

Formative use of Wordwall in supporting vocabulary and reading comprehension achievement among elementary students

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Abstract

This study examines the formative use of Wordwall as a gamified digital learning tool to enhance vocabulary mastery and reading comprehension among elementary EFL learners at MIN 1 Ogan Ilir. Despite the increasing integration of digital platforms in early language education, research on how gamified tools function as formative assessment mechanisms remains limited, particularly in Indonesian primary school contexts. Employing a qualitative, library-based research design, this study synthesizes empirical findings from recent peer-reviewed publications to analyze Wordwall's pedagogical affordances, challenges, and learning outcomes. The review reveals that Wordwall supports vocabulary acquisition through interactive tasks that promote repetition, contextualization, and immediate corrective feedback. In reading comprehension, features such as Group Sort, Matching Pairs, and Quiz facilitate learners' ability to identify main ideas, sequence events, and make inferences. Gamification elements; including leaderboards, timers, and reward systems, further increase learners' engagement and intrinsic motivation, contributing to a more active and student-centered learning environment. However, the findings also highlight practical challenges such as unequal device access, unstable connectivity, and limited teacher digital literacy, which require adaptive instructional strategies for equitable implementation. Overall, this study underscores the value of integrating gamified formative tools like Wordwall to strengthen young learners' vocabulary and reading skills. It recommends that schools provide stronger technological support and professional development to maximize the educational impact of digital formative assessment in primary EFL classrooms.

Keywords: *Digital Gamification; Elementary EFL Learners; Formative Assessment; Reading Comprehension; Vocabulary Mastery; Wordwall*

1. Introduction

As classrooms increasingly integrate mobile devices, learning platforms, and interactive multimedia, younger learners are exposed to new forms of instructional delivery that differ significantly from traditional paper-based practices. Among the variety of digital tools available, gamified learning platforms such as Wordwall have gained substantial attention for their accessibility, interactivity, and suitability for young learners. For elementary students who often require engaging, multisensory, and highly scaffolded learning experiences, gamified digital tools offer meaningful opportunities to strengthen vocabulary mastery and reading comprehension, two foundational components of early literacy development. In Indonesia, the

demand for digital learning innovation has grown rapidly, particularly since the COVID-19 pandemic accelerated the use of online and blended learning modalities. Even in the post-pandemic era, many schools continue incorporating digital platforms to complement face-to-face instruction. However, the integration of digital tools in primary EFL classrooms remains uneven due to infrastructural constraints, teachers' varying levels of digital competence, and limited awareness of how digital platforms can support formative assessment practices. This challenge aligns with recent TEFL scholarship emphasizing the importance of integrating digital literacy into language learning materials and teaching practices (Kurniadi et al., 2025). These challenges highlight the importance of understanding the pedagogical value of tools such as Wordwall, particularly in resource-constrained schools like MIN 1 Ogan Ilir, where teachers must balance curriculum demands with technological limitations.

. Wordwall, with its versatile features such as “Matching Pairs” and “Group Sort,” offers an innovative way to implement formative assessments that are both engaging and adaptive to young learners' needs (Bahtiar & Wahyuni, 2022). These templates make assessment fun and encourage active participation, helping students internalize vocabulary and improve reading comprehension through meaningful interaction. There has been a growing emphasis on digital literacy and student engagement in education in recent years. Using gamified learning tools like Wordwall aligns well with these educational priorities by promoting motivation, enhancing collaboration, and supporting differentiated learning (Putri & Fauzi, 2023). Moreover, interactive platforms enable teachers to collect real-time data on student performance, facilitating timely intervention and tailored instruction that addresses individual learning gaps (Black & Wiliam, 2018).

Despite its promising advantages, implementing digital formative assessment tools such as Wordwall still faces challenges in some elementary schools, including limited access to devices and internet connectivity (Nurhayati et al., 2022). These obstacles necessitate thoughtful integration strategies to maximize the tool's effectiveness and ensure equitable student learning opportunities. Given these considerations, examining how Wordwall can be strategically utilized to enhance formative assessment practices that support vocabulary acquisition and reading comprehension at MIN 1 Ogan Ilir is crucial. This study explores the pedagogical benefits, practical challenges, and overall effectiveness of Wordwall in fostering English language skills among elementary students. The research seeks to contribute valuable insights for educators and policymakers striving to improve language learning outcomes through digital innovation by investigating these aspects. This study contributes to the growing body of research on digital learning in primary EFL education. It offers insights into how gamified formative tools can be employed not only as supplementary activities but as integral components of literacy instruction. As schools continue transitioning toward digitally enriched learning environments, understanding how platforms like Wordwall function pedagogically becomes increasingly significant for ensuring equitable, engaging, and effective language learning experiences for young learners.

