



GAMIFICATION-BASED ZAKAT EDUCATION TO STRENGTHEN STUDENTS' LITERACY: AN ISLAMIC SOCIAL FINANCE INNOVATION

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ABSTRACT

Zakat literacy among younger generations is essential for strengthening a sustainable Islamic social finance ecosystem. However, previous studies have predominantly focused on zakat compliance, payment behavior, and institutional management, while limited attention has been given to educational strategies for developing zakat literacy among students. This study aims to examine the effectiveness of a gamification-based zakat education program developed by LAZNAS IZI Banten in improving students' zakat literacy. A quantitative approach was employed using a one-group pretest-posttest design involving 35 seventh-grade students at SMP Negeri 2 Kelapa Dua, Tangerang, Indonesia. Data were collected through zakat literacy assessments before and after the intervention and analyzed using the Wilcoxon Signed Rank Test and normalized gain (N-Gain) analysis. The results show a significant improvement in students' zakat literacy after participating in the program ($p < 0.001$), with an N-Gain value of 0.4166 indicating moderate improvement. This study contributes to Islamic education literature by demonstrating that gamification can function as an innovative pedagogical approach for strengthening Islamic financial literacy. Furthermore, it expands the perspective of Islamic social finance by positioning zakat institutions as educational innovation actors beyond their traditional financial roles

Keywords: zakat games, zakat literacy, zakat awariness, zakat education

INTRODUCTION

Zakat represents one of the fundamental instruments within the Islamic social finance system, functioning not only as a religious obligation but also as a mechanism for social redistribution, economic empowerment, and community welfare enhancement. Within the Islamic social finance framework, zakat plays a strategic role in addressing socioeconomic inequalities and promoting inclusive development (Beik & Arsyianti, 2020; Jamaludin et al., 2024). However, the effectiveness and sustainability of zakat systems are not solely determined by institutional capacity in collecting and distributing funds; they are also strongly influenced by society's understanding of zakat concepts, objectives, and social functions (Arifin et al., 2022; Azzah et al., 2022).

Zakat literacy has therefore become a critical component in strengthening the future sustainability of Islamic social finance ecosystems. Islamic financial literacy extends beyond financial knowledge acquisition, as it incorporates ethical values, social responsibility, and an understanding of Islamic economic principles (Mohd Alias et al., 2024; Roemanasari et al., 2022; Setiawati et al., 2018; Tok et al., 2022). Consequently, developing zakat literacy among younger generations is essential because early exposure to Islamic financial concepts may contribute to the formation of socially responsible individuals who understand the broader role of zakat beyond ritual obligation (Jayani et al., 2020; Shahida, 2023).



Despite its importance, existing zakat studies have primarily examined adult-oriented perspectives, including factors influencing zakat payment behavior, institutional trust, governance effectiveness, and compliance among potential zakat payers (Kasri & Chaerunnisa, 2022; Wahyudi et al., 2025; Widiastuti, 2020). While these studies provide significant contributions to understanding zakat management and participation, limited attention has been directed toward how zakat literacy can be systematically developed through educational interventions, particularly among school-age learners.

This limitation is particularly relevant within Islamic education contexts. Zakat education is often delivered through conventional instructional approaches that emphasize conceptual explanations, religious rules, and memorization. Although such approaches provide foundational knowledge, they may not sufficiently encourage active engagement or enable students to understand the broader social and economic meanings embedded within zakat. Therefore, innovative pedagogical approaches are needed to transform zakat learning from a passive knowledge-transfer process into a more interactive, meaningful, and contextual learning experience.

One emerging approach in educational innovation is gamification-based learning. Gamification refers to the integration of game design elements into non-game contexts to enhance engagement, motivation, and learning experiences (Deterding et al., 2011; Supriadi et al., 2025). Previous studies have demonstrated that gamification can positively influence students' motivation, cognitive engagement, and learning outcomes by providing interactive environments involving challenges, feedback, achievement, and participation (Hamari et al., 2014; Sailer & Homner, 2020). However, existing gamification research has largely concentrated on general educational fields, including science, mathematics, language learning, and digital education, while its application in Islamic financial education remains relatively underexplored.

