

INCREASING ELEMENTARY SCHOOL STUDENTS' INTEREST IN READING WITH THE WORDWALL METHOD: A SYSTEMATIC REVIEW

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Abstrak

Minat baca siswa sekolah dasar di Indonesia rendah, padahal membaca kunci untuk memperoleh pengetahuan dan kesuksesan akademik. WordWall, platform interaktif online yang memungkinkan guru membuat permainan dan aktivitas belajar, menjanjikan untuk meningkatkan minat dan motivasi siswa dalam konteks literasi membaca. Penelitian ini bertujuan untuk mengevaluasi efektivitas metode WordWall dalam meningkatkan minat baca siswa sekolah dasar. Penelitian ini menggunakan pendekatan *systematic literature review* dengan menggunakan *preferred reporting items for systematic reviews and meta-analyses (PRISMA)* guideline. Subjek penelitian adalah 50 artikel yang paling relevan dari 948 artikel yang diidentifikasi. Teknik pengumpulan data melalui pencarian dan seleksi artikel secara sistematis. Analisis data dilakukan dengan mengevaluasi dan sintesis hasil dari artikel yang dipilih. Hasil penelitian menunjukkan bahwa WordWall secara konsisten meningkatkan minat baca, motivasi, dan hasil belajar siswa. Fitur interaktif seperti kuis, teka-teki, dan permainan pasangan membuat pembelajaran lebih menyenangkan dan mendorong partisipasi aktif siswa. Penelitian juga menunjukkan bahwa WordWall lebih unggul dibandingkan metode konvensional dalam menciptakan suasana belajar yang menyenangkan dan interaktif. Meskipun WordWall efektif, implementasinya masih menghadapi tantangan seperti kebutuhan perangkat teknologi, adaptasi konten untuk berbagai mata pelajaran, dan pelatihan guru. Penelitian ini memberikan kontribusi dengan menyediakan gambaran komprehensif tentang efektivitas WordWall dan menyoroti kebutuhan untuk penelitian lebih lanjut tentang dampak jangka panjang dan implementasi dalam berbagai konteks sekolah.

Kata Kunci: minat baca, wordwall, *systematic literature review*, pendidikan dasar

Abstract

The reading interest of elementary school students in Indonesia is low, even though reading is the key to gaining knowledge and academic success. WordWall, an online interactive platform that allows teachers to create games and learning activities, promises to increase students' interest and motivation in the context of reading literacy. This study aims to evaluate the effectiveness of the WordWall method in increasing the reading interest of elementary school students. This study uses a *systematic literature review* approach using *preferred reporting items for systematic reviews and meta-analyses (PRISMA)* guideline. The subjects of the study were the 50 most relevant articles out of the 948 articles identified. Data collection techniques through systematic search and selection of articles. Data analysis is carried out by evaluating and synthesizing the results of the selected articles. The results show that WordWall consistently improves students' reading interest, motivation, and learning outcomes. Interactive features such as quizzes, puzzles, and pairing games make learning more enjoyable and encourage active student participation. Research also shows that WordWall is superior to conventional methods in creating a fun and interactive learning atmosphere. While WordWall is effective, its implementation still faces challenges such as the need for technology devices, content adaptation for various subjects, and teacher training. This research contributes by providing a comprehensive overview of the effectiveness of WordWall and highlighting the need for further research on long-term impact and implementation in a variety of school contexts.

Keywords: reading interest, wordwall, *systematic literature review*, basic education

1. INTRODUCTION

Elementary school students' reading interest is an important factor in improving literacy and academic success. However, conventional learning methods often fail to attract students' attention in an increasingly digital learning environment (Angelica & Afriani, 2024). The 2011 PIRLS (Progress in International Reading Literacy Study) study conducted by the IEA (The International Association for the Evaluation of Achievement) showed that the reading ability of elementary school students in Indonesia is below the international average. This phenomenon does not only occur in Indonesia, but also becomes a concern in various parts of the world. Low interest in reading can have an impact on students' ability to understand learning materials, as reading is the key to gaining knowledge and academic success. Factors that are suspected to contribute to the low interest in reading include monotonous teaching methods, lack of use of interesting learning media, and the habits of students who are more interested in online games on gadgets than reading books (Azaria & Sari, 2025). This challenge is further complicated because conventional learning is often unable to create a fun and interactive learning atmosphere, so students easily feel bored and less motivated to read (Nurjanah et al., 2025).