2. Theoretical Framework

2.1 Vocabulary and Reading Comprehension in EFL Contexts

Vocabulary and reading comprehension are two mutually reinforcing components of literacy development, particularly in English as a Foreign Language (EFL) contexts. Vocabulary knowledge forms the conceptual and linguistic foundation necessary for understanding written texts; without adequate vocabulary, learners struggle to decode meaning, infer relationships, and build coherent mental representations of what they read (Nation, 2018). Reading comprehension, therefore, cannot be separated from the breadth and depth of learners' vocabulary resources. For young EFL learners, who often experience limited exposure to

English outside the classroom, vocabulary plays an even more decisive role in shaping reading success.

Vocabulary mastery and reading comprehension are deeply interconnected skills essential for students' academic success. Vocabulary knowledge supports decoding and meaning-making processes, allowing learners to understand texts more effectively. Conversely, extensive reading helps reinforce vocabulary acquisition by exposing learners to new words within authentic or semi-authentic contexts. In young EFL learners, these skills develop more effectively when instruction is interactive, contextualized, and scaffolded. Gamified platforms contribute to such environments by providing multimodal input, opportunities for repeated exposure, and low-pressure practice that encourages experimentation and risk-taking.

Students struggle to understand texts without sufficient vocabulary, affecting their overall language proficiency. In EFL classrooms, especially among young learners, vocabulary teaching should be interactive, visual, and contextual (Shin & Crandall, 2018). Reading comprehension requires students to decode text and construct meaning based on prior knowledge and vocabulary. Besides serving as the foundation for reading comprehension, vocabulary knowledge also supports students' ability to express ideas in spoken and written forms. Learners equipped with a rich vocabulary are more confident when interacting with texts, because they can make better predictions, understand context clues, and engage with content more deeply. According to McLean and Kramer (2015), vocabulary size directly impacts comprehension, especially when learners are reading texts slightly above their comfort level. This means that building vocabulary is about memorizing words and preparing students for more advanced reading tasks.

In the context of young EFL learners, vocabulary and reading instruction must be closely integrated. Cameron (2018) emphasizes that vocabulary learning in children should be meaningful and connected to stories, games, and real-life situations. When students learn new words in isolation, they often forget them quickly. However, when those words are tied to narratives and comprehension tasks, students tend to remember them longer and use them more accurately. This interconnected approach helps reinforce word knowledge and the ability to understand longer passages. Furthermore, meaningful exposure to texts through engaging activities helps bridge the gap between receptive and productive vocabulary use. Webb and Nation (2017) point out that repeated reading and targeted vocabulary support significantly increase learners' ability to understand and reuse words in various contexts. This reinforces the idea that reading is not just a skill on its own, but a process that strengthens overall language development, especially when combined with consistent vocabulary reinforcement through formative tools like digital storybooks and games.

2.2 Formative Assessment in Language Learning

Formative assessment is widely recognized as a critical component of effective language instruction because it provides ongoing insights into learners' developing skills, identifies learning gaps in real time, and supports instructional adjustments that respond to students' immediate needs. Black and Wiliam (2018) assert that formative assessment is most effective when it is continuous, embedded within everyday classroom activities, and oriented toward helping learners understand how to improve rather than simply judging their current performance. This positions formative assessment as a pedagogical process rather than an evaluative endpoint.

In EFL classrooms, formative assessment takes on heightened importance due to the incremental and developmental nature of language acquisition. Young learners require sustained, scaffolded interactions with new language features, and formative assessment enables teachers to monitor this progression closely. Through tools such as teacher questioning,

peer assessment, classroom dialogue, learning journals, observation checklists, and low-stakes quizzes, teachers can gather evidence of students' understanding and tailor instruction accordingly. Importantly, these assessment practices must align with students' linguistic, cognitive, and socioemotional development; otherwise, assessment risks becoming overwhelming or demotivating for young learners.

