

**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**

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Abstract

This classroom action research aimed to improve students' learning outcomes and engagement in Islamic Religious Education (PAI) through the integration of Wordwall-based digital media and the Two Stay Two Stray (TSTS) cooperative learning model. Conducted at SD Negeri Lambada Klieng, Aceh Besar, during the 2024/2025 academic year, the study involved 25 fifth-grade students and followed the Kemmis and McTaggart (1998) spiral model consisting of two cycles with stages of planning, action, observation, and reflection. Data were collected through observation, tests, and documentation, then analyzed using descriptive quantitative and qualitative methods. The findings showed a significant improvement in students' performance and participation, as indicated by the increase in average scores from 68.4 in Cycle I to 91.2 in Cycle II and in classical mastery from 44% to 96.7%. Students also displayed greater motivation, collaboration, and confidence in expressing ideas. The integration of Wordwall and TSTS created an engaging, interactive, and reflective learning atmosphere that enhanced both cognitive achievement and affective development. This study concludes that combining Wordwall with TSTS effectively supports meaningful and student-centered learning in Islamic Religious Education, aligning with social constructivist principles, and is recommended as an innovative pedagogical strategy to enhance learning effectiveness in elementary schools.

Keywords: *Wordwall; Two Stay Two Stray; Islamic Religious Education; Learning Outcomes; Classroom Action Research*

A. Introduction

Islamic Religious Education (PAI) plays a strategic role in shaping students' morals, ethics, and character from an early age. At the elementary school level, PAI functions not merely as a medium for knowledge transfer but also as a means of internalizing religious values in daily life. However, empirical observations indicate that students' learning outcomes in PAI are still far below expectations. Preliminary observations at SD Negeri Lambada Klieng, Baitussalam District, Aceh Besar, revealed that most fifth-grade students experienced difficulties in understanding the topic "*Ketika Kehidupan Telah*

Berhenti." Of the 25 students, only nine (36%) achieved scores above the Minimum Mastery Criteria (KKM = 80), while the majority did not meet the required standard. These results highlight a critical issue regarding the effectiveness of PAI learning in the classroom.

This condition is reinforced by the teacher's observation notes, which reveal that students were less enthusiastic, tended to be passive, and often waited for the teacher's explanation rather than engaging actively in learning activities. This situation aligns with Hamdayama (2022) finding that the dominance of the lecture method in religious instruction often leads to student boredom and low engagement (Hamdayama, 2022). The lack of active participation directly affects students' learning outcomes. Therefore, it is essential to employ instructional strategies that integrate cognitive, affective, and psychomotor domains in a more balanced and interactive manner.

The utilization of digital learning technology has become one of the most relevant alternatives in the context of 21st-century education. Wordwall, a web-based learning platform, provides various educational game features that encourage students to be more active, creative, and motivated in their learning. Previous studies have demonstrated the effectiveness of Wordwall in improving students' motivation and achievement in mathematics and language subjects (Andini, 2022). Furthermore, a study by Hikma, Hafidzah, and Kowiyah (2024) found that the use of Wordwall in elementary mathematics learning significantly improved student achievement, with average scores increasing from 49.1 to 80.0 (Hikma et al., 2024). In the broader scope of Islamic Religious Education, digital learning innovations and gamification have also been shown to enhance students' engagement and conceptual understanding of abstract Islamic values (Basyiroh et al., 2024; Wajdi et al., 2021). These findings strengthen the evidence that Wordwall is effective in fostering active and meaningful learning. However, studies on the implementation of Wordwall in PAI subjects at the elementary level remain limited. Given that PAI materials often deal with abstract concepts such as death and life after death, previous research has highlighted the importance of digital transformation and gamified pedagogy in Islamic education to make abstract content more accessible to young learners (Abdillah et al., 2025; Norman et al., 2025). Therefore, innovative and engaging media are urgently needed to facilitate students' understanding.

In addition to learning media, the success of instruction is also influenced by the learning model applied. The Two Stay Two Stray (TSTS) model, as one form of cooperative learning, provides opportunities for students to share

information, collaborate, and communicate group discussion outcomes effectively. Research by Pratini, Riastini, and Yudiana (2024) confirmed that the TSTS model enhances students' self-confidence and active participation in elementary school learning (Pratini et al., 2024). Indicating that TSTS is effective not only in cognitive development but also in supporting affective domains essential to learning success. The integration of Wordwall and TSTS thus becomes highly relevant, as both complement each other: Wordwall offers an engaging and interactive digital environment, while TSTS fosters collaboration and social interaction among students. Nonetheless, previous studies have mainly emphasized Wordwall use in online or STEM-based learning contexts, with minimal exploration of its integration with TSTS in PAI instruction.

