Vol. 4, No. 4, December 2026, pp. 3864-3877
INTERNATIONAL JOURNAL OF
POST AXIAL
FUTURISTIC TEACHING AND LEARNING
https://journal.amorfati.id/index.php/postaxial | | ISSN 3025-7549

Integrating Wordwall into Islamic Religious Education (PAI) as a Strategy to Enhance Student Engagement in Junior High School

Ynayatul Awaliya [1a*], Arim Irsyadulloh Albin Jaya [2b]
[1,2] Institut Agama Islam Khozinatul Ulum, Blora, Indonesia

[a]ynayatulawaliya@iaiku.ac.id, [b]arim@iaikhozin.ac.id

Article History:
Received:
20-09-2026
Revised:
28-10-2026
Accepted:
16-11-2026
Avaiable online:
06-12-2026

Keywords:
Wordwall, Islamic religious education, Learning activeness, Learning strategy, Digital technology.

***Correspondence Address:**
ynayatulawaliya@iaiku.ac.id

Abstract:
Advances in digital technology have spurred the implementation of innovative learning strategies in Islamic Religious Education (IRE), one of which involves the integration of game-based learning media. This study aims to describe the integration of Wordwall into IRE instruction as a strategy to support active learning among junior high school students. This study employs a descriptive qualitative approach using a case study design. Data were collected through observation, interviews, and documentation, then analyzed through data reduction, data presentation, and drawing conclusions. Data validity was verified through triangulation of sources and techniques. The results show that Wordwall was integrated into the planning, implementation, and evaluation stages of PAI instruction for practice exercises, material reinforcement, assessment, and reflectionCompared with lecture-only sessions, students were more confident in answering questions, more active in group discussions to determine answers, more attentive in reading questions and selecting answers, and more consistent in completing tasks, as shown by observation records, interviews, and learning documentation. However, its implementation still faces several challenges, such as paid features, account access, internet connectivity, and device limitationsUnlike previous studies that mainly test the effect of Wordwall on motivation and learning outcomes, this study contributes a process-oriented account of how PAI teachers integrate Wordwall as a learning strategy: by aligning activities with learning objectives, adapting game formats to the material and to student characteristics, managing turn-taking and group discussion, and following quizzes with feedback. Thus, Wordwall can support more interactive PAI learning when implemented through appropriate pedagogical planning and supported by adequate technological facilities.

This is an open-access article under the CC–BY-SA license.

Introduction (مقدمة)

The introduction contains the purpose of the study and why the study is conducted. The The development of digital technology requires teachers to adopt learning strategies that move students from passive reception to active involvement. This demand is particularly relevant in Islamic Religious Education (PAI), whose objectives extend beyond cognitive understanding to the appreciation and practice of religious values in daily life. Learning activeness, reflected in students' questioning, answering, discussing, and completing tasks, is therefore an important indicator of successful PAI learning, because it shapes how deeply students understand and internalize the material. In practice, however, PAI classrooms still often face low student participation, with limited questioning, responses, and engagement in discussions.

Game-based digital media have been widely proposed to address this problem. Among them, Wordwall offers quizzes, matching activities, and other educational games with immediate feedback, which make learning more interactive (Author, Year). Previous studies consistently report that Wordwall increases learning motivation and improves learning outcomes. Research on educational games more broadly reaches similar conclusions regarding engagement and achievement.

Despite these findings, the existing literature shows two limitations. First, most studies use quantitative designs, such as experiments, pretest-posttest comparisons, and motivation questionnaires. They treat Wordwall as a treatment variable whose effect on students is measured, rather than as a pedagogical process. Second, these studies concentrate on learning outcomes and motivation as indicators of success. As a result, how teachers actually design activities, select appropriate features, manage classroom interaction, and adapt the medium to the characteristics of the material remains little explored. This gap is more pronounced in PAI, where learning also aims at attitudes and religious practice, yet qualitative studies of Wordwall in this subject are still scarce.

Initial observations at SMPN 2 Bogorejo suggest that this process dimension deserves closer attention. Students appeared more enthusiastic, more confident in answering questions, and more active in discussions when Wordwall was used compared with conventional methods. These observations suggest that the results depend not on the medium itself but on how the teacher integrates it into learning. This is consistent with the view that technology integration succeeds when it is planned in line with learning objectives, materials, and pedagogical strategiesar).

Based on this gap, the novelty of this study lies in positioning Wordwall integration as an active learning strategy designed by PAI teachers, rather than as a medium whose effectiveness is tested. Using a qualitative approach, this study aims to describe how Wordwall is integrated into PAI learning at the junior high school level. Specifically, it examines how teachers formulate learning objectives, adapt Wordwall features to PAI materials, manage student interactions, and evaluate learning, and how this integration encourages students' learning activeness.

Method (منهج)

This study employed a field research design using a descriptive qualitative approach. This approach was selected because the study aimed to gain an in-depth understanding of the phenomenon of Wordwall integration in PAI learning, teacher strategies, student responses, and forms of learning activeness that emerged during the learning process. The qualitative approach enables researchers to obtain a comprehensive description of learning activities based on natural

conditions in the field. The use of Wordwall in PAI learning also demonstrates that interactive digital media can create a more engaging learning environment, increase participation, and encourage students' active involvement during the learning process.

The research design was directed toward a case study of Wordwall-based PAI learning at the junior high school level. A case study was employed because this research focused on examining a particular phenomenon in depth, namely the implementation of Wordwall as a learning medium in the PAI learning process. The research design consisted of several stages, including identifying learning needs, planning Wordwall activities, implementing learning activities, observing student activeness, and reflecting on teachers' strategies in managing interactive learning.

