. Participants described situations in which decisions generated losses or in which they became overly focused on accumulating cash and assets while neglecting their initial life goals. Learning through consequences is consistent with experiential-learning perspectives, in which concrete experience and subsequent reflection can contribute to learning.<sup>30</sup> This finding is particularly relevant to experiential learning. The game provides concrete experiences through which players make financial decisions, encounter consequences, evaluate their financial conditions, and reconsider subsequent strategies. This sequence creates an experiential pathway from action to consequence and reflection, consistent with the experiential-learning perspective that concrete experience and reflection can contribute to learning.<sup>31</sup> However, the transition from gameplay experience to explicit conceptual understanding may not have been equally supported for all participants.

### Financial Goals versus Wealth Accumulation

One of the most conceptually important findings concerned the tension between financial-goal achievement and wealth accumulation. Although players received life goals at the beginning of the game, the qualitative feedback indicated that some players became distracted by visible indicators of financial success, particularly accumulated

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<sup>28</sup> Bijl et al., "Assessing Information Problem Solving through a Simulation Game: Validation Evidence from a Municipal Enforcement Official Context."

<sup>29</sup> Platz and Zauner, "Financial Literacy Games—Increasing Utility Value by Instructional Design in Upper Secondary Education."

<sup>30</sup> Thomas Howard Morris, "Experiential Learning – a Systematic Review and Revision of Kolb's Model," *Interactive Learning Environments* 28, no. 8 (2020): 1064–77, <https://doi.org/10.1080/10494820.2019.1570279>.

<sup>31</sup> Morris, "Experiential Learning a Systematic Review and Revision of Kolb's Model."

cash and assets. This suggests that the scoring structure may influence which objectives players prioritize within the simulation, reinforcing the importance of aligning game incentives with the intended learning objectives.<sup>32</sup> This finding is important from an Islamic financial-planning perspective because financial planning should not be reduced to the accumulation of wealth. Financial resources serve broader purposes, including fulfilling needs, managing risks, achieving life goals, making appropriate investments, and contributing to social and religious objectives. The integration of life goals, risk, Takaful, Shariah Compliance, Barakah, and wealth distribution enables *Halal Financial Journey* to frame financial planning as a goal-oriented and value-based process. At the same time, the finding reveals an opportunity for further prototype refinement. The life-goal mechanism should receive greater weight in the scoring system so that players have stronger incentives to prioritize their stated objectives rather than pursuing accumulated wealth as an end in itself. This finding also illustrates that game mechanics do not merely communicate instructional content; they shape what players perceive as valuable within the simulation. If accumulated cash and assets are more visible or immediately rewarding than life-goal achievement, players may rationally prioritize the former even when the intended learning objective emphasizes broader financial well-being. Future refinement should therefore align scoring incentives more explicitly with the hierarchy of financial goals represented in the game, consistent with research emphasizing the importance of instructional alignment in financial-literacy game design.<sup>33</sup>

### Prototype Limitations and Refinement Priorities

The evaluation identified several areas requiring further development. The most prominent issue concerned the learning curve associated with the number of components and relationships among game mechanisms. First-time players required an initial period to become familiar with the rules and gameplay flow. This finding reflects a common trade-off in simulation-based learning. Increasing the number of variables can make a simulation richer but can also increase cognitive demands. Research on simulation and scaffolded learning similarly emphasizes the importance of balancing task complexity with learner support and clear instructional structure.<sup>34</sup> <sup>35</sup> The next prototype should therefore strengthen instructional scaffolding through a guided first round, clearer examples, and selective simplification of rules without eliminating the core financial-planning mechanisms. Game duration also requires attention. Because the game integrates several stages and decision mechanisms, the gameplay sequence may be streamlined to reduce unnecessary waiting time while preserving the essential decision-making experience.

The objective should not be to shorten the game by removing meaningful financial decisions, but to reduce procedural delays that do not directly contribute to the intended learning experience.

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<sup>32</sup> Platz and Zauner, “Financial Literacy Games—Increasing Utility Value by Instructional Design in Upper Secondary Education.”

