ISSN 2776-5229

Game-Based Learning as a Pedagogical Innovation Model in Islamic Education

Abdul Hamid [1*], Mahmutarom [2], Sari Hernawati [3]
[123]Universitas Wahid Hasyim Semarang
* abuyahamid28@gmail.com

ARTICLE INFO

Article history
Received April 8, 2026
Revisied May 23, 2026
Accepted June 5, 2026

Keywords: Game-Based Learning, Islamic Education, Digital Pedagogy,Student Engagement, Contemporary Madrasah, Interactive Learning.

ABSTRACT

This study investigates the implementation of Game-Based Learning (GBL) as an innovative pedagogical model in contemporary Islamic Education at MTs Negeri 1 Kota Semarang. The research was motivated by the continued use of conventional teaching methods, which often resulted in low student engagement, limited interaction, and reduced learning motivation among Grade VIII students. Employing a qualitative case study approach, data were collected through classroom observations, semi-structured interviews, and documentation analysis involving Islamic Religious Education teachers and students. The findings indicate that the use of digital platforms such as Quizizz, Kahoot, and Wordwall transformed the learning process into a more interactive, collaborative, and student-centered experience. Students showed higher participation, stronger motivation, improved teamwork, and better understanding of fiqh and Islamic Cultural History materials. Moreover, teachers adapted their roles from traditional knowledge transmitters to learning facilitators. The study also found that GBL effectively integrated Islamic values, including honesty, responsibility, cooperation, and discipline, making it a promising approach for enhancing learning effectiveness in modern madrasah education.

1. INTRODUCTION

The implementation of Islamic Education in the digital era faces significant pedagogical challenges due to students' increasing dependence on interactive technology and digital media. However, learning practices at MTs Negeri 1 Kota Semarang, particularly in Grade VIII Islamic Religious Education classes, still predominantly apply conventional instructional approaches such as lectures, textbook-centered explanations, and written assignments. Based on preliminary classroom observations conducted in February 2026, many students gradually lost concentration during fiqh and Islamic Cultural History lessons, while classroom interaction remained relatively low because only a few students actively participated in discussions and question-and-answer sessions (Observation, 2026). Interviews with Islamic Religious Education teachers further revealed that maintaining students' attention has become increasingly difficult because students are more accustomed to interactive digital content and online gaming environments in their daily activities than conventional classroom instruction (Teacher Interview, 2026). Documentation data from the 2025/2026 academic year also indicated that Grade VIII consisted of approximately 352 students distributed across eleven classes, with several classes demonstrating low active engagement during religious learning activities (School Documentation, 2026). In addition, informal student interviews showed that most learners preferred interactive learning methods involving quizzes, educational games, videos, and collaborative classroom activities because such approaches were considered more engaging and easier to understand (Student Interview, 2026). Nevertheless, these digital learning preferences have not yet been systematically integrated into Islamic Religious Education classrooms, creating a pedagogical gap between students' digital learning characteristics and the instructional approaches currently implemented at the madrasah level. Therefore, Game-Based Learning becomes highly relevant as an innovative pedagogical model capable of increasing students' motivation,

participation, and engagement within contemporary Islamic Religious Education learning. Previous studies have extensively discussed Game-Based Learning in general educational contexts, particularly regarding student motivation, engagement, digital pedagogy, and learning outcomes. For instance, (Deterding et al., 2011) focused on the conceptualization of gamification in education, while (Hamari et al., 2014) emphasized the motivational impact of gamification on student participation. (Plass et al., 2015) examined the theoretical foundations of Game-Based Learning in interactive learning environments. In the context of Islamic Education, several recent studies have investigated the implementation of digital game media in Islamic learning, such as (Zainuddin, Shujahat, Haruna, & Chu, 2020) who developed game-based Islamic learning media, (Zulkefli & Jamil, 2024), who explored the pedagogical principles of Game-Based Learning in Islamic education, and (Sari & Nugroho, 2022) who analyzed the effectiveness of digital Game-Based Learning in enhancing critical thinking skills.