The research location was determined at a junior high school that had implemented or was willing to integrate Wordwall into PAI learning. The selection of the research site was based on the suitability between field conditions and the research focus, namely the existence of PAI learning activities utilizing interactive digital media. The research period was adjusted to the learning implementation period, for example, one to two months, so that observations of student activities and learning activeness could be conducted optimally.

The research participants consisted of PAI teachers and junior high school students in the class where Wordwall was implemented. PAI teachers served as the main informants because they played a role in designing learning strategies, selecting learning materials, and managing the use of Wordwall during learning activities. Meanwhile, students became participants to explore their responses, learning experiences, and levels of engagement during the learning process.

The focus of this research was directed toward the integration of Wordwall as a PAI learning strategy to improve students' learning activeness. Learning activeness was observed through several indicators, including students' involvement in answering questions, asking questions, participating in discussions, engaging in quiz activities, completing assignments, and demonstrating enthusiasm during learning activities. Data sources were selected using purposive sampling, namely determining data sources based on specific considerations relevant to the research needs and focus of the study.

The research data consisted of primary and secondary data. Primary data were obtained from PAI teachers, students, and classroom learning activities. Meanwhile, secondary data were obtained from supporting documents such as teaching modules, learning activity documentation, Wordwall quiz results, attendance records, and teacher evaluation notes.

Data collection was conducted through classroom observations, interviews with teachers and students, documentation of learning activities, and analysis of Wordwall activity results. The use of various data collection techniques was intended to obtain more comprehensive information regarding the learning process, teacher strategies, student responses, and forms of student engagement.

The research instruments consisted of learning activeness observation sheets, interview guidelines, documentation formats, and field notes. These instruments were developed based on indicators of student learning activeness and were systematically used throughout the research process.

The research procedure began with initial observations to identify the conditions of PAI learning, followed by the preparation of learning instruments, selection of PAI materials appropriate for Wordwall implementation, learning implementation, data collection, interviews, documentation, data analysis, and conclusion drawing.

Data analysis was conducted using an interactive analysis model consisting of data reduction, data presentation, and conclusion drawing. Data obtained from observations, interviews, documentation, and Wordwall activities were analyzed simultaneously to identify patterns of teacher strategies and forms of student learning activeness in PAI learning. Data

validity was ensured through technique triangulation and source triangulation. Observation results were compared with interview results, documentation, and Wordwall activity outcomes, while information obtained from teachers was further confirmed through student responses and evidence of learning activities.

The research procedure started from initial observation, preparation of learning instruments, selection of PAI materials suitable for Wordwall, implementation of learning activities, collection of student activeness data, interviews, documentation, data analysis, and conclusion formulation. Data analysis involved data reduction, data presentation, and conclusion drawing. Data from observations, interviews, documentation, and Wordwall results were compared to identify patterns of teacher strategies and forms of student learning activeness in PAI learning. Data validity was established through triangulation of techniques and sources. Observation results were compared with interviews, documentation, and Wordwall quiz results, while teacher information was re-examined through student responses and evidence from learning activities.

Result (نتائج)

Based on the results of triangulation from interviews, observations, and document studies, PAI teachers planned the use of Wordwall by first determining the learning objectives and materials to be delivered. After establishing the objectives, teachers selected relevant PAI materials to be developed into questions or educational games. The selected materials were generally concise, clear, and not overly complex so that they could be presented effectively through Wordwall and easily understood by students. Teachers also considered students' abilities, needs, and learning characteristics when determining the type of game and the difficulty level of questions. Before the activity began, teachers explained that Wordwall was used to review materials, provide exercises, and identify students' levels of understanding. Observation results supported the interview findings, showing that the materials and questions used had been simplified and adjusted to students' abilities. Document studies also indicated that PAI materials had been adapted to the types of games and questions available in Wordwall so that they could be presented interactively.

However, the use of Wordwall was not planned for every meeting and was still implemented only at certain times. Teachers more frequently used Quizizz because of limitations related to Wordwall accounts and because some features required paid subscriptions. These findings emerged from interviews and were also confirmed through observations. Therefore, teachers' planning strategies considered not only learning objectives, materials, and student characteristics but also the availability of accounts, features, devices, and technical conditions. Overall, data triangulation showed that Wordwall planning had been conducted systematically, although the intensity of its use remained limited.

Implementation of Wordwall in PAI Learning

Based on the triangulated data, Wordwall was integrated into PAI learning after teachers had delivered the learning materials and explained the rules of the game activities. Wordwall was generally utilized during the core, middle, or final stages of learning activities in the form of exercises, quizzes, material reviews, assessments, evaluations, daily tests, and learning reflections. The media was displayed through Interactive Flat Panels (IFP), interactive screens, LCD projectors, or other supporting devices, allowing students to participate in the game activities collectively. Students answered questions individually in turns or engaged in group discussions to determine the correct answers. The activities implemented included puzzles, matching exercises, and multiple-choice quizzes equipped with scoring features.

In the implementation process, teachers first explained the learning materials and activity procedures, then displayed Wordwall through an interactive screen. Students participated in the game activities by answering questions and engaging in discussions. Document studies also supported these findings, as Wordwall was included in teaching modules or lesson plans as a learning medium used during the core learning activities as well as the evaluation or closing stages. Student worksheets (LKPD) or teaching materials contained activities and questions connected to Wordwall quizzes, while learning documentation showed the use of game activities through digital devices or LCD projectors. additional game activity but had been integrated into the stages of learning to support material delivery, practice activities, evaluation, and learning follow-up.