This research gap highlights two important issues. First, zakat literacy research has insufficiently examined educational mechanisms for developing zakat understanding among younger generations. Second, Islamic social finance research has primarily positioned zakat institutions as financial organizations responsible for fundraising and distribution (Ascarya & Sakti, 2022; Ashurov, 2022; Hasyim et al., 2023; Purwanto et al., 2021; Subra et al., 2025; Zainon et al., 2011), with limited discussion regarding their potential role as educational actors (Sodikin et al., 2025). Addressing these gaps requires an interdisciplinary perspective that integrates Islamic social finance, educational innovation, and technology-supported learning.

The involvement of LAZNAS IZI Banten in developing a gamification-based zakat education program provides an important context for examining this intersection. Rather than functioning solely as a zakat management institution, LAZNAS IZI Banten demonstrates how Islamic social finance organizations may contribute to knowledge development through educational initiatives. Such programs represent a broader transformation of Islamic social finance from financial empowerment toward knowledge empowerment.

Therefore, this study aims to examine the effectiveness of a gamification-based zakat education program in improving students' zakat literacy. Specifically, this study seeks to answer whether the implementation of the Zakat Game program significantly improves students' understanding of zakat and how such an educational innovation contributes to the



broader development of Islamic social finance education. Theoretically, this study contributes by extending zakat literacy research from behavioural perspectives toward educational development. Practically, it highlights the potential role of Islamic social finance institutions as partners in strengthening Islamic literacy among younger generations.

RESEARCH METHOD

Research Design and Approach

This study employed a quantitative research approach using a pre-experimental design with a one-group pretest-posttest model. This design was selected because the primary objective of the study was to evaluate the effectiveness of a gamification-based zakat education program developed by LAZNAS IZI Banten in improving students' zakat literacy. A pretest-posttest design enables researchers to measure changes in participants' learning outcomes by comparing their knowledge levels before and after receiving an educational intervention (Creswell, 2014). In educational research, intervention evaluation requires an approach that can empirically demonstrate whether a learning program produces measurable changes among participants. The one-group pretest-posttest design is particularly relevant when researchers evaluate educational programs implemented in authentic learning environments where random assignment of participants is not feasible (Cohen et al., 2018; Shadish et al., 2002). Therefore, this design was considered appropriate for examining the effectiveness of the Zakat Game program within the existing educational context.

Research Context and Participants

The research was conducted at SMP Negeri 2 Kelapa Dua, Tangerang, Banten, Indonesia, involving seventh-grade students who participated in the zakat education (Arnold et al., 2024; Dikici et al., 2023; Xu & Guenier, 2025). The selection of junior high school students as research participants was based on the importance of introducing Islamic financial literacy at an early educational stage. Previous studies have emphasized that financial literacy development should begin during formal education because early knowledge formation contributes to individuals' future financial decision-making and social responsibility (Setiawati et al., 2018).

Research Instrument

The research instrument consisted of a zakat literacy test designed to measure students' understanding of zakat concepts before and after participating in the gamification-based educational program. The instrument focused on the cognitive dimension of zakat literacy, including students' understanding of the definition of zakat, legal foundations, types of zakat, requirements, categories of zakat recipients (mustahik), calculation procedures, and the social functions of zakat. The development of the instrument was aligned with the concept of Islamic financial literacy, which emphasizes that literacy involves not only knowledge of financial concepts but also understanding of ethical principles and social values embedded within Islamic economic practices (Setiawati et al., 2018). Therefore, the instrument was designed to capture students' conceptual understanding of zakat as both a religious obligation and a social-economic instrument. The quality of the instrument was assessed through validity and reliability testing. Validity



testing was conducted to ensure that the measurement items appropriately represented the construct of zakat literacy, while reliability testing was performed to examine the consistency of the instrument. Ensuring measurement validity and reliability is essential in educational research because the accuracy of measurement directly influences the interpretation of intervention effectiveness (Cunguara, 2025; Tebar et al., 2022).