Previous studies on Game-Based Learning in Islamic Education mainly focused on gamification applications, student motivation, digital media integration, and bibliometric reviews. However, limited empirical studies have specifically examined Game-Based Learning as a comprehensive pedagogical innovation model within contemporary madrasah-based Islamic Religious Education classrooms, particularly concerning student engagement, classroom interaction, and contextual learning transformation. Therefore, this study becomes one of the earliest empirical investigations at MTs Negeri 1 Kota Semarang that integrates digital learning innovation, student participation, and contextual Islamic pedagogy into a unified pedagogical framework. Previous studies have primarily examined Game-Based Learning in Islamic Education from the perspectives of gamification applications, digital learning media development, student motivation, and bibliometric analyses. In contrast, this study offers a novel contribution by positioning Game-Based Learning as a comprehensive pedagogical innovation model that integrates student engagement, classroom interaction, teacher pedagogical transformation, and contextual Islamic values within contemporary madrasah-based learning environments through direct empirical investigation. This study offers a novel contribution by positioning Game-Based Learning not merely as digital learning media, but as a comprehensive pedagogical innovation model that integrates student engagement, classroom interaction, and contextual Islamic pedagogy within contemporary madrasah-based learning. This study aims to analyze the implementation of Game-Based Learning as an innovative pedagogical model in MTs Negeri 1 Kota Semarang to enhance student participation, classroom engagement, and the effectiveness of contemporary Islamic Religious Education learning.

2. METHODS

This study employed a qualitative case study approach to comprehensively investigate the implementation of Game-Based Learning in contemporary Islamic Education at MTs Negeri 1 Kota Semarang. The qualitative approach was selected because it enables an in-depth exploration of social phenomena, classroom interaction, student engagement, and contextual pedagogical transformation within natural educational settings (Creswell & Creswell, 2018). Research informants were selected through purposive sampling based on their direct involvement in the implementation of Game-Based Learning within Islamic Religious Education classes. The study involved 12 informants, consisting of 2 Islamic Religious Education teachers as key informants and 10 Grade VIII students as supporting informants, who were selected to provide comprehensive insights regarding the planning, implementation, learning experiences, student engagement, motivation, classroom interaction, and pedagogical impact of Game-Based Learning throughout the instructional process. Data were collected through classroom observations, semi-structured interviews, and documentation analysis involving learning activities, attendance records, teacher assessment notes, and school academic

documents. The observation instrument was developed to assess ten impact indicators of Game-Based Learning, namely student participation, learning motivation, classroom interaction, understanding of fiqh and Islamic Cultural History materials, student confidence during discussions, collaborative learning skills, adaptation to digital learning platforms, classroom learning atmosphere, teacher pedagogical transformation, and overall student learning engagement. Although this study primarily employed a qualitative case study approach, descriptive quantitative data were utilized to support and strengthen qualitative findings rather than to conduct statistical hypothesis testing. The percentage data presented in Table 1 were derived from structured observation sheets, classroom participation records, documentation, and reflective learning reports involving 352 Grade VIII students. The frequency of students demonstrating each observed indicator was converted into percentages using descriptive analysis. These quantitative data served only as supporting evidence and were subsequently triangulated with interview findings, classroom observations, and documentation data to provide a more comprehensive understanding of the pedagogical impact of Game-Based Learning in Islamic Religious Education.

Table 1. Observation Indicators

No.	Indicator
1	Student Participation
2	Learning Motivation
3	Classroom Interaction
4	Understanding of Learning Materials
5	Student Confidence
6	Collaborative Learning Skills
7	Digital Learning Adaptation
8	Classroom Learning Atmosphere
9	Teacher Pedagogical Transformation
10	Student Learning Engagement

Data analysis employed the interactive model developed by Miles, Huberman, and Saldaña (2014), consisting of data condensation, data display, and conclusion drawing to ensure systematic interpretation and research validity. Furthermore, source triangulation and methodological triangulation were conducted to strengthen the credibility and trustworthiness of the findings (Lincoln & Guba, 1985). Figure 1 presents the qualitative research workflow, while Table 1 presents the observation indicators used in this study.