Students' Responses toward the Use of Wordwall

Based on the results of triangulation, students showed positive responses toward the use of Wordwall in PAI learning. The interview results indicated that students felt happier, more interested, enthusiastic, motivated, and focused because the learning process was not only based on teacher explanations but was also accompanied by games, questions, scores, challenges, and immediate feedback. The interactive display of Wordwall encouraged students' curiosity and their willingness to attempt answering questions. Some students experienced slight tension because they wanted to provide correct answers and achieve good scores, while others still felt embarrassed when their answers were incorrect and noticed by their classmates. Nevertheless, this situation tended to encourage students to pay closer attention to the learning activities.

Observation results showed similar conditions. Students appeared more enthusiastic, active, focused, and motivated when Wordwall was used compared to learning activities that relied only on conventional lecture methods. The classroom atmosphere became more dynamic, enjoyable, and less monotonous. These findings were strengthened by document studies, such as teacher records and teaching journals, which documented high levels of student enthusiasm and responses. Photo and video documentation also showed that students paid attention to the Wordwall display, participated in the games, and responded to questions. Student reflections or questionnaires indicated increased interest and engagement in PAI learning. Therefore, the three data sources demonstrated that Wordwall received positive responses and was able to create a more engaging learning experience for students.

Students' Learning Activeness after the Use of Wordwall

Based on the results of triangulation, the use of Wordwall showed changes in students' learning activeness. The interview results revealed that students became more enthusiastic, confident, and active in answering questions compared to when they participated in learning activities using conventional methods. A learning atmosphere that resembled a game encouraged students who were previously hesitant to attempt answering questions. During group activities, students engaged in discussions, exchanged opinions, determined answers collaboratively, and assisted peers who had not yet understood the materials. Students were not only passive listeners of teacher explanations but were directly involved in answering questions, completing tasks, and responding to learning activities.

Observation results supported these findings, as students appeared more focused on reading questions, selecting answers, asking questions, responding, discussing, and completing assignments. Document studies also showed increased student activeness through teacher observation sheets, student participation records, evaluation results, and learning documentation. These documents demonstrated student involvement both individually and collaboratively in answering quizzes, participating in challenges, and engaging in discussions during Wordwall activities. Therefore, the triangulation results indicate that changes in student activeness were not only reflected through enthusiasm but also through students' confidence in

responding, involvement in discussions, attention toward learning materials, task completion, and direct participation throughout the learning process.

Supporting and Inhibiting Factors

Based on the results of triangulation, the supporting factors for the use of Wordwall include the availability of digital learning facilities, school support, and students' interest in game-based learning. The available facilities include Interactive Flat Panels (IFP), computer laboratories, computers, laptops, LCD/projectors, Wi-Fi networks, and mobile phones that can be used under teacher supervision. The school provides teachers with the flexibility to select appropriate learning media and conducts monitoring through learning supervision activities. Students' enthusiasm toward game displays, scoring systems, challenges, and immediate feedback also contributes to the successful implementation of Wordwall. The results of interviews, observations, and infrastructure documentation demonstrate consistency regarding the availability of facilities and support for the utilization of digital learning media.

The inhibiting factors include limited access to paid Wordwall features, account-related issues, unstable internet connections, limited availability of devices, insufficient time allocation for completing questions, and classroom time management challenges. In addition, some students still lack confidence when their answers are incorrect, and there is a possibility that students may open other applications while using mobile devices. Teacher records and teaching journals further support these findings regarding challenges related to internet connectivity, devices, and time management.

To overcome these challenges, teachers supervise device usage, prepare learning equipment before activities begin, organize students into groups, provide equal opportunities for answering questions, allocate sufficient completion time, and explain correct answers after the game activities. Teachers also prepare alternative activities in case technical problems occur, such as internet disruptions. The use of mobile phones is managed by collecting devices before learning begins and distributing them only when needed, followed by collecting them again after the activity is completed. Therefore, data triangulation indicates that the success of Wordwall implementation is influenced by infrastructure readiness, school support, teachers' classroom management skills, network conditions, feature accessibility, and supervision of device usage.

Discussion (مناقشة)

1. Implementation of Wordwall in the Islamic Religious Education (PAI) Learning Process

Based on the research findings, Wordwall was integrated into PAI learning after teachers had delivered the learning materials and explained the rules of the game activities. Wordwall was generally utilized during the core, middle, or final stages of learning activities in the form of exercises, quizzes, material reviews, assessments, evaluations, daily tests, and learning reflections. The media was displayed through Interactive Flat Panels (IFP), interactive screens, LCD projectors, or other supporting devices, allowing students to participate in the game activities collectively. Students answered questions individually in turns or engaged in group discussions to determine the correct answers. The activities implemented included puzzles, matching exercises, and multiple-choice quizzes equipped with scoring features.

In the implementation process, teachers first explained the learning materials and activity procedures, then displayed Wordwall through an interactive screen. Students participated in the game activities by answering questions and engaging in discussions. Document studies also supported these findings, as Wordwall was included in teaching modules or lesson plans as a learning medium used during the core learning activities as well as the evaluation or closing stages. Student worksheets (LKPD) or teaching materials contained activities and questions connected to Wordwall quizzes, while learning documentation showed the use of game activities through digital devices or LCD projectors. Therefore, Wordwall was not merely used as an

additional game activity but had been integrated into the stages of learning to support material delivery, practice activities, evaluation, and learning follow-up.