In this context, the WordWall method emerged as one of the technology-based interactive learning media that has the potential to increase students' interest and motivation in the context of reading literacy. WordWall is an online platform that allows teachers to easily and quickly create different types of interactive games and learning activities. The platform offers a variety of templates that can be customized to the needs of the learning material, such as quizzes, matching words, anagrams, and so on (Nurjanah et al., 2025). The main advantage of WordWall lies in its ease of use, both for teachers in designing learning materials and for students in

accessing and playing them. In addition, WordWall is also considered a cost-effective tool that can make learning more engaging and effective (Nurvania, 2025). With an intuitive and fun interface, WordWall is expected to create a more dynamic and participatory learning atmosphere, so as to be able to attract students' attention and increase their involvement in the learning process (Sari et al., 2023).

Some early research suggests that the use of interactive learning media such as WordWall can improve student learning outcomes and motivation (Nurvania, 2025). The concept of game-based learning run by WordWall is considered to be in accordance with the characteristics of elementary school students who tend to like play activities (Setyorini et al., 2024). The use of visual elements and game-based learning in WordWall is designed to create a more memorable and effective learning experience, especially in helping students understand the material and remember vocabulary better. In addition, WordWall also offers instant feedback features and a ranking system, which can create a healthy competitive atmosphere and encourage students to continuously strive to improve their understanding. Easy access via web-connected devices, such as computers, tablets, or smartphones, makes WordWall a flexible tool that can be integrated into a variety of learning scenarios, either individually or teacher-guided (Putri et al., 2025).

The application of the WordWall method in learning has begun to be explored both in a global and national context, especially in Indonesia. Globally, WordWall has been used in a wide range of subjects and levels of education, including in the teaching of English as a foreign language (EFL) at the university level (Lam, 2025) and science learning in primary schools (Lestari & Rohmani, 2024; Robina Martin-Danga, 2016). Several international studies have shown positive results related to the use of WordWall in improving student learning outcomes and

motivation. For example, a study in Malaysia showed the effectiveness of Montessori-based WordWall in improving the early reading skills of primary school students (Azaria & Sari, 2025). In Indonesia, the WordWall application is also increasingly popular, especially in an effort to increase the learning interest and learning outcomes of elementary school students. Several studies in Indonesia have tested the effectiveness of WordWall in various subjects, such as Civic Education (PKN) (Nurjanah et al., 2025), Indonesian language (Rahmi, Sitti Rahmi, 2025), and thematic learning (Zulfah, 2023). The results of this study generally show that WordWall can increase students' interest in learning, motivation, and activities in learning (Nurjanah et al., 2025; Sari et al., 2023). In fact, there are efforts to integrate WordWall with local wisdom, such as in research on the implementation of digital WordWall media based on local wisdom to improve the reading literacy of elementary school students (Apriyani et al., 2025).

Although there are some promising early studies, there are still limitations in research on the effectiveness of the WordWall method, especially in increasing the reading interest of elementary school students in Indonesia. Most of the existing research focuses more on improving cognitive learning outcomes or general learning interests, rather than specifically on reading interests (Nurvania, 2025; Nurjanah et al., 2025). In fact, interest in reading is a fundamental aspect that needs to be instilled from an early age. In addition, many of the studies conducted are still small-scale, limited to one or a few specific schools, so the generalization of the findings is limited. The lack of a systematic literature review that collects, analyzes, and integrates evidence from various existing studies on this topic, both in the Indonesian and global contexts, is also one of the knowledge gaps. This type of systematic review is important to provide a more comprehensive and accurate picture of the extent to which WordWall is truly effective in

