

THE USE OF WORDWALL MEDIA TO IMPROVE LEARNING ENGAGEMENT OF GRADE IV STUDENTS OF SDN 21 TOLOMUNDU

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Abstract

This study aims to examine the effectiveness of using the interactive learning media Wordwall in improving students' learning engagement at SDN 21 Tolomundu. The research employed a quantitative approach with a pre-experimental design using a one-group pretest–posttest model. The participants were fourth-grade students selected through total sampling. Data were collected using a learning engagement questionnaire and classroom observation sheets to measure students' behavioral, emotional, and cognitive involvement during the learning process. The data were analyzed using descriptive statistics and a paired sample t-test to determine whether there was a significant difference between pretest and posttest results. The findings revealed a significant increase in students' learning engagement after the implementation of Wordwall. The posttest scores were higher than the pretest scores, indicating improved participation, attention, and enthusiasm in classroom activities. The results suggest that interactive digital media can create a more engaging learning environment and positively influence students' active involvement. Therefore, the use of Wordwall is effective in enhancing learning engagement among fourth-grade elementary school students.

Keywords: Wordwall, Learning Engagement, Interactive Media, Quantitative Research



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INTRODUCTION

Basic education has a strategic and fundamental role in building the foundation of students' knowledge, skills, values, and learning attitudes. At the elementary school level, education does not merely aim to transfer knowledge, but also to shape students' character, curiosity, and habits of mind that will influence their future academic journey.¹ Elementary school is a critical stage in which students begin to develop structured ways of thinking, social interaction skills, and emotional regulation in academic settings.² Therefore, the quality of learning experiences provided at this level will greatly determine students' readiness to face higher levels of education. One of the key indicators of quality learning at the elementary level is the degree to which students are actively involved in the learning process.

Student involvement in learning, commonly referred to as learning engagement, is an important factor that determines the success of achieving learning outcomes. Learning engagement reflects the extent to which students participate actively in classroom activities, show enthusiasm and interest in lessons, and invest cognitive effort in understanding the material being studied. It is not enough for students to be physically present in the classroom; meaningful learning occurs when students are mentally and emotionally connected to the learning process.³ Students who demonstrate high learning engagement tend to pay closer attention to the teacher's explanations, actively participate in discussions, complete assignments responsibly, and demonstrate persistence when facing learning difficulties. Conversely, low learning engagement can lead to boredom, passivity, minimal participation, and ultimately low academic achievement.

Learning engagement generally consists of three interrelated dimensions: behavioral engagement, emotional engagement, and cognitive engagement. Behavioral engagement refers to observable student participation in learning activities, such as listening attentively, asking and answering questions, completing tasks on time, and following classroom rules.⁴ Emotional engagement relates to students' feelings toward learning activities, teachers, peers, and the school environment. Positive emotions such as interest, enjoyment, and a sense of belonging can strengthen students' commitment to learning. Cognitive engagement, on the other hand, reflects students' willingness to invest effort in understanding complex concepts, using appropriate learning

¹ Nussrah Mazelin dkk., "Using wordwall to improve students' engagement in esl classroom," *International Journal of Asian Social Science* 12, no. 8 (2022).

² Alfina Hidayaty, Mahwar Qurbaniah, dan Anandita Eka Setiadi, "The influence of word wall on students' interest and learning outcomes," *Jurnal Penelitian Ilmu Pendidikan* 15, no. 2 (2022).

³ Zaki Triadi Putra dan Siti Quratul Ain, "Development Of Wordwall-Based Interactive Learning Media on Whole Number Material in Grade IV at SD Negeri 114 Pekanbaru," *Interdisciplinary Journal of Global and Multidisciplinary* 2, no. 1 (2026).

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strategies, and thinking critically about the material. These three dimensions work together in shaping meaningful and effective learning experiences.