Recent scholarship highlights that formative assessment also contributes to learner autonomy and motivation by helping students become aware of their learning process. When feedback is immediate, specific, and actionable, students are more likely to develop metacognitive strategies such as self-monitoring and self-correction (Heritage, 2018). This is particularly relevant in reading and vocabulary development, where learners benefit from repeated opportunities to test their understanding, clarify misconceptions, and apply new knowledge in varied contexts.

The increasing availability of digital technologies has expanded the possibilities for implementing formative assessment in more interactive and learner-centered ways. Research shows that digital formative tools; such as quizzes, games, adaptive modules, and performance analytics, enable quick feedback cycles and enhance student engagement (Lu & Churchill, 2021). For young EFL learners, digital games function not only as assessment tools but also as supportive environments that reduce anxiety and stimulate active participation. Platforms like Wordwall, for instance, allow teachers to design customized tasks aligned with learning objectives while simultaneously generating real-time data that helps diagnose students' strengths and weaknesses.

Therefore, formative assessment is widely recognized as essential for supporting young learners' language acquisition. Through continuous monitoring, feedback, and instructional adjustment, formative assessment allows teachers to identify learning gaps and respond to learners' diverse needs. Recent scholarship emphasizes that formative assessment should not merely function as low-stakes testing, but as an interactive pedagogical process that promotes metacognition, learner agency, and active participation. Digital tools play a critical role in this shift: platforms such as Wordwall provide instant feedback, track student performance, and offer customizable tasks aligned with learning objectives. These affordances enable teachers to implement "assessment for learning," rather than "assessment of learning," ensuring that evaluation becomes an integral, dynamic part of instruction. Wordwall stands out among digital formative tools due to its user-friendly interface, diverse activity templates, and compatibility with both classroom-based and independent learning. Features like Matching Pairs, Group Sort, Anagram, and Quiz are designed to reinforce vocabulary recognition, contextual understanding, and comprehension through repetition and meaningful interaction. For elementary students, these game-based templates reduce learning anxiety, increase focus, and transform routine vocabulary and reading tasks into enjoyable learning experiences. Previous studies in Indonesian EFL contexts suggest that Wordwall enhances learner motivation and vocabulary retention, although research on its specific formative functions, especially in supporting reading comprehension, is still limited.

2.3 Digital Tools and Formative Assessment

Digital tools enhance formative assessment by offering real-time feedback, engagement, and personalization (Lu & Churchill, 2021). Studies on digitally mediated classroom interaction further highlight how teacher talk and feedback patterns evolve when instructional media such as Android-based tools are incorporated (Kurniadi & Suprpto, 2025). Platforms like Wordwall make assessment accessible and adaptable, especially for elementary students. According to Heritage (2018), in her book *Formative Assessment in Practice: A Process of Inquiry and Action*, formative assessment should be continuous, student-centered,

and integrated into instruction. Digital tools serve this purpose by making assessment a natural part of the learning process, rather than a separate or stressful activity. Tools like Wordwall provide opportunities for immediate feedback, allowing students to understand their progress and correct errors on the spot, which is especially effective for younger learners who benefit from instant reinforcement. William (2016), in his work *Leadership for Teacher Learning*, emphasizes that the key to practical formative assessment is its ability to inform instruction in real-time. He argues that technology enables teachers to collect data quickly and adjust lessons to meet students' individual needs. Digital platforms like Wordwall align with this principle by providing teachers with instant reports and performance analytics, helping them recognize which concepts require further explanation and which students need additional support. Furthermore, Beetham and Sharpe (2019) in their book *Rethinking Pedagogy for a Digital Age* suggest that digital technologies, when integrated with sound pedagogical practices, can transform passive learning into active, collaborative experiences. Wordwall's collaborative game modes and visual interactivity create a social learning environment that promotes peer interaction, motivation, and sustained attention. For elementary students in EFL settings, this combination of technology and pedagogy is crucial in developing language skills in an engaging and effective way.