Wordwall had been pedagogically integrated into the stages of PAI learning rather than being used only as an additional game. Teachers first delivered the learning materials and explained the activity procedures, then utilized Wordwall during the core or closing stages as a medium for practice, material reinforcement, assessment, evaluation, and reflection. This pattern is consistent with the concept of *gamified formative assessment*, which refers to the use of game elements to obtain information about students' understanding and provide appropriate learning follow-up.[4] Recent studies indicate that digital quizzes combined with formative assessment can improve student engagement, motivation, and learning achievement when they are aligned with learning objectives and instructional materials.

The use of IFP, LCD projectors, and interactive screens, combined with turn-taking responses and group discussions, also reflects active and collaborative learning practices. Activities such as puzzles, matching exercises, multiple-choice quizzes, scoring systems, and immediate feedback encourage students to pay attention to learning materials, provide responses, and collaborate in determining answers. These findings are consistent with previous research on Wordwall implementation in PAI learning and junior high school contexts, which demonstrates that interactive activities can support student participation and learning outcomes.

The inclusion of Wordwall in lesson plans, student worksheets, teaching materials, and learning documentation demonstrates alignment between planning, implementation, and evaluation stages. However, scores and game elements should not become the primary objectives of learning. Teachers still need to discuss answers, provide feedback, and follow up on materials that students have not yet understood because the benefits of gamification may decrease if learning relies solely on competition or game attractiveness.

Thus, the strength of Wordwall integration lies in the connection between PAI materials, student activities, assessment processes, feedback, and learning follow-up. Wordwall becomes effective not simply because it provides game features, but because teachers are able to integrate these features into a meaningful pedagogical strategy.

2. Students' Responses toward the Use of Wordwall

Based on the results of triangulation, students showed positive responses toward the use of Wordwall in PAI learning. The interview results indicated that students felt happier, more interested, enthusiastic, motivated, and focused because the learning process was not only based on teacher explanations but was also accompanied by games, questions, scores, challenges, and immediate feedback. The interactive display of Wordwall encouraged students' curiosity and their willingness to attempt answering questions. Some students experienced slight tension because they wanted to provide correct answers and achieve good scores, while others still felt embarrassed when their answers were incorrect and noticed by their classmates. Nevertheless, this situation tended to encourage students to pay closer attention to the learning activities.

Observation results showed similar conditions. Students appeared more enthusiastic, active, focused, and motivated when Wordwall was used compared to learning activities that relied only on conventional lecture methods. The classroom atmosphere became more dynamic, enjoyable, and less monotonous. These findings were strengthened by document studies, such as teacher records and teaching journals, which documented high levels of student enthusiasm and responses. Photo and video documentation also showed that students paid attention to the Wordwall display, participated in the games, and responded to questions. Student reflections or questionnaires indicated increased interest and engagement in PAI learning. Therefore, the three data sources demonstrated that Wordwall received positive responses and was able to create a more engaging learning experience for students.

The triangulation results indicate that the use of Wordwall generated positive affective and behavioral responses, characterized by increased feelings of enjoyment, interest, enthusiasm, concentration, and students' willingness to answer questions. These responses can be explained through gamification motivation theory, in which elements such as challenges, scores, games, and immediate feedback fulfill students' needs for autonomy and relatedness, thereby strengthening intrinsic motivation. Recent meta-analysis findings also show that gamification has positive effects on students' intrinsic motivation, perceptions of autonomy, and relatedness, although its influence on perceived competence is relatively smaller.

These findings are consistent with several recent studies showing that Wordwall can create more interactive learning environments and increase student engagement. In Islamic Religious Education learning, Wordwall has been reported to create an engaging learning environment while supporting student involvement and learning outcomes. Research in Qur'an and Hadith learning has also shown that Wordwall contributes positively to student engagement during the learning process. Similar findings were found among junior high school students, who preferred Wordwall compared to conventional learning methods because of its more participatory and attractive characteristics.

The feelings of tension and embarrassment experienced by some students indicate that scoring systems and competition are not perceived equally by all learners. Appropriate challenges can increase students' attention and create learning *flow*, but excessive competition may cause students to fear making mistakes. Recent research shows that competition in game-based learning can improve *flow* and learning achievement when designed appropriately. However, the use of rewards and punishments needs to be managed carefully because students who receive rewards tend to demonstrate higher engagement compared to students who feel punished or embarrassed.

Therefore, positive student responses are not solely caused by the appearance of Wordwall but also by the combination of interactive activities, challenges, feedback, and opportunities for participation. Teachers need to regulate the difficulty level of questions, provide equal opportunities for students to answer, encourage group discussions, and avoid excessive emphasis on rankings. Gamification should also be varied because the use of scoring systems or leaderboards alone may not be sufficient to maintain students' attention in the long term.

3. Students' Learning Activeness After the Use of Wordwall

Based on the results of triangulation, the use of Wordwall showed changes in students' learning activeness. The interview results revealed that students became more enthusiastic, confident, and active in answering questions compared to when they participated in learning activities using conventional methods. A learning atmosphere that resembled a game encouraged students who were previously hesitant to attempt answering questions. During group activities, students engaged in discussions, exchanged opinions, determined answers collaboratively, and assisted peers who had not yet understood the materials. Students were not only passive listeners of teacher explanations but were directly involved in answering questions, completing tasks, and responding to learning activities.