<sup>33</sup> Platz and Zauner, “Financial Literacy Games—Increasing Utility Value by Instructional Design in Upper Secondary Education.”

<sup>34</sup> Bijl et al., “Assessing Information Problem Solving through a Simulation Game: Validation Evidence from a Municipal Enforcement Official Context.”

<sup>35</sup> Y. C. Chen et al., “Design and Development of a Scaffolding-Based MindTool for Gamified Learning Classrooms,” *Journal of Educational Computing Research* 61 (2023): 3–29, <https://doi.org/10.1177/07356331221101081>.

Table 6. Evaluation Findings and Prototype Refinement Priorities

| Evaluation Finding                                  | Refinement Priority                                                  |
|-----------------------------------------------------|----------------------------------------------------------------------|
| Learning curve relatively high                      | Introduce a guided first round and simplify selected rules           |
| Game duration requires improvement                  | Streamline gameplay and reduce unnecessary waiting time              |
| Financial goals can be overlooked                   | Strengthen the weighting of life goals in scoring                    |
| Emergency-fund concept requires reinforcement       | Provide clearer examples and mechanisms                              |
| Physical components require improvement             | Use stronger and more durable card materials                         |
| Shariah-Barakah relationship requires clarification | Make Shariah-related consequences more explicit in cards and scoring |

Source: Authors' evaluation and prototype-refinement documentation.

The evaluation therefore functioned as formative product evaluation, generating concrete priorities for the next prototype iteration rather than merely measuring user satisfaction.

### Discussion: Positioning *Halal Financial Journey* as an Experiential Islamic Financial Planning Game

The findings position *Halal Financial Journey* as an experiential learning medium that extends beyond the presentation or recognition of individual Islamic financial concepts. Previous studies have demonstrated the feasibility of game-based approaches in Islamic financial education and financial literacy. Alamin et al.<sup>36</sup>, for example, demonstrated the use of board games for financial literacy, while other studies have reported the potential of financial games to support learning and engagement.<sup>37</sup> More specifically, the contribution of *Halal Financial Journey* can be distinguished from recent Islamic economics board-game development represented by Riwijanti et al.<sup>38</sup> Riwijanti et al. demonstrated the feasibility of using the ADDIE framework to develop an Islamic economics board game for Islamic financial literacy. In contrast, *Halal Financial Journey* places financial planning as the central learning domain and organizes gameplay around interconnected decisions involving income, expenditure, financial goals, risk, investment, life events, Shariah Compliance, and financial consequences. The distinction is therefore not simply the use of a board-game format or the ADDIE model, but the different learning function assigned to gameplay: concept recognition in the prior approach versus experiential simulation of interconnected financial-planning decisions in the present prototype. The contribution of *Halal Financial Journey* should therefore not be framed as the first Islamic financial board game. Such a claim would be difficult to defend given the existing literature. Instead, its contribution lies in translating interconnected Islamic financial-planning

<sup>36</sup> Alamin et al., "Board Game as Financial Literacy Education Media for Indonesian High School Students."

<sup>37</sup> Kalmi and Rahko, "The Effects of Game-Based Financial Education"; Cannistrà et al., "The Impact of an Online Game-Based Financial Education Course"; Platz, "Learning with Serious Games in Economics Education a Systematic Review of the Effectiveness of Game-Based Learning in Upper Secondary and Higher Education."

<sup>38</sup> Riwijanti et al., "Designing Islamic Economics Board Games for Education to Improve Islamic Finance Literacy."

concepts into a consequential experiential environment in which players must make decisions, allocate limited resources, respond to uncertainty, pursue financial goals, and experience the consequences of their choices.