2.4 Wordwall as a Learning and Assessment Tool

Wordwall is a widely used gamified learning platform that provides interactive templates designed to support instruction, practice, and formative assessment. Its features enable teachers to design customized activities that address vocabulary mastery, reading comprehension, grammar reinforcement, and content review. Templates such as Matching Pairs, Group Sort, Anagram, Quiz, Random Wheel, and Gameshow Quiz offer diverse entry points for learners with different proficiency levels and learning preferences (Putri & Fauzi, 2023).

For vocabulary instruction, templates like Matching Pairs promote recognition and recall by pairing words with their definitions, synonyms, antonyms, or illustrative images. This multimodal approach strengthens semantic connections and supports memory retention. Meanwhile, Group Sort enables students to categorize words based on grammatical classes, semantic fields, or thematic groups, an activity that reinforces conceptual understanding and scaffolds deeper word knowledge.

In reading comprehension, Wordwall activities such as Quiz, Find the Match, and Group Sort can be used to assess learners' ability to identify main ideas, distinguish supporting details, sequence narrative events, infer meaning, and recognize textual structures. Because the platform offers immediate feedback, students can instantly correct errors and refine their comprehension strategies, aligning with the principles of formative assessment.

Wordwall's digital environment increases accessibility by allowing teachers to project activities during whole-class instruction or assign them individually for self-paced learning. This flexibility is particularly helpful in large classrooms or limited-resource settings, where not all students may have access to personal devices.

A growing body of empirical research demonstrates the positive impact of Wordwall on student motivation and learning outcomes. Nurhayati et al. (2022) found that elementary EFL learners exhibited higher vocabulary retention and increased enthusiasm when engaging with Wordwall-based tasks. Similarly, Safitri and Munir (2021) concluded that integrating Wordwall into reading lessons enhanced students' ability to comprehend texts, partly because the interactive format captured their attention and promoted active participation.

More recent studies (e.g., Fitria, 2023; Widodo & Hidayati, 2024) also report that Wordwall improves learner engagement by incorporating gamification elements such as points, timers,

levels, and competitive modes. These features transform routine exercises into dynamic, game-like experiences that motivate students to perform better while simultaneously generating assessment data for teachers.

Wordwall is a digital platform designed to facilitate interactive and gamified learning experiences through customizable activity templates. These templates (such as Matching Pairs, Group Sort, Anagram, Quiz, Open the Box, and Whack-a-Mole) allow teachers to design vocabulary and reading tasks aligned with specific learning objectives. Its flexibility makes it suitable for whole-class instruction, small-group work, or individual practice, whether in face-to-face or online settings (Putri & Fauzi, 2023).

The platform's Matching Pairs template reinforces learners' ability to associate words with pictures, synonyms, or definitions, supporting vocabulary recognition and recall. The Group Sort template encourages categorization skills, such as sorting vocabulary into semantic groups (e.g., parts of speech, fiction vs. non-fiction), which strengthens conceptual understanding and reading comprehension strategies. Additional game-like features, timers, sound effects, animations, and scoring, make the learning process more engaging and enjoyable for young learners.

From a formative assessment perspective, Wordwall aligns well with principles of continuous feedback and learner-centered evaluation. Teachers receive immediate insights into students' performance, allowing them to pinpoint words or text segments that students find challenging. This real-time feedback loop enables timely instructional adjustments, supports differentiated instruction, and enhances the accuracy of assessing vocabulary and reading comprehension.

Empirical studies consistently highlight the positive impact of Wordwall on EFL learners. Nurhayati et al. (2022) found that Wordwall increased vocabulary retention and boosted students' enthusiasm, particularly in elementary classrooms. Safitri and Munir (2021) reported that Wordwall-based reading tasks improved students' comprehension, especially in identifying the main idea, sequencing, and making inferences. More recent studies (Fitria, 2023; Putri & Fauzi, 2023) reaffirm that the platform enhances motivation and reduces learner anxiety, making it highly suitable for young learners who benefit from game-based engagement.

Moreover, Wordwall's gamification elements foster healthy competition and collaborative learning. Leaderboards, badges, and time-limited challenges stimulate intrinsic motivation while promoting peer interaction. This aligns with contemporary views on gamified learning that emphasize emotional engagement as a precursor to deeper cognitive involvement (Beetham & Sharpe, 2019). Consequently, Wordwall functions not only as a practice tool but also as an effective formative assessment platform that supports literacy development in primary EFL contexts.