Based on initial observations conducted in grade IV of SDN 21 Tolomundu, it was found that the learning process was still dominated by conventional teaching methods, particularly lectures and textbook-centered instruction. In many classroom sessions, teachers acted as the primary source of information, explaining the material while students listened and took notes. Although this approach allows for content delivery within a limited time, it often limits opportunities for students to actively participate and interact during the lesson. As a result, students tended to be passive recipients of information rather than active constructors of knowledge.

This condition was evident from several indicators observed during the preliminary study. Only a small number of students voluntarily asked questions or responded to the teacher's inquiries. When group discussions were conducted, participation was often dominated by a few students, while others remained silent. Some students appeared less enthusiastic and easily distracted during the lesson. These behaviors indicate that students' behavioral engagement was relatively low. From an emotional perspective, some students seemed less interested and less motivated to engage deeply with the material. Cognitively, students tended to rely heavily on teacher explanations and showed limited initiative in exploring or analyzing the content independently. Such conditions suggest that there are problems in the aspect of learning engagement that require innovative and effective solutions.

In the digital era, the rapid development of technology offers new opportunities to transform conventional learning into more interactive and engaging experiences.⁵ Educational technology provides various tools and platforms that can support active learning, collaboration, and immediate feedback. The integration of technology-based media into classroom instruction is considered capable of creating a more dynamic, enjoyable, and student-centered learning environment. For elementary school students, who generally prefer visual, interactive, and game-like activities, digital learning media can be particularly appealing and motivating.

One of the platforms that can be utilized to support interactive learning is Wordwall. Wordwall is a game-based learning media platform that enables teachers to create a variety of interactive activities such as quizzes, matching pairs, word puzzles, random wheels, and other engaging formats. These activities can be accessed online and displayed using projectors, computers, or mobile devices. Wordwall allows teachers to customize content according to the subject matter being taught, making it flexible and adaptable to different learning objectives. The

⁵ Amma Ainun dkk., "Pendekatan Psikologis dalam Pendidikan Islam: Menjawab Tantangan Pendidikan di Era Digital," *Action Research Journal Indonesia (ARJI)* 7, no. 4 (2025).

visual design, colorful interface, and game-like features are designed to attract students' attention and increase their active participation.

Theoretically, the use of interactive digital media such as Wordwall has the potential to support all three dimensions of learning engagement.⁶ From a behavioral perspective, Wordwall encourages students to actively respond to questions, participate in game-based activities, and compete in a healthy manner with their peers. The interactive format requires students to be directly involved rather than merely listening to explanations. From an emotional perspective, the fun and competitive elements embedded in Wordwall activities can generate positive feelings such as excitement, curiosity, and enjoyment.⁷ These positive emotions can strengthen students' interest in learning and reduce boredom. From a cognitive perspective, Wordwall activities often require students to think quickly, analyze options, recall information, and apply concepts to solve problems. The immediate feedback provided by the system also helps students identify mistakes and improve their understanding.

Several previous studies have indicated that digital game-based learning media can enhance students' motivation and academic achievement. Interactive media are capable of presenting learning materials in more varied and attractive ways compared to conventional methods. Students are more likely to stay focused when learning activities involve elements of play and challenge. In addition, the availability of instant feedback helps students monitor their own learning progress. However, although many studies have explored the impact of digital learning media in general, research specifically examining the effect of Wordwall on learning engagement, particularly in elementary school contexts in regional areas, is still limited.

Therefore, this study has significant urgency in providing empirical evidence regarding the effectiveness of Wordwall media in increasing the learning engagement of grade IV students at SDN 21 Tolomundu. By focusing specifically on learning engagement rather than solely on learning outcomes, this research emphasizes the importance of the learning process itself. Engagement is a crucial mediator between instructional strategies and academic achievement. When students are engaged, they are more likely to achieve better results in the long term.

Based on the identification of the problems described above, the formulation of the problem in this study is: whether the use of Wordwall media has a significant effect on increasing the learning engagement of grade IV students of SDN 21 Tolomundu. This research question is

⁶ Muhammad Izza Miftahul Fikri dkk., "Exploring The Use Of Word Wall Gamification In Vocabulary Learning: Students' Perceptions And Engagement," *JELE: Journal of English Language and Education* 10, no. 4 (2025).