Data Collection Procedure

Data collection was conducted through two measurement stages: pretest and posttest. The pretest was administered before the implementation of the Zakat Game program to identify students' initial level of zakat literacy. After students participated in the gamification-based learning activities, a posttest was conducted using the same measurement indicators to evaluate changes in their understanding. The use of pretest and posttest measurements enabled the researchers to examine whether students experienced improvement after receiving the educational intervention. In educational evaluation studies, measuring learning outcomes before and after intervention provides empirical evidence regarding the effectiveness of instructional strategies and learning innovations (Little et al., 2019; Shadish et al., 2002). The intervention was conducted through a gamification-based learning approach developed by LAZNAS IZI Banten. The program incorporated interactive learning activities designed to introduce zakat concepts through a more engaging educational experience. Through this approach, students were encouraged to actively participate in the learning process rather than merely receive information through conventional teaching methods.

Data Analysis

The collected data were analyzed using descriptive and inferential statistical techniques. Descriptive analysis was conducted to compare students' zakat literacy achievement before and after participating in the program. The comparison between pretest and posttest results was used to identify the direction and magnitude of learning improvement. Before hypothesis testing, the normality assumption was examined to determine the appropriate statistical procedure. Based on the data characteristics, the analysis employed the Wilcoxon Signed Rank Test as a non-parametric statistical method to examine differences between paired measurements. This test is appropriate when comparing two related samples in situations where the assumption of normal distribution is not satisfied (Białowas & Szyszka, 2021; Pallant, 2020). In addition to significance testing, the study employed normalized gain analysis (N-Gain) to evaluate the magnitude of students' learning improvement after the intervention. The N-Gain approach measures the actual improvement achieved by participants compared with the maximum possible improvement, allowing researchers to evaluate the effectiveness level of educational interventions (Colt et al., 2010; Suhirman & Prayogi, 2023). The combination of the Wilcoxon Signed Rank Test and N-Gain analysis provided a more comprehensive evaluation framework. The Wilcoxon test determined whether the improvement was statistically significant, while N-Gain analysis identified the practical magnitude of improvement achieved through the gamification-based zakat education program.



Ethical Consideration

This study was conducted within an educational setting involving school students. The research process considered ethical principles by ensuring that data collection was conducted for academic purposes and that participants' information was treated confidentially. Participation was conducted within the framework of the educational program, and the collected data were used solely for evaluating the effectiveness of the zakat education intervention.

Methodological Contribution

The methodological approach applied in this study provides an empirical framework for evaluating Islamic educational innovation. By combining quantitative measurement, statistical testing, and learning gain analysis, this study moves beyond descriptive evaluation and provides evidence regarding the effectiveness of gamification-based Islamic financial education. This approach enables the assessment of how Islamic social finance institutions can contribute to educational development through structured literacy programs. Therefore, the methodology supports the broader objective of understanding the relationship between Islamic social finance, educational innovation, and the development of students' zakat literacy.

RESULTS AND DISCUSSION

Improvement of Students' Zakat Literacy after the Gamification-Based Intervention

This study evaluated the effectiveness of a gamification-based zakat education program developed by LAZNAS IZI Banten in improving students' zakat literacy. The analysis was conducted by comparing students' literacy levels before and after participating in the educational intervention. A total of 35 seventh-grade students from SMP Negeri 2 Kelapa Dua participated in the program and completed both pretest and posttest assessments. The descriptive statistical analysis demonstrates a positive improvement in students' zakat literacy following the intervention. As presented in Table 1, the average score increased from 70.94 in the pretest to 84.57 in the posttest, representing an average improvement of 13.63 points..

Table 1. Descriptive Statistics of Students' Zakat Literacy Before & After Intervention

Measurement	N	Minimum Score	Maximum Score	Mean Score	Mean Difference
Pretest	35	26	100	70.94	–
Post-test	35	73	100	84.57	+13.63

Source: Primary data processed by researchers.