Table 7. Conceptual Positioning of *Halal Financial Journey*

| <b>Dimension</b>    | <b>Selected Prior Islamic Financial Game Approaches</b> | <b><i>Halal Financial Journey</i></b>               |
|---------------------|---------------------------------------------------------|-----------------------------------------------------|
| Primary focus       | Primarily knowledge/recognition-oriented                | Financial planning and decision-making              |
| Decision structure  | Often scenario-based                                    | Interconnected decisions                            |
| Financial risk      | Presented as content or scenario                        | Experienced through consequences                    |
| Financial goals     | Supporting element                                      | Integrated into gameplay                            |
| Shariah dimension   | Compliance recognition                                  | Integrated into decisions and outcomes              |
| Learning mechanism  | Knowledge acquisition                                   | Experience, consequence, evaluation, and reflection |
| Outcome orientation | Knowledge or correct response                           | Goals, risk, financial condition, and values        |

Source: Authors' synthesis based on Riwajanti et al. (2026), Alamin et al. (2022), and the present findings.

The novelty can therefore be positioned as a consequential simulation of Islamic financial planning. Players do not simply identify whether a financial practice is appropriate; they must manage resources, respond to uncertainty, pursue goals, and experience the consequences of their choices. This positioning is also consistent with recent financial-simulation research showing that performance in dynamic decision environments cannot be explained by declarative financial knowledge alone.<sup>39</sup> This distinction is important because financial planning involves interconnected decisions rather than isolated financial behaviors. A decision to invest, for example, can affect liquidity and risk, while an unexpected life event can alter the ability to achieve a financial goal. By incorporating these relationships into gameplay, the prototype provides an experiential representation of financial planning. The qualitative findings further support this positioning. Participants reported learning through mistakes, financial consequences, risk management, and reconsideration of their financial priorities. The educational value therefore appears to emerge from the interaction between financial content and gameplay mechanisms, consistent with evidence that educational games can support learning when interaction and mechanics are meaningfully connected to instructional aims.<sup>40</sup> This interpretation is consistent with experiential-learning theory, in which concrete experience and reflection contribute to learning<sup>41</sup>. In the present prototype trial, reflection was an emergent learning process following the evaluation of decisions and consequences rather than a separate formal stage of gameplay. However, no standardized facilitator-led post-game debriefing was

<sup>39</sup> Chamberland et al., "The Relationship between Financial Literacy, Self-Efficacy, and Performance in a Financial Simulation Game."

<sup>40</sup> Sousa et al., "Playing at the School Table: Systematic Literature Review of Board, Tabletop, and Other Analog Game-Based Learning Approaches."

<sup>41</sup> Morris, "Experiential Learning – a Systematic Review and Revision of Kolb's Model."

conducted. The absence of a structured debriefing may have limited opportunities to explicitly connect individual gameplay experiences with Islamic financial-planning principles. Future iterations could therefore incorporate a brief structured debriefing in which players explain selected decisions, identify alternative strategies, and relate gameplay consequences to financial goals, risk management, Shariah Compliance, and other Islamic financial-planning principles.

### Practical Implications

The findings have practical implications for Islamic economics and finance education. *Halal Financial Journey* can be positioned as a supplementary experiential learning medium for topics related to personal financial planning rather than as a replacement for formal instruction. The game may be particularly useful when learners need to connect conceptual knowledge with financial decisions and consequences. Facilitator support is recommended during the initial round because the number of components and relationships among financial variables can create a learning curve for first-time players. The findings also suggest that future versions should prioritize usability and instructional scaffolding. A guided first round, clearer examples, stronger life-goal scoring, improved emergency-fund mechanisms, clearer relationships between Shariah Compliance and Barakah, and more durable physical components could improve the prototype's implementation potential.

### Overall Interpretation

The results reveal four principal findings, as follows:

First, the pre-test-post-test analysis showed an increase in measured understanding, with the mean score increasing from 87.08 to 93.75. The Wilcoxon signed-rank test indicated a statistically significant within-participant difference ( $p = 0.012$ ), with a standardized change of Cohen's  $d_z = 0.57$ . This standardized change indicates a measurable within-participant shift, but its educational importance should not be inferred from the effect-size magnitude alone<sup>42</sup>. The observed mean increase of 6.67 points should therefore be interpreted in relation to the relatively high baseline performance, the item-level pattern of change, and the absence of a control group. The result provides preliminary evidence of improvement in measured understanding but does not establish causal effectiveness. Second, the user evaluation was generally positive. Educational impact (91.96%) and engagement and interaction (90.71%) were the strongest dimensions, while the evaluation also identified duration, complexity, and physical components as areas for further refinement. Third, qualitative feedback indicated that the learning experience involved financial decisions, consequences, evaluation, and reflection. Participants described learning about living costs, emergency funds, risk, financial goals, Shariah Compliance, and Barakah through concrete situations created by the gameplay. Fourth, the prototype evaluation generated specific refinement priorities, particularly the learning curve, game duration, life-goal weighting, emergency-fund understanding, Shariah-Barakah relationships, and physical component quality. Taken together, the findings position *Halal Financial Journey* as a formative experiential-learning prototype rather than a validated effectiveness intervention. Its contribution lies in translating Islamic financial-planning principles into an interconnected simulation in which learners make decisions, experience financial consequences, evaluate their conditions, and pursue financial goals within a Shariah-oriented framework. The evaluation further

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<sup>42</sup> Matthew A. Kraft, "Interpreting Effect Sizes of Education Interventions," *Educational Researcher* 49, no. 4 (2020): 241–53, <https://doi.org/10.3102/0013189X20912798>.

demonstrates the value of iterative prototype assessment by identifying specific tensions between simulation richness and usability, wealth accumulation and life-goal achievement, and gameplay experience and structured reflection. These findings provide a basis for subsequent refinement and controlled evaluation rather than definitive evidence of causal learning effectiveness.

## CONCLUSION

This study developed and initially evaluated *Halal Financial Journey*, an experiential board game designed to support learning in Islamic financial planning through contextual decision-making. Using the ADDIE model, the study integrated financial goals, resource allocation, risk management, investment, life events, Shariah Compliance, and financial consequences into an interconnected gameplay environment. The development process involved needs analysis, Focus Group Discussion, expert review, prototype refinement, and a limited implementation involving 24 participants. The evaluation provides preliminary evidence of improvement in measured understanding following gameplay. The mean score increased from 87.08 in the pre-test to 93.75 in the post-test, and the Wilcoxon signed-rank test indicated a statistically significant within-participant difference ( $p = 0.012$ ), with a standardized change of Cohen's  $d_z = 0.57$ . The quantitative assessment primarily captured cognitive understanding of selected Islamic financial-planning concepts, whereas Shariah-oriented values and Barakah were represented through gameplay mechanisms and explored through qualitative feedback rather than measured as independent quantitative outcomes. However, the relatively high baseline performance and the item-level results indicate that the improvement was not uniform across all assessed concepts. In particular, the decline in the emergency-fund item and the unchanged performance on Islamic investment instruments highlight areas requiring further instructional reinforcement. Qualitative feedback further indicates that the game provided participants with opportunities to connect previously encountered Islamic financial concepts with contextual decisions involving financial goals, emergency funds, risk, investment, and Shariah-oriented considerations. User evaluation also showed positive perceptions of educational impact and engagement, while identifying game duration, learning complexity, and physical components as areas for further refinement. These findings support the positioning of *Halal Financial Journey* as a supplementary experiential-learning medium rather than a replacement for formal instruction.

The study should nevertheless be interpreted within its methodological boundaries. The one-group pre-test-post-test design without a control group does not permit causal attribution, and the relatively high baseline performance may have limited the observable magnitude of improvement. In addition, no standardized facilitator-led post-game debriefing was conducted, which may have limited opportunities for participants to explicitly consolidate the relationship between gameplay experiences and Islamic financial-planning principles. The findings therefore represent preliminary evidence supporting prototype refinement rather than definitive evidence of causal effectiveness. The contribution of *Halal Financial Journey* lies in translating Islamic financial-planning concepts into an interconnected and consequential decision-making experience. Rather than claiming superiority over other instructional approaches, the prototype offers a complementary experiential environment in which learners can practice financial decision-making and encounter the consequences of their choices. Future research should employ larger and more diverse samples, validated learning instruments, comparison or control groups, and structured post-game debriefing to examine learning outcomes more rigorously and

determine whether the prototype produces sustained improvements in Islamic financial-planning knowledge and decision-making.

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