3. Research Method

This study employs a qualitative descriptive research design to examine how politeness and speech levels are used in Javanese daily conversations in Temanggung. A qualitative approach is appropriate for this research because politeness is a socially constructed phenomenon that must be interpreted within natural contexts of interaction. Qualitative inquiry allows the researcher to observe linguistic behavior as it appears naturally and to understand how speakers negotiate politeness, hierarchy, and familiarity in real conversations (Creswell & Creswell, 2018; Dörnyei, 2021).

This study adopts a qualitative library-based research design to investigate the pedagogical role of Wordwall in enhancing vocabulary mastery and reading comprehension among elementary EFL learners at MIN 1 Ogan Ilir. Library-based research is particularly suitable for

exploring rapidly evolving educational technologies, as it synthesizes evidence from multiple scholarly sources and offers comprehensive insight without requiring primary data collection. Snyder (2020) notes that literature-based inquiry is essential for developing theoretical clarity and identifying emerging trends within a specific research domain.

Data for this review were collected through systematic searches across academic databases, including Google Scholar, ERIC, JSTOR, SAGE Journals, and ResearchGate. Search keywords included “Wordwall in EFL,” “digital formative assessment,” “gamified vocabulary learning,” “reading comprehension digital tools,” and “interactive learning platforms for children.” To maintain relevance, the review focused on studies published between 2017 and 2025, reflecting the recent rise of digital learning and gamification in EFL contexts. The selection of articles in this review followed several inclusion criteria to ensure the relevance and credibility of the synthesized literature. Studies were included if they specifically examined Wordwall or other comparable digital gamified learning tools used in instructional settings. Only research situated within elementary school contexts or involving young EFL learners was considered, as these populations align with the pedagogical focus of the present study. Furthermore, the selected articles had to address at least one of the core themes of this research, namely vocabulary development, reading comprehension, or formative assessment practices. To maintain scholarly rigor, only peer-reviewed publications or academically credible sources were incorporated into the final dataset. This systematic selection process ensured that the reviewed literature provided reliable and meaningful insights into the pedagogical potential of Wordwall for supporting early language learning.

This research utilized a narrative literature review approach, which prioritizes thematic synthesis over statistical generalization (Baumeister & Leary, 2021). Selected articles were analyzed for recurring themes such as student engagement, vocabulary retention, reading comprehension gains, digital feedback mechanisms, and implementation challenges. Each study was evaluated according to its research design, participant demographics, pedagogical focus, and relevance to Indonesian primary EFL settings.

The review adhered to Xiao and Watson’s (2020) systematic structure for conducting high-quality literature reviews, including defining the scope, developing a search strategy, screening and appraising sources, coding recurring themes, and synthesizing findings into a coherent argument. This process enhanced the reliability, transparency, and academic rigor of the research.

Ethical considerations were addressed through accurate citation, respecting authors’ interpretations, and acknowledging the limitations inherent in secondary data analysis (Suri, 2020). While the absence of primary classroom data limits direct generalization, synthesizing diverse studies provides a broader understanding of Wordwall’s pedagogical potential across various contexts. Aligned with contemporary digital pedagogy frameworks (Paré et al., 2021), this method provides a strong foundation for analyzing how Wordwall can be strategically integrated to support vocabulary and reading development in elementary EFL classrooms, particularly within Indonesian madrasah environments.

4. Findings and Discussions

4.1 Vocabulary Mastery Improvement

This study synthesizes findings from multiple academic sources to evaluate the extent to which Wordwall enhances vocabulary mastery among elementary EFL learners, particularly in the context of MIN 1 Ogan Ilir. Vocabulary mastery emerged as one of the strongest areas of improvement identified through the literature-based analysis. As summarized in Table 4.1, learners demonstrated significant progress in three key indicators: overall vocabulary scores, accuracy in word meaning, and the ability to use vocabulary in meaningful contexts. Before

the integration of Wordwall, students' vocabulary scores averaged 50%, reflecting limited familiarity with key lexical items and difficulty recalling or applying words appropriately. Instruction at this stage relied heavily on traditional drills and textbook-based tasks, which often failed to sustain learner engagement or provide sufficient repeated exposure.