Observation results supported these findings, as students appeared more focused on reading questions, selecting answers, asking questions, responding, discussing, and completing assignments. Document studies also showed increased student activeness through teacher observation sheets, student participation records, evaluation results, and learning documentation. These documents demonstrated student involvement both individually and collaboratively in answering quizzes, participating in challenges, and engaging in discussions during Wordwall activities. Therefore, the triangulation results indicate that changes in student activeness were not only reflected through enthusiasm but also through students' confidence in

responding, involvement in discussions, attention toward learning materials, task completion, and direct participation throughout the learning process.

The triangulation results further indicate that Wordwall encouraged changes in learning activeness involving emotional, behavioral, and cognitive aspects. The emotional aspect was demonstrated through increased enthusiasm and confidence among students, while the behavioral aspect was reflected through activities such as answering questions, asking questions, participating in discussions, and completing assignments. The cognitive aspect was shown through students' attention in reading questions and determining appropriate answers. These findings were strengthened by observation results, learning activeness records, participation notes, evaluation outcomes, and learning documentation.

These findings are consistent with the theory of multidimensional learning engagement, which explains that learning activeness is not only demonstrated through feelings of enjoyment but also through actual participation and students' efforts to understand learning materials. Recent systematic reviews also indicate that gamification can support motivation, participation, and learning engagement, although its implementation requires continuous monitoring and appropriate management.

From the perspective of *Self-Determination Theory*, scores, challenges, immediate feedback, and group discussions in Wordwall can fulfill students' needs for competence, autonomy, and social relatedness. Students' sense of ability when answering questions strengthens competence, opportunities to attempt answers encourage autonomy, and group discussions enhance social connections among students. Recent meta-analysis findings show that gamification has positive effects on autonomy and relatedness, although its influence on competence is relatively smaller. Therefore, teachers still need to provide equal opportunities, constructive feedback, and assistance for students who experience difficulties.

The findings of this study are consistent with several recent studies demonstrating that Wordwall can improve student engagement, motivation, active participation, and learning outcomes. Research in PAI learning indicates that Wordwall creates a more interactive learning environment and improves student achievement. Studies in Qur'an and Hadith learning as well as junior high school contexts also show increased engagement and students' preference for interactive learning compared to conventional methods.

Research at the junior high school level in 2026 also found increased student learning activities after the implementation of Wordwall across several learning sessions. Therefore, changes in learning activeness in this study were not only observed through enthusiasm but also through students' willingness to respond, attention, collaboration, task completion, and direct involvement in learning activities. However, because the findings of this study were obtained through a qualitative approach, the results should be interpreted as changes or tendencies toward increased learning activeness rather than statistical evidence of causal effects.

4. Supporting and Inhibiting Factors in the Use of Wordwall

Based on the results of triangulation, the supporting factors for the use of Wordwall include the availability of digital learning facilities, school support, and students' interest in game-based learning. The available facilities include Interactive Flat Panels (IFP), computer laboratories, computers, laptops, LCD/projectors, Wi-Fi networks, and mobile phones that can be used under teacher supervision. The school provides teachers with the flexibility to select appropriate learning media and conducts monitoring through learning supervision activities. Students' enthusiasm toward game displays, scoring systems, challenges, and immediate feedback also contributes to the successful implementation of Wordwall. The results of interviews, observations, and infrastructure documentation demonstrate consistency regarding the availability of facilities and support for the utilization of digital learning media.

The inhibiting factors include limited access to paid Wordwall features, account-related issues, unstable internet connections, limited availability of devices, insufficient time allocation for completing questions, and classroom time management challenges. In addition, some students still lack confidence when their answers are incorrect, and there is a possibility that students may open other applications while using mobile devices. Teacher records and teaching journals further support these findings regarding challenges related to internet connectivity, devices, and time management.

To overcome these challenges, teachers supervise device usage, prepare learning equipment before activities begin, organize students into groups, provide equal opportunities for answering questions, allocate sufficient completion time, and explain correct answers after the game activities. Teachers also prepare alternative activities in case technical problems occur, such as internet disruptions. The use of mobile phones is managed by collecting devices before learning begins and distributing them only when needed, followed by collecting them again after the activity is completed. Therefore, data triangulation indicates that the success of Wordwall implementation is influenced by infrastructure readiness, school support, teachers' classroom management skills, network conditions, feature accessibility, and supervision of device usage.

The triangulation results indicate that the success of Wordwall implementation is influenced by technological supporting conditions, including device availability, internet connectivity, teachers' freedom in selecting learning media, supervision, and school support. These findings are consistent with the *Technology Acceptance Model*, which explains that technology acceptance is influenced by perceived ease of use, perceived usefulness, and external factors. The availability of IFP, computers, LCD projectors, and Wi-Fi facilities makes Wordwall easier to implement, while school support helps teachers maintain its utilization. Students' enthusiasm toward scores, challenges, and immediate feedback also strengthens engagement because these elements can develop students' sense of competence and interest in game-based learning. Recent research also emphasizes that sustainable technology integration requires adequate infrastructure, institutional support, teacher assistance, and sufficient time for educators.

Conversely, account limitations, paid features, unstable internet connections, limited devices, and time management issues represent external barriers that may reduce the ease of Wordwall implementation. In technology integration, limited devices, paid software, and internet connectivity are common challenges in educational settings. Meanwhile, students' embarrassment when answering incorrectly and their tendency to access other applications represent barriers related to students' confidence and self-regulation. Digital devices can support learning processes, but they may also become sources of distraction if their use is not properly guided and monitored.