⁷ Risdatul Isnaini dan Masagus Firdaus, "Formative use of Wordwall in supporting vocabulary and reading comprehension achievement among elementary students," *Jurnal CULTURE (Culture, Language, and Literature Review)* 12, no. 2 (2025).

formulated to guide systematic investigation and data analysis in order to obtain valid and reliable conclusions.

This study aims to analyze and quantitatively prove the influence of the use of Wordwall media on increasing student learning engagement. To achieve this objective, a pretest-posttest research design is employed to measure students' engagement levels before and after the implementation of Wordwall-based learning activities. The collected data are analyzed statistically to determine whether there is a significant difference between the two conditions. Through this approach, the study seeks to provide objective evidence regarding the effectiveness of the intervention.

The results of this study are expected to provide both theoretical and practical contributions. Theoretically, this research can enrich the body of knowledge related to the integration of technology in elementary education and its role in enhancing learning engagement. It contributes to the understanding of how digital game-based platforms can influence students' behavioral, emotional, and cognitive involvement in learning. Practically, this research is expected to serve as a reference for teachers in selecting and developing innovative, engaging, and effective learning media. Teachers can use the findings as a basis for incorporating interactive digital tools into their instructional practices.

Furthermore, the results of this research may provide valuable input for school administrators and policymakers in supporting the integration of digital technology in classrooms. By recognizing the positive impact of interactive media on student engagement, schools can design strategies and provide facilities that encourage the use of technology in learning. Training programs for teachers can also be developed to enhance their competence in utilizing digital platforms effectively.

In conclusion, research on the use of Wordwall media in improving the learning engagement of fourth grade students of SDN 21 Tolomundu is highly relevant and necessary. In the context of rapid technological advancement and the increasing demands of 21st-century education, teachers are required to adopt innovative approaches that actively involve students in the learning process. By fostering higher levels of behavioral, emotional, and cognitive engagement, the quality of learning processes and outcomes can be significantly improved. Therefore, this study is expected to provide meaningful contributions to efforts aimed at enhancing the quality of elementary education in the digital era.

RESEARCH METHODS

This study uses a quantitative approach with a pre-experimental type of research. The design used is a one-group pretest–posttest design, where one group of subjects is given an initial test (pretest), then given treatment, and then given a final test (posttest)⁸. This design was chosen to determine the effect of the use of Wordwall media on the improvement of student learning engagement directly through a comparison of results before and after treatment. The research was carried out in grade IV of SDN 21 Tolomundu in the even semester of the current school year. The research subjects were all grade IV students totaling 35 people with a total sampling technique, so that the entire population was used as a research sample. The data collected in this study is in the form of quantitative data obtained through learning engagement questionnaires and observation sheets.⁹

The questionnaire was used to measure the level of student learning engagement which included three aspects, namely behavioral, emotional, and cognitive engagement. The questionnaire is arranged in the form of a Likert scale with four answer choices. Observation sheets are used to support questionnaire data by recording student activities during the learning process. Before use, the research instrument is tested for validity and reliability to ensure the feasibility of the measuring instrument. The research procedure is carried out in several stages. The first stage is to provide a pretest to find out the initial level of student learning engagement. The second stage is the provision of treatment in the form of learning using Wordwall media during several meetings in accordance with the material taught.¹⁰

Teachers leverage interactive quizzes, matching games, and challenge-based activities to encourage active student participation. The third stage is the administration of a posttest to measure changes in the level of learning engagement after media use. The data analysis technique is carried out statistically with the help of data processing software. The analysis begins with descriptive statistical calculations to determine the average value, percentage, and standard deviation of pretest and posttest results. Furthermore, normality tests are carried out to ensure data distribution. To test the research hypothesis, a paired sample t-test was used to find out if there was a significant difference between the results of the pretest and posttest. The decision-making criteria were based on a significance value of less than 0.05. Through this procedure, this research was carried out systematically to obtain accurate data and can answer the research objectives regarding the effect of the use of Wordwall media on increasing learning engagement of grade IV students.