Based on these empirical realities and research gaps, this study focuses on the implementation of Wordwall-based TSTS learning in the PAI lesson "*Ketika Kehidupan Telah Berhenti*" at SD Negeri Lambada Klieng, Aceh Besar. The purpose of this study is to analyze the effectiveness of this instructional strategy in improving students' learning outcomes and strengthening their engagement in the learning process. Accordingly, the study is expected to contribute theoretically to the growing body of literature on interactive digital media in Islamic Religious Education and provide practical insights for teachers to develop more varied and technology integrated learning strategies aligned with the needs of the digital generation.

B. Research Methods

This study employed a Classroom Action Research (CAR) approach using the spiral model developed by Kemmis and McTaggart (1998). This model was selected because it enables teachers acting simultaneously as researchers to improve the learning process continuously through four main stages: planning, acting, observing, and reflecting (Kemmis et al., 2013). The research was conducted in two cycles, with each cycle consisting of two meetings.

The study was carried out at SD Negeri Lambada Klieng, Baitussalam District, Aceh Besar Regency, during the odd semester of the 2023/2024 academic year. The research subjects were 25 fifth-grade students (12 boys and 13 girls) with heterogeneous learning abilities. The instructional focus was on the Islamic Religious Education (PAI) topic "*Ketika Kehidupan Telah Berhenti*."

The research instruments consisted of: (1) Observation sheets for teacher and student activities, used to assess the implementation of learning and the level of student engagement during the instructional process. (2) Learning

achievement tests, in the form of pre-tests and post-tests for each cycle, used to measure students' cognitive attainment based on the learning indicators. (3) Documentation, including field notes and photographs, employed as supporting evidence to verify the findings from the observation and test data. To ensure the validity of the data, technique triangulation was applied by comparing the results of the observation, tests, and documentation, thereby increasing the reliability and credibility of the research findings.

The research procedure in each cycle was implemented as follows. During the planning stage, the researcher prepared the lesson plan (RPP), designed the Wordwall activities according to the instructional material, and organized discussion tasks using the Two Stay Two Stray (TSTS) model. In the action stage, the teacher carried out the learning process based on the established plan, where students were divided into small groups to participate in Wordwall quizzes, engage in discussions, and exchange information according to the TSTS structure. During the observation stage, the researcher and a collaborating teacher recorded both teacher and student activities using observation sheets and documented the classroom events. In the reflection stage, the results of the observation and learning tests were analyzed to identify the weaknesses of the first cycle and determine improvements for the subsequent cycle.

Data were analyzed using two complementary techniques. Quantitative data, derived from the test scores, were analyzed descriptively by calculating the class average and the percentage of student mastery based on the school's Minimum Mastery Criteria (KKM = 80). Qualitative data from the observation results were analyzed descriptively to assess the level of student activity and the effectiveness of the Wordwall-based TSTS implementation. The integration of both quantitative and qualitative analyses provided a comprehensive picture of the improvement in students' learning outcomes and participation from one cycle to another.

C. Results and Discussion

1. Results

Overview of the Research Implementation

This classroom action research was conducted at SD Negeri Lambada Klieng, Aceh Besar, during the even semester of the 2024/2025 academic year. The primary goal was to improve students' learning outcomes in Islamic Religious Education (PAI) through the implementation of Wordwall-based media integrated with the Two Stay Two Stray (TSTS) model for fifth-grade

students. The research was carried out in two cycles, each consisting of the stages of planning, action, observation, and reflection, with one meeting per cycle lasting 4 × 35 minutes. The instruments used included the Lesson Plan (RPP), teacher and student observation sheets, student worksheets, and learning achievement tests (pretest and posttest).

Initial Condition

The preliminary observation revealed that students' learning activity was still low. Most students were passive, reluctant to respond to the teacher's questions, and unmotivated to review the lesson materials. The initial diagnostic test showed an average score of 47.8, with only 3 out of 25 students (3.75%) achieving the Minimum Mastery Criteria (KKM = 80). These findings indicated the urgent need for a more interactive and collaborative learning approach through digital media such as Wordwall.

Cycle I

a. Action Implementation

The first cycle was conducted on January 9, 2025, focusing on the topic "*Ketika Kehidupan Telah Berhenti.*" The teacher employed Wordwall interactive games integrated with the TSTS cooperative learning model. Students were divided into five groups of five members each. They discussed the assigned worksheet and then rotated members to exchange ideas and share their findings.