The increase in average achievement indicates that students demonstrated improved understanding after participating in the Zakat Game program. More importantly, the improvement in the minimum score from 26 to 73 indicates that the intervention was not only associated with higher average achievement but also contributed to reducing differences among students with varying levels of initial understanding. This finding



suggests that gamification-based zakat education may provide an inclusive learning environment that supports students with different academic backgrounds. Through interactive activities, students were encouraged to participate actively, receive feedback, and engage with zakat concepts through a more contextual learning experience. From the perspective of constructivist learning theory, knowledge development occurs when learners actively construct meaning through interaction and experience rather than merely receiving information (Sardar, 2023; Vygotsky, 1978). Therefore, the improvement observed in this study suggests that gamification helped transform zakat learning from a passive instructional process into an active knowledge-building experience.

Statistical Evidence of Learning Improvement

To determine whether the observed improvement was statistically significant, the Wilcoxon Signed Rank Test was conducted. This analysis was selected because the research involved paired measurements from the same participants before and after intervention (Luo et al., 2024). The test results are presented in Table 2.

Table 2. Wilcoxon Signed Rank Test Results of Students' Zakat Literacy Before and After Intervention

Comparison	Negative Ranks	Positive Ranks	Ties	Total (N)	Asymp. Sig. (2-tailed)
Post-test – Pretest	0	29	6	35	0.000

Source: Primary data processed by researchers

The Wilcoxon analysis revealed a statistically significant difference between students' zakat literacy scores before and after participating in the Zakat Game program, with an Asymp. Sig. value of 0.000 ($p < 0.001$). The results indicate that the improvement observed in students' scores was not caused by random variation but was associated with the educational intervention implemented. Furthermore, the rank distribution provides additional evidence that the improvement occurred consistently among participants. A total of 29 students experienced higher posttest scores, while no students experienced a decline in achievement. These findings strengthen previous research regarding the effectiveness of gamification in education. Previous studies have demonstrated that gamification can enhance learning motivation, engagement, and cognitive achievement through interactive elements such as challenges, feedback, and participation mechanisms (Hamari et al., 2014; Sailer & Homner, 2020). However, this study extends previous gamification research by applying the approach within the context of Islamic financial education. While previous studies have mainly examined gamification in general subjects, this research demonstrates its potential contribution to strengthening zakat literacy among students.

Magnitude of Learning Improvement Based on N-Gain Analysis

Although statistical significance confirms that improvement occurred, educational evaluation also requires an understanding of the magnitude of improvement. Therefore, this study employed normalized gain (N-Gain) analysis to determine the effectiveness level of the intervention. The results are presented in Table 3.



Table 3. Normalized Gain Analysis of Students' Zakat Literacy Improvement

Indicator	Value
Valid Cases	33
Minimum N-Gain Score	0.00
Maximum N-Gain Score	1.00
Mean N-Gain Score	0.4166
Standard Deviation	0.27123
N-Gain Percentage	41.6572%
Category	Moderate

Source: Primary data processed by researchers

The N-Gain analysis produced a mean score of 0.4166, equivalent to an improvement percentage of 41.6572%, which falls into the moderate improvement category (A. A. Aziz et al., 2021). This result indicates that the Zakat Game intervention generated meaningful educational benefits. However, the moderate category also suggests that developing Islamic financial literacy requires continuous learning exposure rather than relying on a single educational intervention. Unlike simple factual knowledge acquisition, zakat literacy involves conceptual understanding, ethical awareness, and social value formation. Therefore, improvement in zakat literacy represents a gradual educational process involving knowledge development and value internalization. The findings support the argument that gamification should be understood as a pedagogical strategy rather than merely a technological tool. The effectiveness of gamification depends on how learning objectives, game elements, and student engagement are integrated within the educational process.

Individual Learning Response and Inclusive Educational Impact

Beyond aggregate statistical analysis, this study examined individual learning response patterns to understand how the intervention affected participants at the individual level. The distribution of learning responses is presented in Table 4.