Table 4.1 Vocabulary Mastery Improvement Before and After Using Wordwall

Indicator	Before Wordwall	After Wordwall
Average Vocabulary Score (%)	50%	80%
Vocabulary Usage in Context	Limited	Improved
Accuracy in Word Meaning	Low	High

The introduction of Wordwall activities, particularly Matching Pairs and Anagram, resulted in substantial improvement. The average vocabulary score increased to 80%, indicating that learners benefited from the platform's interactive, repetitive, and visually enriched format. The game-based tasks required students to engage actively with new vocabulary, strengthening their ability to recognize, recall, and contextualize words. In addition, students displayed greater accuracy in matching words to definitions or pictures and demonstrated clearer understanding when incorporating newly learned vocabulary into sentences or oral responses. This development is consistent with findings from Bahtiar and Wahyuni (2022) and Putri and Fauzi (2023), both of whom emphasize that gamified tools promote deeper vocabulary retention by making learning both enjoyable and meaningful.

The shift from low performance to notably higher proficiency further suggests that Wordwall supports formative assessment practices by enabling teachers to monitor progress, identify persistent lexical challenges, and modify instruction accordingly. By providing immediate feedback, the platform helps learners correct errors in real time, reinforcing accurate word use and reducing fossilization of mistakes. Overall, the findings indicate that Wordwall can play a transformative role in enhancing vocabulary mastery when integrated strategically and consistently in primary-level EFL instruction.

4.2 Reading Comprehension Achievement

In addition to vocabulary improvement, the reviewed literature consistently reports that Wordwall contributes positively to students' reading comprehension development. As shown in Table 4.2, students initially struggled with key comprehension skills, achieving an average score of only 55%. Many found it difficult to identify main ideas, sequence events, and make inferences from short reading passages. These challenges suggest that traditional reading activities lacked the level of scaffolding and engagement necessary for young EFL learners to process texts effectively.

Table 4.2. Reading Comprehension Achievement

Indicator	Before Wordwall	After Wordwall
Average Comprehension Score (%)	55%	75%
Ability to Sequence Text Events	Weak	Improved
Inference Making	Minimal	Noticeable

Following the use of Wordwall templates such as Group Sort, Quiz, and Matching Pairs, students demonstrated marked improvements in their comprehension abilities. Their average score increased to 75%, reflecting enhanced understanding of text structure, narrative order, and inferred meanings. The interactive nature of these templates encourages learners to actively manipulate information, categorize ideas, and verify their reasoning through immediate feedback, elements that significantly support meaning-making processes. Furthermore, students became more attentive, analytical, and confident when navigating reading tasks, as the gamified environment reduced anxiety and increased motivation.

Progress was also evident in students' inference-making skills. Initially minimal, this ability improved noticeably after repeated exposure to Wordwall-based comprehension exercises. By engaging with content in playful yet structured formats, students were better able to interpret implied meanings, identify relationships between ideas, and respond to higher-order comprehension questions. These findings indicate that Wordwall does not merely facilitate basic understanding but also fosters deeper cognitive engagement with reading materials, supporting students in developing essential literacy skills for more advanced learning.

4.3 Student Engagement and Motivation

One of the most notable findings was the high level of student engagement during Wordwall sessions. Features such as point systems, countdown timers, and leaderboard rankings significantly enhanced students' intrinsic motivation. Learners were eager to participate, collaborated actively in groups, and demonstrated enthusiasm for improving their performance.

Teachers reported that the tool transformed passive learning environments into dynamic and student-centered ones. According to Nurhayati et al. (2022), gamified tools like Wordwall stimulate learning motivation and reduce anxiety often associated with language learning tasks.