⁸ Umar Hamdan Nasution dan Listya Devi Junaidi, *Metode penelitian* (Serasi Media Teknologi, 2024).

⁹ Andra Tersiana, *Metode penelitian* (Anak Hebat Indonesia, 2018).

¹⁰ Muhammad Ramdhan, *Metode penelitian* (Cipta Media Nusantara, 2021).

RESULTS AND DISCUSSION

In the results of the pretest, the behavioral aspect obtained an average score of 65, the emotional aspect of 68, and the cognitive aspect of 70. The average overall learning engagement of students before the application of Wordwall media was 67.7. These results show that the level of student learning involvement is still in the sufficient category, where students' activeness, interest, and involvement in the learning process are not fully optimal. After learning using Wordwall media, the posttest results showed a significant increase in all aspects of learning engagement. The behavioral aspect increased to 82, the emotional aspect to 85, and the cognitive aspect to 88. The average overall student learning engagement also increased to 85.0.

This increase shows that the use of Wordwall media is able to encourage students to be more active in learning, more enthusiastic in participating in learning activities, and more involved in the process of thinking and understanding the material. Based on the results of the pretest and posttest involving 35 students, it can be concluded that the use of Wordwall media has a positive influence on increasing the learning engagement of grade IV students of SDN 21 Tolomundu.

The use of Wordwall Media in the Learning Process of grade IV Students of SDN 21 Tolomundu

The implementation of learning using Wordwall media at SDN 21 Tolomundu is carried out in stages and is systematically planned in accordance with the lesson plans and teaching tools that have been prepared in advance. The integration of this media is focused on the core learning activities, with the main objective of strengthening students' understanding of concepts while simultaneously increasing their active participation during the lesson.

Before the implementation begins, the teacher carefully prepares the learning materials, designs question items based on the established competency indicators, and adjusts the level of difficulty to suit the characteristics, abilities, and developmental stage of grade IV students. This preparation ensures that the activities presented through Wordwall remain aligned with curriculum standards and learning objectives.¹¹ In the preliminary stage, the teacher begins the lesson by conveying the learning objectives clearly so that students understand what competencies are expected to be achieved.

The teacher also provides apperception by connecting the new material with students' prior knowledge and daily experiences. To build enthusiasm, the teacher motivates students by explaining that the learning process will involve educational games using interactive digital media. This introduction is important to build students' mental readiness, curiosity, and positive expectations toward the lesson. When students feel excited from the beginning, they are more likely

¹¹ Mazelin dkk., "Using Wordwall To Improve Students' Engagement In Esl Classroom."

to participate actively throughout the learning process.¹² Next, the teacher displays the Wordwall activities through a projector screen using an inline text format so that all students can clearly see the questions and answer choices.

Clear visual presentation is essential to avoid misunderstandings and ensure equal access for all students. The activities used include multiple-choice quizzes, matching pairs, word searches, and time-based games. Each activity is intentionally designed not only to assess students' conceptual understanding but also to train their accuracy, critical thinking, and speed in responding to questions. The auto-score feature and simple leaderboard provide immediate feedback on students' answers. This feedback functions not only as an evaluation tool but also as reinforcement that strengthens students' motivation, confidence, and desire to achieve better results in subsequent activities.



Figure 1. Wordwall Application Display in the Learning Process

Based on Figure 1, the Wordwall display shows a simple yet attractive visual design, featuring clear color combinations and intuitive navigation that is easy for elementary school students to understand. The questions are presented sequentially, one by one, with answer options that students can select directly on the screen. After answering, students immediately see their scores, providing instant confirmation of their responses and a sense of accomplishment. This immediate feedback not only helps students recognize their performance but also motivates them to improve in subsequent activities, creating a dynamic and engaging learning environment. During the implementation of Wordwall-based learning, a significant change in classroom dynamics was observed.¹³ Students who had previously been passive participants began to actively engage in the learning process.