Table 4. Individual Learning Improvement Pattern After the Gamification-Based Zakat Education Intervention

Learning Response Pattern	Number of Students	Percentage (%)
Improved learning outcome	29	82.86
No change	6	17.14
Decreased learning outcome	0	0.00
Total	35	100.00

Source: Primary data processed by researchers

The individual response analysis demonstrates that the majority of students benefited from the intervention. Specifically, 82.86% of participants experienced



improvement, while 17.14% maintained their previous achievement level, and no students experienced a decline. This finding provides an important interpretation beyond statistical significance. The effectiveness of an educational innovation should not only be assessed through average scores but also through its ability to generate positive learning responses among individual participants. This supports previous research indicating that gamification can increase student engagement by providing interactive learning experiences, immediate feedback, and active participation opportunities (Hamari et al., 2014; Sailer & Homner, 2020). The absence of negative learning outcomes suggests that the gamification-based approach created a supportive learning environment. Nevertheless, the existence of students who did not demonstrate improvement highlights that educational outcomes remain influenced by individual factors, including prior knowledge, motivation, and learning engagement.

Gamification-Based Zakat Education as Islamic Social Finance Innovation

The empirical findings demonstrate that the Zakat Game program successfully improved students’ zakat literacy. However, the broader contribution of this research extends beyond evaluating a learning medium. This study positions gamification-based zakat education as a form of Islamic Social Finance-Based Educational Innovation. Previous Islamic social finance studies have primarily focused on zakat collection, governance, institutional performance, and poverty alleviation (Afifa et al., 2025; Jamaludin, 2022; Jamaludin & Aminah, 2021). This research expands that perspective by demonstrating that zakat institutions can contribute through knowledge empowerment and educational development. The role of LAZNAS IZI Banten in implementing the Zakat Game program illustrates a transformation of Islamic social finance institutions from purely financial intermediaries into educational innovation actors.

This perspective introduces a broader understanding:

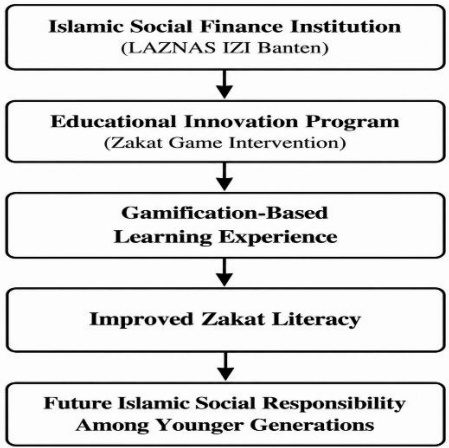


Figure 1. Contribution of Research

Therefore, strengthening Islamic social finance ecosystems requires not only effective financial management but also investment in developing public knowledge and awareness from an early educational stage.



Research Contribution and Novelty

This study contributes to existing literature in three ways. First, it extends zakat literacy research by shifting attention from adult zakat behavior toward educational processes among younger generations. Second, it expands gamification literature by demonstrating its application in Islamic financial education, particularly zakat literacy development. Third, it introduces a new perspective on Islamic social finance institutions by positioning them as educational innovation actors that contribute to knowledge empowerment. Therefore, the novelty of this research lies not merely in demonstrating that gamification improves learning outcomes, but in showing how Islamic social finance institutions can utilize educational innovation to build sustainable zakat literacy ecosystems.

CONCLUSION

This study confirms that gamification-based zakat education represents an effective educational innovation for strengthening students' zakat literacy within the context of Islamic social finance. The implementation of the Zakat Game program demonstrates that interactive learning approaches can transform zakat education from a conventional knowledge-transfer process into a more engaging and meaningful learning experience. Through the integration of game-based activities, student participation, and contextual learning, zakat concepts can be delivered in a way that encourages deeper understanding among younger generations.

The findings contribute to the development of Islamic education and Islamic social finance literature by highlighting the strategic role of zakat institutions as educational innovation actors. Rather than being positioned solely as institutions responsible for collecting and distributing zakat funds, zakat organizations have the potential to contribute to knowledge empowerment through literacy development programs. This perspective expands the understanding of Islamic social finance by emphasizing that sustainable zakat ecosystems require not only effective institutional management but also continuous investment in public awareness and educational capacity.

This study also provides practical implications for strengthening collaboration between educational institutions and Islamic social finance organizations. The development of innovative learning models, such as gamification-based zakat education, can become an alternative strategy to introduce Islamic financial values at an early stage. Future studies are encouraged to explore broader educational contexts and examine how zakat literacy development may influence students' attitudes, social responsibility, and future engagement with Islamic social finance practices.

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