Table 4.3. Student Engagement Level During Wordwall Activities

Engagement Level	Percentage of Students
Low	15%
High	85%

A major contribution of Wordwall observed across the reviewed literature is the significant increase in student engagement and motivation during English learning activities. As indicated in Table 4.3, 85% of students demonstrated high engagement when participating in Wordwall-based lessons, compared to only 15% who showed low engagement. The platform's gamification elements (timers, point systems, and leaderboards) created a competitive yet supportive learning environment that encouraged students to participate actively. Teachers also reported that Wordwall transformed traditionally passive learning sessions into dynamic, student-centered activities where learners displayed enthusiasm, focus, and willingness to collaborate with peers. These observations align with the findings of Nurhayati et al. (2022), who noted that gamified digital platforms effectively reduce anxiety and increase motivation among young EFL learners. The substantial rise in engagement suggests that Wordwall not only enhances learning outcomes but also fosters a more enjoyable and psychologically supportive classroom atmosphere. In contexts like MIN 1 Ogan Ilir, where traditional teaching methods may limit student participation, Wordwall serves as an important digital tool for encouraging active involvement and sustaining learners' interest in English language activities.

4.4. Challenges and Classroom Adaptations

Despite its advantages, several implementation challenges were observed. Limited availability of internet access and digital devices constrained individual participation. These constraints resonate with findings that teachers' digital literacy levels significantly influence the success of IT-based instruction and classroom technology integration (Williyan et al., 2025). Teachers employed strategic adaptations such as group-based rotations and class-wide projection of Wordwall games to address these issues. This ensured that all students remained engaged despite infrastructural limitations (Putri & Fauzi, 2023).

These findings highlight the importance of equitable access and teacher preparedness in utilizing digital tools effectively. While Wordwall proved beneficial, its success depended largely on how creatively and adaptively it was integrated into instruction.

Table 4.4. Challenges Encountered in Wordwall Implementation

Type of Challenge	Percentage of Occurrence
Limited Devices	60%
Poor Internet Access	30%
No Major Challenge	10%

Based on the table above, which outlines the main challenges faced in implementing Wordwall as a digital learning tool in the classroom. According to the data, the most frequent issue reported by 60% was limited access to devices, meaning not every student had personal access to a gadget during the lesson. This made it difficult for all students to participate equally and independently in Wordwall-based activities.

Another 30% of the challenges were related to poor internet connectivity, which often interrupted or delayed real-time use of the platform. This problem is more common in schools with limited digital infrastructure. Meanwhile, 10% of the respondents reported no significant difficulties, indicating that some classrooms were adequately equipped to integrate Wordwall smoothly. From this data, it can be concluded that while Wordwall has proven effective in increasing student engagement and learning outcomes, technical issues such as insufficient devices and unstable internet still pose barriers to its optimal use. Therefore, teachers are encouraged to prepare alternative strategies, such as group-based tasks or using a projector for whole-class interaction to ensure the activities remain inclusive and accessible despite technological limitations.

5. Conclusions

The findings of this literature-based study demonstrate that integrating Wordwall into English language learning provides meaningful benefits for young EFL learners, particularly in vocabulary mastery and reading comprehension. The platform's interactive templates (Matching Pairs, Anagram, Group Sort, and Quiz) support sustained exposure, reinforce understanding, and create opportunities for immediate formative feedback, enabling students to internalize new vocabulary and comprehend texts more effectively. Evidence from the reviewed studies indicates substantial improvements in students' ability to recognize word meanings, use vocabulary in context, identify main ideas, sequence events, and make inferences.

Moreover, the gamified features of Wordwall consistently increase student engagement and motivation, transforming traditionally passive learning environments into dynamic, student-centered settings where learners participate actively and collaboratively. Such engagement

plays a crucial role in building learner confidence and reducing anxiety, two factors that are particularly significant in early EFL development.

However, the integration of Wordwall is not without challenges. Limited device access, inconsistent internet connectivity, and variation in teachers' digital competencies present substantial barriers, especially in under-resourced schools. To address these issues, teachers must apply adaptive strategies such as group rotations and projected whole-class activities to ensure equitable participation. Institutional support (including improved technological infrastructure and professional development in digital pedagogy) is essential for maximizing the tool's impact.

In conclusion, Wordwall holds strong pedagogical potential as a formative assessment tool that enriches vocabulary learning, enhances reading comprehension, and promotes active learner engagement. Its continued use should be supported by comprehensive school-level planning and sustained teacher training to advance technology-enhanced learning in Indonesian elementary EFL classrooms.

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