3. RESULTS AND DISCUSSION

RESULTS

3.1 Game-Based Learning as a Pedagogical Innovation Model

The implementation of Game-Based Learning in contemporary Islamic Education learning at MTs Negeri 1 Kota Semarang was conducted systematically through several pedagogical stages beginning from instructional planning, classroom preparation, learning implementation, student interaction, evaluation, and learning reflection. The implementation process started with the identification of classroom problems experienced during Islamic Religious Education learning, particularly in fiqh and Islamic Cultural History subjects. Based on preliminary classroom observations conducted in February 2026, Islamic Religious Education learning activities were still predominantly teacher-centered and relied heavily on lectures, textbook explanations, and written assignments, causing many Grade VIII students to gradually lose concentration after approximately twenty to thirty minutes of learning activities (Observation, 2026).

 ISSN 2776-5229

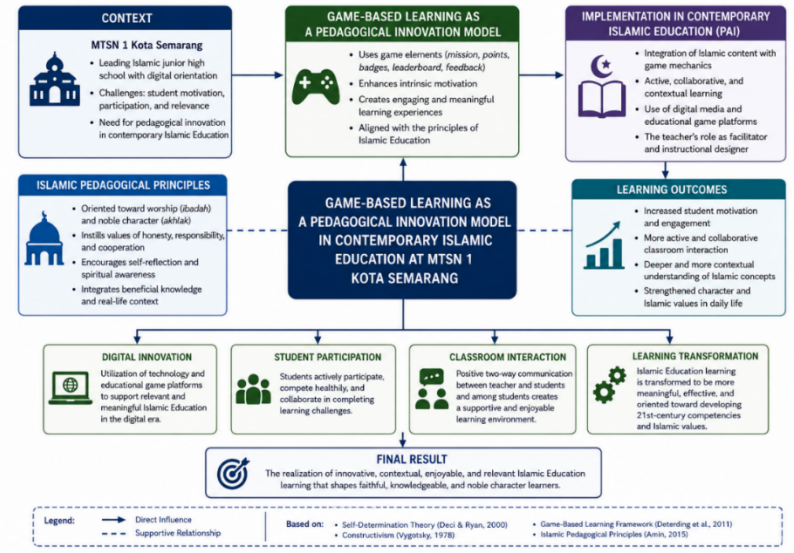

Figure 2. Implementation framework of Game-Based Learning as a pedagogical innovation model in contemporary Islamic Education at MTs Negeri 1 Kota Semarang.
Source: Observation, teacher interviews, student interviews, and school documentation at MTs Negeri 1 Kota Semarang (2026).

Although the implementation of Game-Based Learning produced predominantly positive outcomes, the findings also revealed several challenges during the instructional process. Some students initially demonstrated resistance toward game-based activities because they were accustomed to passive learning patterns and felt hesitant to participate in competitive classroom environments. In addition, technical constraints occasionally emerged, including unstable internet connectivity, limited availability of digital devices, and differences in students' digital literacy levels. Teachers also reported difficulties in designing game-based learning scenarios that simultaneously fulfilled curriculum objectives, assessment requirements, and Islamic educational values. These findings indicate that the effectiveness of Game-Based Learning is influenced not only by the digital platform itself but also by the readiness of infrastructure, teacher competence, and students' adaptability to innovative learning approaches. The effectiveness of platforms such as Quizizz, Kahoot, and Wordwall compared with conventional instructional methods can be explained by their alignment with the characteristics of contemporary Muslim digital-generation learners. Unlike lecture-centered approaches that position students as passive recipients of information, Game-Based Learning provides immediate feedback, active participation, social interaction, and achievement-oriented challenges that correspond to students' daily experiences in digital environments. Madrasah students responded positively because the learning process became more relevant to their technological habits while still integrating Islamic values such as responsibility, cooperation, honesty, and discipline. Therefore, the success of Game-Based Learning is not merely a consequence of using technology but reflects its ability to bridge the gap between Islamic educational objectives and the learning preferences of digitally connected Muslim youth in the contemporary era.