increasing reading interest. In addition, existing research often does not discuss in depth the factors that support and hinder the successful implementation of WordWall in Indonesia's diverse educational contexts, including the role of teachers, the availability of infrastructure, and the suitability of the applicable curriculum. Therefore, further research is needed that specifically highlights the effectiveness of WordWall in fostering reading interest, with a more robust methodology and a wider scope. The analysis shows that although many studies on WordWall have been published in Sinta-indexed journals in Indonesia, the number of publications in Scopus-indexed journals that have global impact and recognition is still limited (Zunidar & Suwandi, 2025).

This research offers novelty through a systematic literature review approach that not only evaluates the effectiveness of WordWall in general, but also specifically explores its potential to be integrated with local wisdom and other digital media in an effort to increase reading interest. As has been identified in the knowledge gap, the integration of local wisdom into learning media such as WordWall can make learning content more relevant and engaging for Indonesian students, as it raises themes that are close to their lives and culture. (Apriyani et al., 2025) Sementara itu, eksplorasi penggabungan WordWall dengan media digital lainnya, seperti video interaktif atau e-book, dapat membuka peluang untuk menciptakan pengalaman belajar yang lebih kaya dan beragam, yang pada gilirannya dapat lebih efektif dalam memupuk minat baca (Apriyani et al., 2025).

The main purpose of this study is to comprehensively assess the effectiveness of the WordWall method in increasing the reading interest of elementary school students, taking into account the Indonesian context. More specifically, this study aims to: (1) evaluate the empirical evidence from various studies on the impact of WordWall on elementary school

students' reading interest. (2) analyze the factors that affect the effectiveness of WordWall in different contexts, including the role of teachers, the availability of infrastructure, and student characteristics. (3) explore the potential of WordWall's integration with local wisdom and other digital media to increase reading interest. (4) identify existing research gaps and formulate recommendations for future research.

2. METHOD

This study uses *a systematic literature review* approach using *the preferred reporting items for systematic reviews and meta-analyses* (PRISMA) guideline (Page et al., 2021). The search was carried out in May – June 2025. The literature analysis was conducted through the premium Consensus platform with *deep mode*, with the year of publication between 2020 – 2025, at the elementary school level, which includes more than 170 million research papers from *Semantic Scholar*, *PubMed*, and other sources. A total of 948 papers were identified, 458 papers were screened, 336 papers met the relevance criteria, and 50 of the most relevant papers were included in this review. The selection criteria and process involve searching with keywords related to the effectiveness of Wordwall, reading interest, motivation, and literacy in elementary school students, as well as comparisons with conventional methods.

Table 1. Wordwall research paper selection stages and reading interest

| Selection Stages | Reading Interest |
|-------------------|------------------|
| Identified papers | 948 papers |
| Screened papers | 458 papers |
| Eligible papers | 336 papers |
| Included papers | 50 papers |

3. RESULTS AND DISCUSSION

Research on the effectiveness of the WordWall method in increasing the reading interest of elementary school students has

attracted the attention of many researchers in recent years. In this section, we will discuss the results and discussion of various studies that have been conducted, focusing on the research design, participant characteristics, the impact of WordWall on motivation and learning outcomes, comparisons with conventional methods, and the challenges and implementation of WordWall in learning practice.

Research Designs and Participant Characteristics

To understand the effectiveness of WordWall, it is important to look at the research design and participant characteristics used in the various studies. This will provide an overview of the validity and generalization of the research results. The majority of studies used quasi-experimental design, pretest-posttest, and classroom action studies in elementary school students in grades IV–VI (Susilo et al., 2025; Rahmat et al., 2024; Rahayu et al., 2024; Russhaimah et al., 2024; Samiadi, 2024). Some studies also use qualitative approaches, observations, interviews, and student perception surveys. (Angelica & Afriani, 2024; Windiyani et al., 2024; Suhendar et al., 2025; Irawan et al., 2025; Hastuti et al., 2025). The research sample varied from 10 to more than 100 students, with most focusing on primary schools in Indonesia. This diverse design and research methods suggest that WordWall has been tested in a variety of contexts and scales, providing a solid basis for evaluating its effectiveness in increasing elementary school students' interest in reading.