¹² Elhefni Elhefni dkk., "Use of word wall learning media to improve learning outcomes Indonesian learning in elementary schools," *AL-ISHLAH: Jurnal Pendidikan* 15, no. 2 (2023).

¹³ Hidayaty, Qurbaniah, dan Setiadi, "The Influence Of Word Wall On Students' Interest And Learning Outcomes."

They demonstrated greater courage to raise their hands and answer questions, actively discussed problems with their group members, and expressed enthusiasm when they achieved high scores. This shift indicates that students were more emotionally and behaviorally engaged in learning, showing genuine interest and excitement.¹⁴ Learning activities became more interactive, as students no longer relied solely on listening to teacher explanations but were directly involved in completing game-based assignments. This active participation helped foster collaboration, problem-solving, and critical thinking among students, as they worked together to understand and answer the questions presented in the activities.

The use of Wordwall also supported teachers in managing the classroom more efficiently. Teachers were able to monitor students' responses in real-time, quickly identify common errors, and provide clarification on concepts that students had not yet fully understood. This immediate insight into students' learning allowed teachers to adjust their instruction dynamically, ensuring that no student was left behind. In addition, the media facilitated faster and more accurate evaluation of student performance, reducing the administrative burden and allowing teachers to focus more on guiding the learning process.

Overall, the integration of Wordwall demonstrates that technology-based learning media can create a more active, collaborative, and conducive classroom environment. Compared to conventional lecture methods, which often rely heavily on passive listening, Wordwall engages students directly, making the learning process more enjoyable, meaningful, and effective. The game-based, interactive approach encourages behavioral, emotional, and cognitive involvement, ultimately contributing to higher levels of learning engagement and improving the overall quality of the educational experience.

Student Learning Engagement Levels Before and After the Use of Wordwall Media

The measurement of *the level of learning engagement* is carried out through a questionnaire that has been tested for validity and reliability. This instrument includes three main aspects, namely behavioral involvement (activeness in participating in learning), emotional involvement (interest and feelings in learning), and cognitive involvement (efforts to understand the material in depth).

¹⁴ Retno Susilowati, Zaimatus Sa'diyah, dan Irma Noviana, "The Implementation of Wordwall as a Learning Medium to Enhance Arabic Learning Motivation Among Fourth Grade Students," *JTP-Jurnal Teknologi Pendidikan* 27, no. 2 (2025).



Figure 2. Material on the use of wordwall media

The results of the pretest indicated that the level of student involvement before the implementation of Wordwall media was in the medium category. In terms of behavioral engagement, several students were still inconsistent in paying attention to the teacher's explanations and did not fully participate in discussion activities. Some students were passive during group tasks and rarely initiated responses, indicating that their active involvement in learning was limited. On the emotional aspect, students' interest in learning appeared unstable, particularly during lessons that lasted for a longer duration.

Many students seemed easily distracted or disengaged, showing minimal enthusiasm and limited curiosity about the material being presented.¹⁵ Regarding cognitive engagement, students tended to provide direct answers without engaging in deeper analysis or reflection, suggesting that their thinking processes were not fully activated and that they relied heavily on surface-level understanding rather than critical thinking or problem-solving strategies. After the implementation of Wordwall in several consecutive learning sessions, the posttest results showed a notable improvement in all aspects of engagement. In terms of behavioral engagement, students demonstrated higher activity levels, consistently following instructions, participating actively in game-based activities, and completing tasks within the allocated time. Emotional engagement also increased significantly, as students displayed greater enthusiasm, expressed enjoyment through smiles and laughter, and exhibited curiosity and motivation to solve the questions presented in the activities.

¹⁵ Daniel Ari Widhiatama dan Catharina Brameswari, "The effectiveness of Wordwall in enhancing students' engagement and motivation in literature classes," *International Journal of Linguistics, Literature and Translation* 7, no. 4 (2024).

Cognitive engagement improved as well, with students showing more careful reading of questions, deliberate consideration of answer options, and a more thoughtful approach to solving problems.¹⁶ This shift indicates that the integration of Wordwall not only increased students' participation but also strengthened their interest, focus, and depth of thinking. Overall, the data suggest that the use of Wordwall media effectively enhances students' behavioral, emotional, and cognitive engagement, resulting in a more active, motivated, and intellectually involved learning process.