Teachers' efforts in preparing devices, organizing students into groups, managing learning time, providing equal opportunities to participate, discussing answers, and preparing alternative activities demonstrate appropriate anticipatory planning. Monitoring mobile phone usage is also necessary; however, it should be accompanied by clear usage guidelines, structured activities, and feedback after game implementation. Thus, the effectiveness of Wordwall does not solely depend on the availability of technology but also on school support, technical readiness, classroom management, and teachers' ability to direct technology use through appropriate pedagogical practices.

Conclusion (خاتمة)

PAI teachers planned the use of Wordwall by determining learning objectives, selecting learning materials, preparing questions, and adapting game formats to students' abilities. Wordwall was utilized for exercises, material review, evaluation, and assessing students' understanding. However, its implementation was not conducted in every learning session due to several challenges, including account limitations, paid features, device availability, and technical conditions.

In its implementation, Wordwall was used after teachers had delivered the learning materials and explained the activity procedures. This medium was applied during the core or closing stages of learning through quizzes, puzzles, matching activities, and multiple-choice questions. Students participated by answering questions individually in turns or engaging in group discussions. The use of Wordwall was also incorporated into lesson plans, teaching modules, and student worksheets (LKPD), indicating that it had become an integral part of the learning process rather than merely an additional game activity.

Students showed positive responses toward the use of Wordwall because the learning process became more engaging, enjoyable, and less monotonous. Students appeared more focused, enthusiastic, confident in answering questions, active in discussions, and involved in completing learning tasks. Although some students still experienced tension or embarrassment when providing incorrect answers, overall, there was a tendency toward increased learning activeness after the implementation of Wordwall.

The implementation of Wordwall was supported by digital facilities, internet connectivity, school support, and students' interest in game-based learning. However, several obstacles were identified, including paid features, network disruptions, limited devices, time management challenges, and the lack of confidence among some students. Teachers addressed these challenges by preparing learning devices, organizing students into groups, managing time effectively, supervising activities, discussing answers, and providing alternative learning activities.

Therefore, Wordwall can support the creation of PAI learning environments that are more active, engaging, and enjoyable for students. Its implementation can be optimized when it is aligned with learning objectives and supported by teacher readiness and the availability of adequate school facilities.

Bibliography ((مراجع

Agus dkk., "Developing the Event, Duration, Latency, and Interval (EDLI) Assessment Techniques to Measure Student Engagement and Motivation in Islamic Religious Education Online Courses," *Jurnal Pendidikan Agama Islam* 21, no. 1 (2024).

Agus, Mawardi Djamaluddin, Tamrin Taher, dkk., "Developing the Event, Duration, Latency, and Interval (EDLI) Assessment Techniques to Measure Student Engagement and Motivation in Islamic Religious Education Online Courses," *Jurnal Pendidikan Agama Islam*, 21(1), 2024.

Ahmad Idmajul Khubab, Arim Irsyadullah Albin Jaya, Implementation of Quality Education at the Darul Falah Amtsilati Islamic Boarding School, INJIES: Journal of Islamic Education Studies, Vol. 01 No. 01, June 2024.

Alfi, B., & Lismawati, L. (2024). Assessing student engagement in Qurdis subject using Wordwall. *Halaqa: Islamic Education Journal, 8*(1).

Amanda Citra Dara, Tri Wahyuningsih, Yudo Dwiyono, dan Iksam, "Pengaruh Media Pembelajaran Wordwall terhadap Hasil Belajar Matematika Siswa Kelas II Sekolah Dasar," *Jurnal Basicedu*, 9(4), 2025.

Amrin Habibi Harahap, "Strategi Pembelajaran Berbasis Teknologi untuk Guru Pendidikan Agama Islam di Era Digital," *Edukatif* 3, no. 1 (2025).

Ananda Rizky Aulia Kaloko, "Pengaruh Game Wordwall dalam Meningkatkan Keaktifan Belajar Peserta Didik pada Mata Pelajaran Pendidikan Agama Islam (PAI) di SMA Swasta Bandung Bandar Setia," *Mesada: Journal of Innovative Research* 2, no. 2 (2025).

Anggi Ratulangi & Eka Susanti, PENGARUH MODEL PEMBELAJARAN KOOPERATIF LEARNING BERBASIS APLIKASI KAHOOT TERHADAP HASIL BELAJAR IPS, Jurnal Pendidikan Ilmu Pengetahuan Sosial Indonesia Volume10 Nomor 2 bulan Mei 2025.

Anisah Fitri dkk., "Penggunaan Media Pembelajaran PAI Berbasis Wordwall untuk Meningkatkan Minat Belajar Peserta Didik Kelas V di Sekolah Dasar," *ELSE: Elementary School Education Journal* 8, no. 1 (2024).

Arim Irsyadulloh Albin Jaya, Implementation of Information and Communication Technology In Learning Management and Madrasah Administration: Case Study at MTs Khozinatul Ulum Blora, QUALITY: JOURNAL OF EMPIRICAL RESEARCH IN ISLAMIC EDUCATION, Vol. 12 No. 2 Tahun 2024.

Biggs, J. (1996). Enhancing teaching through constructive alignment. *Higher Education, 32*.

Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education: Principles, Policy & Practice, 5*(1).

Carenys, J. (2025). Competing to learn: The role of competition in students' flow, cognitive load, and learning gains in game-based learning. *International Journal of Learning, Teaching and Educational Research, 24*(5).

Çiğdem, H., Ozturk, M., Karabacak, Y., Atik, N., Gürkan, S., & Aldemir, M. H. (2024). Unlocking student engagement and achievement: The impact of leaderboard gamification in online formative assessment for engineering education. *Education and Information Technologies, 29*.