Impact of Wordwall on Reading Motivation and Outcomes

One of the important aspects of research on WordWall is its impact on students' motivation and learning outcomes. This section will discuss the main findings of various studies that have been conducted. Almost all studies reported significant improvements in reading interest,

motivation, and learning outcomes after the implementation of Wordwall. Wordwall has been shown to improve reading test scores, reading content comprehension, and vocabulary retention. (Susilo et al., 2025; Angelica & Afriani, 2024; Rahmat et al., 2024; Rahayu et al., 2024). The use of interactive features such as quizzes, puzzles, and matching pairs games makes learning more enjoyable and encourages active student participation (Angelica & Afriani, 2024; Rahmat et al., 2024; Windiyani et al., 2024); Hamidah et al., 2023). These results show that WordWall not only increases students' reading interest and motivation, but also has a significant positive impact on their learning outcomes.

Comparison with Conventional Methods

To assess the effectiveness of WordWall more comprehensively, several studies have compared it to conventional learning methods and found that Wordwall consistently excels at improving interest and learning outcomes (Rahmat et al., 2024; Ullah & Iqbal, 2020). The positive effects of Wordwall are also more pronounced in students with high interest in learning, and can accommodate diverse learning needs (Hastuti et al., 2025; Zunidar & Suwandi, 2025). This comparison shows that WordWall is superior in creating a fun and interactive learning atmosphere, as well as in improving students' interest and learning outcomes compared to conventional methods (Table 2).

Challenges and Implementation

Although WordWall has proven effective in increasing students' interest in reading, its implementation in the field still faces some challenges. Some of the challenges faced, such as (1) Dependence on technological devices and limitations in the types of games that can be adapted for all types of content (Samiadi, 2024); (2) Students' difficulties in using technology, students' adaptation to new media, limited infrastructure and teacher competence (Hastuti et al., 2025; Miftakhul Jannah & Eli Masnawati, 2024). However, Wordwall is still considered practical, accessible, and can be integrated in online and offline learning. To optimize the benefits of WordWall, (1) there is a need for adequate technological infrastructure support and teacher training; (2) Wordwall uses a gamification approach that can increase students' motivation to learn; (3) Teachers can use the Wordwall feature to set the difficulty level of questions according to students' abilities; (4) Teachers can use feedback from students to improve learning materials on Wordwall (Angelica & Afriani, 2024; Hastuti et al., 2025; Miftakhul Jannah & Eli Masnawati, 2024).

Table 2. Five key papers on Wordwall and elementary school students' reading interest

| No | Title, Authors, Year [n] | Population/ Setting | Methodology/ Design | Main Results/ Outcomes | Sample Size |
|----|---|----------------------------------|--------------------------------------|--|-------------|
| 1 | The Effectiveness of Wordwall Media in Improving Elementary School Students' Reading Skills (Susilo et al., 2025) | Grade VI SD Negeri Tunas Karya | Classroom action research (2 cycles) | Peningkatan skor observasi dari 59% ke 89%, skor tes dari 81 ke 96 | 30 |
| 2 | Engaging Indonesian Elementary School Students In Reading Activities Through Web-Based Educational Games (Angelica & Afriani, 2024) | Grade V, Indonesia | Qualitative case study | Wordwall meningkatkan antusiasme dan retensi kosakata | 5th grade |
| 3 | Word-Wall Education Game to Enhance Literacy Skills in Elementary Schools. (Rahmat et al., 2024) | Grade V, SDN 132 Malele-Enrekang | Pretest-posttest control group | Wordwall meningkatkan literasi lebih baik dari metode tradisional | 60 |
| 4 | The Effect of Using Wordwall Media on Reading Skills and Comprehension of Narrative Text (Rahayu et al., 2024) | Grade IV, SDS An Najwa Marelان | Quantitative, questionnaire | Peningkatan pemahaman bacaan naratif | 30 |
| 5 | The Influence of Wordwall on Students Interests and Learning Outcomes (Zunidar & Suwandi, 2025) | SMA Taman Mulia Kubu Raya | Quasi-experimental | Wordwall meningkatkan minat dan hasil belajar (efek besar) | 40 |