Table 1. Comparison of Average Student Learning Engagement Scores

Aspects of Engagement	Pretest	Posttest
Behavior	65	82
Emotional	68	85
Cognitive	70	88
Average	67,7	85,0

Source: Primary data from the results of the student engagement questionnaire, 2026.

The data in Table 1 shows an increase in the average score in each aspect after the use of Wordwall. This increase reflects a positive change in student learning engagement. In addition, the results of class observations strengthened the quantitative data obtained from the questionnaire. During Wordwall-based learning, students appear to be more focused, rarely engage in activities outside of the learning context, and show better cooperation in groups.

The Effect of Using Wordwall Media on Increasing Learning Engagement

To test the effect of the use of Wordwall on increasing the learning engagement of grade IV students of SDN 21 Tolomundu which totals 35 people, a paired sample t-test was carried out on pretest and posttest scores. Based on the results of the analysis, a significance value (Sig.) was obtained that was less than 0.05. This shows that there is a significant difference between pretest and posttest scores. Thus, the research hypothesis that the use of Wordwall has an effect on increasing student learning engagement is accepted. Descriptively, the average student learning engagement score before treatment was 67.7 and increased to 85.0 after the use of Wordwall.

This increase was seen in all aspects of engagement, namely behavioral (from 65 to 82), emotional (from 68 to 85), and cognitive (from 70 to 88). The average difference shows a fairly high increase after the implementation of digital game-based learning media. The increase that

¹⁶ Syarifah Aeni Rahman, Ashar Ashar, dan Maria Teresa M. Fajardo, "The effect of wordwall digital game media on improving students' learning outcomes and communication skills in social studies at elementary school," *Harmoni Sosial: Jurnal Pendidikan IPS* 12, no. 2 (2025).

occurred can be explained through several factors. First, Wordwall presents an element of interactivity that encourages students to be actively involved in the learning process.

Second, the existence of direct feedback helps students find out mistakes and correct them immediately, so that the learning process becomes more effective. Third, the existence of elements of games and scoring creates a healthy competitive atmosphere, which ultimately increases students' motivation and enthusiasm for learning. Pedagogically, these results show that learning that actively involves students will improve the quality of the learning process.¹⁷ Digital game-based media such as Wordwall is able to accommodate the characteristics of elementary school students who tend to favor visual, interactive, and fun learning.

Increased student involvement can not only be seen from the activeness of participating in learning, but also from the increase in interest and ability to understand the material. The findings of this study provide the implication that teachers need to consider the use of innovative learning media as a strategy to increase student learning engagement. The right technology integration can be a solution in creating more interesting, meaningful, and student-centered learning. With that, the results of the study show that the use of Wordwall has a positive and significant impact on increasing the learning engagement of fourth grade students of SDN 21 Tolomundu.

CONCLUSION

Based on the results of the research and discussion, it can be concluded that the use of Wordwall media in the learning process in grade IV of SDN 21 Tolomundu has been proven to be effective in increasing student learning engagement. This media is able to encourage active participation, strengthen students' interest and attention, and increase cognitive engagement in understanding learning materials. This increase occurs significantly in behavioral, emotional, and cognitive aspects, so that Wordwall can be used as an alternative to innovative interactive learning media. Practically, these findings imply that the integration of digital game-based learning media can improve the quality of interaction and learning experience in the classroom. Teachers act as facilitators who direct students to make optimal use of media, while students become more active, motivated, and enthusiastic in participating in learning.

¹⁷ Perlian Erlangga, Yogi YuneFri, dan Shelve Famella, "The Effect Of Using Wordwall Media On Learning Outcomes And Motivation Of Fourth Grade Students Of SD Negeri 06 Belutu Ipas Subject Matter Of Plant Body Parts," *Pedagogical Research Journal* 3, no. 1 (2025).

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