Cusi, A., & Morselli, F. (2024). The key roles of the expert during classroom discussions aimed at fostering formative assessment processes through digital technologies. *ZDM–Mathematics Education, 56*, 741–755.

Deng, L., Zhou, Y., & Broadbent, J. (2024). Distraction, multitasking and self-regulation inside university classroom. *Education and Information Technologies, 29*.

Ertmer, P. A. (1999). Addressing first- and second-order barriers to change. *Educational Technology Research and Development, 47*(4).

Fuadi,Arim Irsyadulloh Albin Jaya, Fitriana, dan Salem, Strategic management of digital transformation in aqidah akhlak learning at islamic senior high schools, At Turots: Jurnal Pendidikan Islam Vol. 7, No. 2, Desember 2025.

Gamification enhances student intrinsic motivation, perceptions of autonomy and relatedness, but minimal impact on competency: A meta-analysis and systematic review. *Educational Technology Research and Development, 72*, 765–796.

Hanif Cahyo Adi Kistoro, Eva Latipah, dan Norhapizah Mohd Burhan, "Probing Experiential Learning Approach in Islamic Religious Education," *Jurnal Pendidikan Islam*, 9(2), 2023.

Haris Herdiansyah, *Metodologi Penelitian Kualitatif untuk Ilmu-Ilmu Sosial* (Jakarta: Salemba Humanika, 2019).

Indriani, P., Zuhria, A. F., Hidayat, G. F., Jaja, J., & Kurnia, M. D. (2025). Wordwall educational games-based digital assessment development: An innovative approach to Indonesian language learning in junior high schools. *Jurnal Kependidikan, 11*(3), 1107–1117.

Isabel Coryunitha Panis dkk., "Gamification-Based Learning Design with Wordwall to Improve Learning Activities and Learning Outcomes," *Journal of Education Technology* 9, no. 2 (2025).

Ismaniyah, Zainiyati, dan Asrohah, "Use of Digital Learning Documents,".

Ives, J., Rieger, G., & Rostamzadeh Renani, F. (2024). Requiring mobile devices in the classroom: The use of web-based polling does not lead to increased levels of distraction. *Journal for STEM Education Research, 7*.

J. Wastira dkk., "Integrating Technology into Teaching to Foster Student Engagement," *Jurnal Teknologi Pendidikan*, 27(2), 2025.

Lexy J. Moleong, *Metodologi Penelitian Kualitatif* (Bandung: PT Remaja Rosdakarya, 2018) 6.

Li, L., Hew, K. F., & Du, J. (2024). Gamification enhances student intrinsic motivation, perceptions of autonomy and relatedness, but minimal impact on competency: A meta-analysis and systematic review. *Educational Technology Research and Development, 72*.

Lili Sholehuddin Badri dan Ahmed Abdul Malik, "Implementation of Islamic Education Values in Building Students' Religious Character through an Affective Approach Based on the Qur'an," *Jurnal Pendidikan Agama Islam*, 21(1), 2024.

Liuyufeng Li, Khe Foon Hew, dan Jiahui Du, "Gamification Enhances Student Intrinsic Motivation, Perceptions of Autonomy and Relatedness, but Minimal Impact on Competency: A Meta-analysis and Systematic Review," *Educational Technology Research and Development* (2024

Lomo, D. A., Abonyi, U. K., & Ahwireng, D. (2025). *Headteachers' support and challenges toward ICT integration into teaching and learning in Ghanaian basic schools*. *Leadership and Policy in Schools, 24*(2).

Masromah, Arim Iayadulloh Albin Jaya, The Implementation of Problem-Solving-Based Fiqh Learning in Developing Critical Thinking Skills of Students at Vocational High
School Annuraniyah Sulang, At Turots: Jurnal Pendidikan Islam, Vol. 8, No. 2, December 2026

Matthew B. Miles, A. Michael Huberman, dan Johnny Saldana, *Qualitative Data Analysis: A Methods Sourcebook* (California: SAGE Publications, 2019).

Michael Sailer dan Lisa Homner, "The Gamification of Learning: A Meta-analysis," *Educational Psychology Review*, 32(1), 2020.

Michelene T. H. Chi dan Ruth Wylie, "The ICAP Framework: Linking Cognitive Engagement to Active Learning Outcomes," *Educational Psychologist*, 49(4), 2014.

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record, 108*(6).

Muh Ibnu Sholeh, Muhammad Haris, Nur 'Azah, dkk., "The Role of Teachers in Increasing Students' Learning Motivation in Islamic Religious Education," *Jurnal Pendidikan Agama Islam*, 21(2), 2024.

Muhammad Nadeem, Melinda Oroszlányová, dan Wael Farag, "Effect of Digital Game-Based Learning on Student Engagement and Motivation," *Computers* 12, no. 9 (2023).

Muharam, G. S. A., Eliyawati, E., Prima, E. C., & Risnawati, I. (2024). Transcript-based lesson analysis: Reward and punishment using Wordwall.net toward students' self-efficacy in learning excretory system. *Journal of Innovative Science Education, 13*(1).

Muri Yusuf, *Metode Penelitian Kuantitatif, Kualitatif dan Penelitian Gabungan* (Jakarta: Kencana, 2019), hlm. 368.

N. M. Agusti dan Aslam, "Efektivitas Media Pembelajaran Aplikasi Wordwall terhadap Hasil Belajar IPA Siswa Sekolah Dasar," *Jurnal Basicedu*, 6(4), 2022.