During this stage, the teacher's role was still dominant, while student participation remained uneven. Some students hesitated to speak and were not yet fully active in discussions.

b. Evaluation Results of Cycle I

The pretest results showed an average score of 47.8, with only 3 students (3.75%) achieving mastery. After implementing the intervention, the posttest average increased to 68.4, and 11 students (44%) reached mastery. Although there was an improvement of 20.6 points, the result had not yet met the classical mastery criterion of ≥80%.

Table 1.

Comparison of Students' Learning Outcomes in Cycle I

Test Type	Average Score	Mastered	Percentage	Not Mastered	Percentage
Pretest	47,8	3	3,75%	22	96,25%
Posttest	68,4	11	44%	14	56%

Observation data indicated that students began showing interest in using Wordwall; however, they were still less active during discussions. The teacher had not yet optimized time management and group facilitation.

c. Reflection of Cycle I

The reflection from the first cycle identified several key issues:

- Some students were still hesitant and lacked confidence in expressing opinions.
- The teacher had not yet maximized group guidance.
- The Wordwall template “Open the Box” was perceived as less engaging.

For Cycle II, the teacher improved the design by using a more dynamic template (“Spin the Wheel”), enhancing classroom supervision, and providing more motivation to passive students.

Cycle II

a. Action Implementation

The second cycle was conducted on January 16, 2025, using the same topic. The teacher utilized the Wordwall “Spin the Wheel” template to increase participation and enthusiasm. Classroom activities improved significantly – students were more active in discussions, confident in asking questions, and able to summarize group findings independently.

b. Evaluation Results of Cycle II

The posttest results in Cycle II showed a significant improvement compared to Cycle I. The average score rose to 91.2, with 23 students (96.7%) meeting the mastery criteria and only 2 students (3.3%) remaining below the threshold. This represents an improvement of 22.8 points from Cycle I, indicating a substantial enhancement in students’ comprehension and performance.

Table 2.

Comparison of Students’ Learning Outcomes in Cycles I and II

Cycle	Average Score	Mastered	Percentage	Not Mastered	Percentage
I	68,4	11	44%	14	56%
II	91,2	23	96,7%	2	3,3%

Source: Research Data (Classroom Action Research, 2025)

Observation data further showed that student activity increased from 52% (moderate category) in Cycle I to 84% (high category) in Cycle II. Students appeared more enthusiastic, actively participated in quizzes, contributed ideas during group work, and confidently presented their findings.

c. Reflection of Cycle II

The reflection phase confirmed that integrating Wordwall with the TSTS model effectively improved both learning outcomes and student motivation. Students became more engaged, inquisitive, and cooperative during group work. With a classical mastery level of 96.7%, the research objectives were successfully achieved and the intervention concluded at Cycle II.

Improvement in Learning Outcomes

The increase of 22.8 points from Cycle I to Cycle II demonstrates that integrating Wordwall into the TSTS model effectively enhances both student engagement and comprehension of Islamic Religious Education content. Interactive Wordwall activities helped students understand the topic "*Ketika Kehidupan Telah Berhenti*" in a contextual and reflective way. Positive changes were also observed in affective aspects students became more motivated, collaborative, and respectful of differing viewpoints. Overall, the use of digital media such as Wordwall created an enjoyable learning atmosphere, strengthened collaboration, and significantly improved learning achievement.

2. Discussion

The results of this study demonstrate that the implementation of Wordwall-based learning media integrated with the Two Stay Two Stray (TSTS) model significantly improved the learning outcomes of fifth-grade students in Islamic Religious Education (PAI) at SD Negeri Lambada Klieng. The average score increased from 68.4 in Cycle I to 91.2 in Cycle II, with the mastery rate rising from 44% to 96.7%. This improvement indicates that the combination of digital interactive media and cooperative learning models effectively enhances motivation, engagement, and comprehension of religious concepts among elementary students.

Effectiveness of Wordwall in Improving Learning Outcomes

Empirical findings indicate that Wordwall provided a more engaging and participatory learning experience than the traditional lecture method. The platform promotes game-based learning, combining competition and

collaboration, thus creating an active and enjoyable learning environment. According to Azzahra, Rahmadita, and Hazmi (2024), Wordwall has proven effective in improving students' learning motivation in science education at the elementary level (Azzahra et al., 2025). Similarly, Russhaimah, Supriyanto and Murniti (2024) reported that the use of Wordwall media in Pancasila learning enhanced students' motivation and learning outcomes, emphasizing its adaptability across various educational contexts (Russhaimah et al., 2024). Their findings support the argument that Wordwall not only enhances cognitive achievement but also strengthens affective domains such as motivation, which in turn increases student engagement in Islamic Religious Education.