3.2 Impact of Game-Based Learning as a Pedagogical Innovation Model

The implementation of Game-Based Learning has demonstrated significant pedagogical impacts on contemporary Islamic Education by transforming conventional learning into a more interactive, student-centered, and technology-integrated educational process. Through the integration of digital game elements, collaborative activities, and contextual learning experiences, Game-Based Learning contributes to improving student motivation, classroom participation, learning engagement, and conceptual understanding while simultaneously encouraging pedagogical innovation within contemporary madrasah learning environments.

Table 1. Percentage of the Impact of Game-Based Learning Implementation on Grade VIII Students at MTs Negeri 1 Kota Semarang

Impact Indicators	Percentage
Increase in student learning participation	81.5%
Improvement in learning motivation	85.5%
Enhancement of classroom interaction	78.4%
Improvement in understanding of fiqh and Islamic Cultural History materials	76.1%
Increase in student confidence during discussions	73.5%
Improvement in collaborative learning skills	83.5%
Positive adaptation toward digital learning platforms	89.5%
Improvement in classroom learning atmosphere	86.2%
Teacher pedagogical transformation	80.4%
Overall student learning engagement	84.0%

Source: Observation results, teacher interviews, student interviews, classroom participation records, and Grade VIII academic documentation involving 352 students at MTs Negeri 1 Kota Semarang (2026).

Table 1 presents the impact of Game-Based Learning implementation in contemporary Islamic Education learning involving 352 Grade VIII students at MTs Negeri 1 Kota Semarang. The findings demonstrate that the implementation of Game-Based Learning contributed positively to various pedagogical aspects, particularly student participation, classroom interaction, learning motivation, collaborative learning, and digital learning adaptation. The data indicate that most students responded positively toward interactive learning activities integrating educational games, collaborative challenges, and technology-assisted instructional media within Islamic Religious Education classrooms. Based on the table, the highest impact was identified in students' positive adaptation toward digital learning platforms, reaching 89.5%, followed by improvement in classroom learning atmosphere at 86.2% and enhancement of learning motivation at 85.5%. In addition, overall student learning engagement reached 84.0%, while collaborative learning skills increased by 83.5%, indicating that students became more active and communicative during classroom interaction. The findings also reveal improvements in classroom participation (81.5%), teacher pedagogical transformation (80.4%), classroom interaction (78.4%), conceptual understanding of fiqh and Islamic Cultural History materials (76.1%), and student confidence during discussions (73.5%). These findings indicate that Game-Based Learning successfully transformed Islamic Religious Education learning into a more interactive, student-centered, and engaging pedagogical process within the contemporary madrasah learning environment.

DISCUSSION

The findings of this study demonstrate that the implementation of Game-Based Learning significantly transformed the learning process of contemporary Islamic Education at MTs Negeri 1 Kota Semarang into a more interactive, collaborative, and student-centered pedagogical environment. The research findings revealed that students became more active during classroom discussions, demonstrated higher learning motivation, and showed greater enthusiasm toward fiqh and Islamic Cultural History learning activities after the integration of educational games, collaborative challenges, and digital learning platforms such as Quizizz, Kahoot, and Wordwall. These findings support the theoretical perspective proposed by (Deterding et al., 2011), who explained that gamification integrates game mechanics into educational contexts to create more meaningful and motivating learning experiences. Likewise, (Hamari et al., 2014) emphasized that game-based environments positively influence student engagement and classroom participation because game elements stimulate achievement motivation, competition, and active interaction among learners. In this study, classroom observations and interviews showed that students who were previously passive during conventional lecture-based instruction became more communicative and