Napitupulu, L. H., Salsabila, & Tarigan, E. S. (2025). The implementation of Wordwall as a digital learning tool to increase student learning motivation in SMP Negeri 37 Medan. *ELT: English Language Teaching Prima Journal, 7*(1).

Nettey, J. N. A., Mensah, R. O., Asafo-Adjei, R., & Babah, P. A. (2024). Analyzing the challenges basic school teachers face in integrating information and communication technology into teaching and learning activities in a developing country. *Cogent Education, 11*(1).

Nurul Fadilah, Muhammad Misbahudholam AR, dan Iwan Kuswandi, "Pengaruh Media Pembelajaran Interaktif Wordwall terhadap Hasil Belajar IPAS di Sekolah Dasar," *Jurnal Ilmiah Pendidikan Citra Bakti*, 12(1), 2025.

Observasi,Pelaksanaan pembelajaran PAI menggunakan wordwall, 2 Juni 2026.

Prisma Gandasari dan Puri Pramudiani, "Pengaruh Aplikasi Wordwall terhadap Motivasi Belajar IPA Siswa di Sekolah Dasar," *Edukatif: Jurnal Ilmu Pendidikan*, 3(6), 2021.

R. R. Safitri, U. G. Rahmania, A. F. Putri, dan Jumadi, "The Impact of Game-Based Learning on Student Competencies in Science: A Systematic Review," *Jurnal Pendidikan dan Kebudayaan*, 10(1), 2025.

Radino dan Lia Fatika Yiyi Permatasari, "PAI Teacher Strategy in Improving Learning Effectiveness in Limited Face-to-Face Learning," *Jurnal Pendidikan Agama Islam* 19, no. 2 (2022).

Rahmah, R., Nurhadi, M., & Sholikhudin, M. A. (2024). Enhancing students' engagement and learning outcomes in Islamic education by leveraging the effectiveness of Wordwall. *Edureligia: Jurnal Pendidikan Agama Islam, 8*(2).

Ramírez Ruiz, J. J., Vargas Sanchez, A. D., & Boude Figueredo, O. R. (2024). Impact of gamification on school engagement: A systematic review. *Frontiers in Education, 9*.

Robert K. Yin, *Case Study Research and Applications: Design and Methods* (California: SAGE Publications, 2018).

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

Septiani Selly Susanti dkk., "Innovative Digital Media in Islamic Religious Education Learning," *Jurnal Pendidikan Agama Islam* 21, no. 1 (2024).

Shinta Rahmawati, M. A. Amri, dan Putra, "Studi Literatur: Wordwall sebagai Media Pembelajaran dalam Meningkatkan Motivasi dan Hasil Belajar Matematika Siswa Sekolah Dasar," *Polinomial: Jurnal Pendidikan Matematika*, 4(4), 2025.

Sri Fatmawati dan Jasiah, "Pengembangan Media Pembelajaran Berbasis Wordwall untuk Meningkatkan Keaktifan Siswa pada Materi Jual Beli (Muamalah)," *QOSIM: Jurnal Pendidikan Sosial & Humaniora* 3, no. 4 (2025).

Sri Hasnawati, "Strategi Pembelajaran Pendidikan Islam Anak Usia Dini (PIAUD) Bagi Guru dan Orang Tua dalam Meningkatkan Kualitas Pemahaman Peserta Didik," *Al-Ishlah: Jurnal Pendidikan Islam*, 20(2), 2022.

Sugiyono, *Metode Penelitian Kualitatif* (Bandung: Alfabeta, 2022).

Sweller, J. (1988). Cognitive load during problem solving: Effects on learning. *Cognitive Science, 12*(2).

Syamsidar, Marzuki, Nurbayani, dan Harmaini, "The Implementation of Wordwall Media to Improve Students' Learning Outcomes in Islamic Religious Education (PAI) for Fifth-Grade Students at SDN Lambada Klieng, Aceh Besar," *FITRAH: International Islamic Education Journal* 7, no. 1 (2025).

Teti Depita, "Pemanfaatan Teknologi dalam Pembelajaran Aktif (*Active Learning*) untuk Meningkatkan Interaksi dan Keterlibatan Siswa," *Tarqiyatuna: Jurnal Pendidikan Agama Islam dan Madrasah Ibtidaiyah* 3, no 1 (2024).

The case of Quizizz. *Education and Information Technologies, 29*, 6217–6239.

Tiarawati, P., Wibawa, I. M. C., & Rismawan, K. S. G. (2025). HOTS-based Wordwall interactive quiz media in science learning content to improve learning outcomes. *Jurnal Pedagogi dan Pembelajaran, 8*(2), 302–313.

Widiana, I. W., Game Based Learning dan Dampaknya terhadap Peningkatan Minat Belajar dan Pemahaman Konsep Siswa dalam Pembelajaran Sains di Sekolah Dasar, vol.10, no. 01, 2022.

Wu, T.-T., Sari, N. A. R. M., & Huang, Y.-M. (2024). Integrating extended formative assessment in flipped jigsaw learning: Promoting learning engagement and higher-order thinking skills. *The International Journal of Management Education, 22*(1), 100930.

Wulandari, F. I., & Iskarni, P. (2026). Enhancing student engagement and learning outcomes in social studies through Wordwall: A quasi-experimental study in a junior high school context. *Indonesian Research Journal in Education, 10*(1).

Zhang, Z., & Huang, X. (2024). Exploring the impact of adaptive gamified assessment on learners in blended learning. *Education and Information Technologies, 29*, 21869–21889.