In the context of the topic "*Ketika Kehidupan Telah Berhenti*," Wordwall helped the teacher transform an abstract concept about death into a contextual and reflective learning experience. This is in line with Anwar and Inayati (2025) findings in Qur'an and Hadith learning, which demonstrated that Wordwall facilitated deeper understanding of abstract religious concepts and improved students' participation in faith-based discussions (Anwar & Inayati, 2025). Students not only gained cognitive understanding but also internalized spiritual values through group interaction. In addition, Sugiarti and Widaty (2023) found that Wordwall-based game media in science learning increased students' problem-solving skills and motivation, confirming the platform's cross-disciplinary potential to promote active engagement and higher achievement (Sugiarti & Widaty, 2024). Thus, the medium served a dual function improving academic achievement while nurturing moral and religious values.

The Two Stay Two Stray (TSTS) Model as a Catalyst for Collaboration

The TSTS model strengthened social interaction and learning responsibility among students. Through member rotation, each student had the opportunity to share knowledge and gain diverse perspectives, leading to broader collective understanding. This aligns with Slavin (2021) assertion that cooperative learning effectively improves academic achievement by fostering emotional and social engagement in the learning process (Slavin, 2021). This finding is also consistent with Wajdi, Salsabila, and Restiyanti (2021), who emphasize that interactive and cooperative learning strategies within Islamic education contexts enhance students' affective and spiritual engagement, which are essential elements of character formation (Wajdi et al., 2021).

The increase in student activity from 52% to 84% during the second cycle reflects that TSTS not only enhanced cognitive interaction but also built essential

social skills an important dimension of PAI learning that emphasizes ukhuwah (brotherhood) and cooperation.

The Synergy of Wordwall and TSTS in PAI Learning

The integration of Wordwall and TSTS generated mutually reinforcing pedagogical effects. Wordwall provided stimulating visual and kinesthetic engagement, while TSTS ensured every student actively participated in dialogue and meaning construction. This combination reflects Vygotsky (1978) social constructivist principle that knowledge is built through social interaction within meaningful contexts (Vygotsky & Cole, 1978).

In this study, students were not passive recipients of information but active constructors of understanding through peer collaboration a process that enabled meaningful learning in the truest sense. Moreover, the teacher functioned as a facilitator rather than the sole source of knowledge, consistent with Anderson and Krathwohl's (2001) learning design paradigm emphasizing the teacher's role as a learning architect who creates collaborative, technology-integrated environments (Anderson & Krathwohl, 2001).

Implications for Islamic Religious Education

The findings affirm that PAI learning must evolve from a teacher-centered lecture model toward a participatory and digitally integrated approach. Pedagogically, the combination of Wordwall and TSTS provides two complementary mechanisms: Wordwall introduces game-based engagement that stimulates motivation and participation, while TSTS fosters social-cognitive collaboration through role rotation and group accountability.

Recent empirical studies support that interactive digital media significantly enhances elementary students' motivation and learning outcomes (Azzahra et al., 2025; Sari, 2025). Therefore, applying Wordwall and TSTS in PAI instruction not only improves cognitive attainment but also deepens the internalization of Islamic values through contextual and reflective learning experiences.

Improved Learning Outcomes as an Indicator of CAR Success

Overall, the consistent improvement across both cycles in cognitive, affective, and psychomotor domains demonstrates the effectiveness of the intervention. The average score rose from 68.4 to 91.2, with classical mastery reaching 96.7%, signifying successful attainment of the research objectives. From a Classroom Action Research (CAR) perspective, the second cycle fulfilled the

principle of self-reflective improvement proposed by Kemmis and McTaggart (1988), indicating sustainable pedagogical enhancement through critical reflection (Kemmis et al., 2013). Thus, the integration of Wordwall and the TSTS model effectively transformed the classroom culture from passive to active and collaborative Islamic learning.

D. Conclusion

This classroom action research conducted at SD Negeri Lambada Klieng, Aceh Besar, demonstrated that the implementation of Wordwall-based media integrated with the Two Stay Two Stray (TSTS) model was effective in improving both learning outcomes and student engagement in Islamic Religious Education (PAI). Across two cycles of intervention, the students' average score increased from 68.4 in Cycle I to 91.2 in Cycle II, while classical mastery rose from 44% to 96.7%. Beyond cognitive gains, students also exhibited notable affective and social improvements—they became more active in discussions, confident in expressing opinions, and capable of constructive collaboration. These achievements indicate that utilizing digital learning media such as Wordwall can foster an interactive and enjoyable learning environment while deepening students' contextual understanding of religious concepts. The integration of Wordwall and the TSTS model embodies the principles of social constructivism, positioning students as active agents in constructing their own knowledge. Therefore, this pedagogical combination is strongly recommended for Islamic Religious Education teachers seeking to enhance both the effectiveness of learning processes and the quality of student outcomes in elementary schools.

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