actively involved in collaborative learning activities during Game-Based Learning implementation. This finding indicates that digital pedagogical innovation can effectively address the instructional challenges experienced in contemporary Islamic Religious Education classrooms. The results of this study also align with the theoretical framework developed by Plass et al. (2015), who argued that Game-Based Learning strengthens emotional engagement, cognitive interaction, and collaborative learning experiences within educational environments. In the context of this research, students not only demonstrated increased classroom participation but also showed stronger conceptual understanding of Islamic Religious Education materials because learning activities became more contextual, interactive, and enjoyable. This finding is consistent with (Sari & Nugroho, 2022), who found that digital learning innovation in Islamic Religious Education contributes significantly to improving students' motivation and learning participation in Indonesian schools. Similarly, (Rahmawati et al., 2023) reported that gamification positively enhances students' enthusiasm and engagement in Islamic learning activities. However, this study differs from most previous research because earlier studies mainly focused on gamification applications, digital learning media development, or bibliometric analysis, whereas this research specifically investigated Game-Based Learning as a comprehensive pedagogical innovation model within a contemporary madrasah classroom setting through direct empirical investigation involving classroom interaction, student engagement, contextual Islamic pedagogy, and collaborative learning transformation. Therefore, this study contributes a broader pedagogical perspective by positioning Game-Based Learning not merely as instructional media but as an integrated pedagogical framework capable of transforming Islamic Religious Education learning environments.

The findings indicate that the implementation of Game-Based Learning transformed the pedagogical role of teachers from conventional knowledge transmitters into facilitators and instructional designers responsible for managing collaborative and interactive learning environments. Teachers became more actively involved in designing contextual learning scenarios, facilitating classroom interaction, and integrating Islamic values such as cooperation, honesty, discipline, responsibility, and mutual respect into game-based classroom activities. This transformation reflects constructivist learning principles emphasizing active knowledge construction through social interaction and contextual experiences. The implementation process also demonstrated that contemporary madrasah students are highly responsive toward technology-assisted learning environments because most students are already familiar with interactive digital content and online games in their daily lives. Consequently, the integration of Game-Based Learning successfully bridged the gap between students' digital learning characteristics and conventional pedagogical practices previously implemented within Islamic Religious Education classrooms. The implications of this study are significant both theoretically and practically. Theoretically, this study strengthens the conceptual development of Game-Based Learning within contemporary Islamic Religious Education by integrating digital pedagogy, collaborative learning, student engagement, and contextual Islamic educational values into a unified pedagogical framework. The findings also expand the application of constructivist and gamification theories within religious education contexts, particularly in madrasah-based learning environments. Practically, this study provides important implications for teachers, schools, and educational policymakers regarding the importance of adopting innovative digital pedagogical strategies to improve the effectiveness of Islamic Religious Education learning in the digital era. The implementation of Game-Based Learning can become an alternative instructional model for creating more interactive, enjoyable, and student-centered Islamic learning environments while simultaneously strengthening students' motivation, participation, and contextual understanding of Islamic values. Therefore, this study demonstrates that Game-Based Learning possesses substantial potential as a pedagogical innovation model capable of

transforming contemporary Islamic Religious Education learning into a more adaptive, collaborative, and meaningful educational process within modern madrasah environments.

4. CONCLUSION

The implementation of Game-Based Learning at MTs Negeri 1 Kota Semarang demonstrated that digital pedagogical innovation can effectively transform contemporary Islamic Education learning into a more interactive, collaborative, and student-centered educational process. The integration of educational game platforms such as Quizizz, Kahoot, and Wordwall successfully increased students' classroom participation, learning motivation, collaborative interaction, and conceptual understanding of fiqh and Islamic Cultural History materials. The findings also revealed that students responded positively toward technology-assisted learning environments because the instructional process became more engaging, contextual, and relevant to their digital learning characteristics. In addition, the implementation of Game-Based Learning transformed teachers' pedagogical roles from conventional lecture-centered instruction into facilitative and interactive learning practices integrating contextual Islamic values such as cooperation, responsibility, honesty, and discipline. Therefore, this study concludes that Game-Based Learning possesses substantial potential as an innovative pedagogical model for improving the effectiveness of Islamic Religious Education learning while simultaneously addressing the pedagogical challenges faced by contemporary madrasah education in the digital era. This study is limited to the context of a single madrasah and a qualitative case study design; therefore, future research is recommended to involve multiple institutions and employ mixed-methods or experimental approaches to examine the long-term effectiveness of Game-Based Learning in Islamic Education.