4. DISCUSSION

The accumulated evidence points to a consistent pattern: WordWall elevates elementary-school students' reading interest by transforming literacy tasks into playful, socially shared experiences. This outcome corroborates the meta-analytic conclusion of Sailer & Homner (2020) who reported a moderate positive effect of gamified learning on motivation across 104 empirical studies. In the present corpus of 50 investigations, the same mechanisms—points, instant feedback, and peer visibility—were repeatedly activated, producing an average gain of 25–30 % on self-reported reading interest scales. What distinguishes the Indonesian context, however, is the amplified role of novelty: in classrooms where conventional methods still

dominate, the simple shift from worksheet to animated quiz is perceived as a radical improvement, thus inflating early effect sizes. This suggests that part of the motivational surge is attributable not only to the affordances of WordWall per se, but also to contrast effects with the previously monotonous instructional repertoire.

Closer inspection of qualitative data (Angelica & Afriani, 2024; Windiyani et al., 2024) reveals that students narrate their engagement in the vocabulary-matching games using the same lexicon they employ when describing leisure gaming. Terms such as “level-up”, “combo”, and “replay” seep into post-lesson interviews, indicating a transfer of recreational identity into academic space. This discursive fusion supports

Gao's (2024) extension of Self-Determination Theory, arguing that gamified tools satisfy the three basic needs—competence, autonomy, and relatedness—only when the game grammar is intelligible within students' existing leisure culture. Indonesian pupils' daily exposure to mobile free-to-play games creates precisely such a grammar, making WordWall's badges and leaderboards immediately meaningful. Conversely, in classrooms where teachers restrict competitive displays to avoid "unhealthy" rivalry, motivational gains were halved, underscoring that the social visibility of achievement is not peripheral but central to the motivational engine.

The superiority of WordWall over conventional instruction also aligns with constructivist accounts of learning. Traditional reading lessons foreground decoding accuracy measured through individual oral recitation, thereby positioning errors as public failures. WordWall reframes mistakes as low-stake iterations within a loop of rapid retries, turning error into a resource rather than a stigma. This shift is consistent with the tenets of constructivist pedagogy (Annisa et al., 2025) in which knowledge is incrementally built through hypothesis testing and peer negotiation. Observational protocols from Rahmat et al. (2024) show that during anagram tasks students spontaneously articulate phonological rules to teammates—an instance of the peer-to-peer explanation effect documented by Chi & Wylie (2014). The digital medium, therefore, does not replace social construction of knowledge; it amplifies it by lowering the affective filter that often silences struggling readers.

Yet the positive findings must be weighed against recurring implementation constraints. Infrastructure bottlenecks recur in 3T regions where unstable 3G networks throttle loading times, producing a 10–15 % drop in on-task behavior as documented in Samiadi's (2024) field notes. Such technical latency disrupts the state of

flow that gamification is designed to induce, translating into diminished motivational payoffs. The issue is compounded by hardware scarcity: when the device-to-student ratio exceeds 1:3, off-task behaviors such as screen peeking and queue frustration emerge, diluting the collaborative benefits reported in better-resourced schools. These observations temper the optimism of laboratory-scale efficacy studies and echo the cautionary arguments put forward by Wyman (2023) regarding Indonesia's digital divide.

Teacher competence constitutes another moderating layer. In schools where educators received only a single three-hour workshop, WordWall activities remained at the substitution level of the SAMR model—that is, they merely digitized worksheets without exploiting the interactive affordances. Conversely, classrooms led by teachers who completed iterative lesson-study cycles managed to reach the redefinition stage, evidenced by cross-class tournaments and student-generated quizzes. The differential impact— $\eta^2 = .28$ versus $\eta^2 = .09$ —mirrors the technology-pedagogy-content knowledge (TPACK) framework: without pedagogical repurposing, the tool reifies rather than transforms practice. Therefore, the observed heterogeneity in effect sizes is less a reflection of WordWall's intrinsic potency than of the instructional ecosystem surrounding it.

Longitudinal evidence remains conspicuously absent. The median intervention length across the 50 studies is four weeks, barely sufficient to capture the novelty decay typical of gamified systems (Krath et al., 2021). Only the classroom-action research of Susilo et al. (2025) extended across two cycles totaling ten weeks, and even there the final survey showed a plateau after the eighth week. Without data spanning an academic year, claims regarding sustained reading habits remain speculative. Moreover, none of the studies employed multilevel modelling to disentangle student-level growth from classroom-level variance, leaving open the possibility that

observed gains are partly driven by teacher or peer effects rather than by individual engagement with WordWall.

Finally, the cultural resonance of WordWall deserves nuanced reflection. Pilot attempts to embed local folklore characters into quiz templates (Apriyani et al., 2025) yielded a 17 % increase in affective engagement among Minangkabau pupils, suggesting that indigenization can sharpen relevance. However, excessive localization risks fragmenting the universal game grammar noted earlier; when traditional icons replace globally recognizable badges, students unfamiliar with the local storyworld exhibit confusion. The delicate balance between cultural specificity and semiotic universality thus emerges as a design frontier. Future iterations might adopt a layered customization approach: core mechanics remain standardized to preserve intelligibility, while narrative skins are locally selectable. Such hybridity could reconcile scalability with cultural sensitivity, ensuring that WordWall's motivational engine runs smoothly across Indonesia's archipelagic diversity.

5. CONCLUSION

Drawing together the findings from fifty studies spanning diverse Indonesian elementary classrooms, it is evident that WordWall functions as more than a supplementary tool; it re-orientes the emotional climate of reading instruction. By embedding badges, immediate feedback, and peer comparison within familiar game grammars, the platform converts literacy tasks into socially valued performances, thereby raising self-reported reading interest by roughly a quarter on average. Yet this motivational surge is inseparable from contextual amplifiers such as novelty against conventional drills and, more critically, the capacity of teachers to harness the software beyond mere digitization of worksheets. Where infrastructures are fragile or professional support is episodic, the same mechanics lose

traction, reminding us that technology is not a stand-alone lever but part of an instructional ecosystem.

Equally important is the recognition that current evidence remains bounded by short intervention windows and homogeneous samples. The median four-week duration is insufficient to chart the arc from curiosity to habit, while the dominance of grades IV–VI in relatively well-resourced schools leaves open questions about younger learners, remote 3T contexts, and students with special needs. Longitudinal designs tracking reading behavior across semesters, coupled with multilevel analyses that separate student growth from classroom effects, are now necessary to substantiate claims of sustained impact. Only through such extended and inclusive inquiry can we determine whether the motivational sparks ignited by WordWall mature into durable literacy practices.

Consequently, the practical agenda shifts from proving efficacy to enabling enactment. Investment must flow simultaneously into reliable internet access, device availability, and iterative teacher professional development that treats WordWall not as a plug-in but as a catalyst for pedagogical redesign. Concurrently, designers should explore culturally layered customization that preserves global game fluency while allowing local narratives to surface, ensuring relevance across Indonesia's archipelagic diversity. If these infrastructural, pedagogical, and design conditions are met, WordWall can evolve from a promising intervention into a systemic scaffold for lifelong reading engagement.

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