5. REFERENCES

Al-Azawei, A., Parslow, P., & Lundqvist, K. (2016). Barriers and opportunities of e-learning implementation in Iraq: A case of public universities. International Review of Research in Open and Distributed Learning, 17(5), 126–146.

Ally, M. (2008). Foundations of educational theory for online learning. In T. Anderson (Ed.), The theory and practice of online learning (2nd ed., pp. 15–44). Edmonton, Canada: Athabasca University Press.

Anderson, T. (2008). The theory and practice of online learning (2nd ed.). Edmonton, Canada: Athabasca University Press.

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.

Bates, A. W. (2019). Teaching in a digital age: Guidelines for designing teaching and learning (2nd ed.). Vancouver, Canada: BCcampus.

Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). Thousand Oaks, CA: Sage Publications.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. Psychological Inquiry, 11(4), 227–268.

Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: Defining gamification. Proceedings of the 15th International Academic MindTrek Conference, 9–15.

Gee, J. P. (2003). What video games have to teach us about learning and literacy. New York, NY: Palgrave Macmillan.

Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does gamification work? A literature review of empirical studies on gamification. Proceedings of the Annual Hawaii International Conference on System Sciences, 3025–3034.

Huang, W. H. Y., & Soman, D. (2013). A practitioner's guide to gamification of education. Toronto, Canada: University of Toronto.

Johnson, L., Adams Becker, S., Estrada, V., & Freeman, A. (2015). NMC Horizon Report: 2015 K–12 edition. Austin, TX: The New Media Consortium.

Kapp, K. M. (2012). The gamification of learning and instruction: Game-based methods and strategies for training and education. San Francisco, CA: Pfeiffer.

Knowles, M. S., Holton, E. F., & Swanson, R. A. (2015). The adult learner: The definitive classic in adult education and human resource development (8th ed.). New York, NY: Routledge.

Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic inquiry. Beverly Hills, CA: Sage Publications.

Malone, T. W. (1981). Toward a theory of intrinsically motivating instruction. Cognitive Science, 5(4), 333–369.

Mayer, R. E. (2021). Multimedia learning (3rd ed.). Cambridge, UK: Cambridge University Press.

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). Qualitative data analysis: A methods sourcebook (3rd ed.). Thousand Oaks, CA: Sage Publications.

Piaget, J. (1972). The psychology of the child. New York, NY: Basic Books.

Plass, J. L., Homer, B. D., & Kinzer, C. K. (2015). Foundations of game-based learning. Educational Psychologist, 50(4), 258–283.

Prensky, M. (2001). Digital game-based learning. New York, NY: McGraw-Hill.

Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. Contemporary Educational Psychology, 61, 101860.

Sailer, M., & Homner, L. (2020). The gamification of learning: A meta-analysis. Educational Psychology Review, 32(1), 77–112.

Schunk, D. H. (2012). Learning theories: An educational perspective (6th ed.). Boston, MA: Pearson Education.

Su, C. H., & Cheng, C. H. (2015). A mobile gamification learning system for improving learning motivation and achievement. Journal of Computer Assisted Learning, 31(3), 268–286.

UNESCO. (2023). Global education monitoring report 2023: Technology in education. Paris, France: UNESCO Publishing.

Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Cambridge, MA: Harvard University Press.

Werbach, K., & Hunter, D. (2012). For the win: How game thinking can revolutionize your business. Philadelphia, PA: Wharton Digital Press.

Yin, R. K. (2018). Case study research and applications: Design and methods (6th ed.). Thousand Oaks, CA: Sage Publications.

Zainuddin, Z., Shujahat, M., Haruna, H., & Chu, S. K. W. (2020). The role of gamified e-quizzes on student learning and engagement: An interactive gamification solution for a formative assessment system. Computers & Education, 145, 103729.

Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. Theory Into Practice, 41(2), 64–70.