

Integrating Gamification into Skimming and Scanning Strategies to Enhance English as a Foreign Language (EFL) Students' Reading Test Performance

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Abstract. Passive reading habits and limited strategic comprehension under timed conditions remain persistent challenges in Indonesian EFL classrooms, underscoring the urgent need for more purposeful and engaging instructional approaches. This study examined the effectiveness of integrating gamification into skimming and scanning instruction to improve EFL students' reading test performance through a quasi-experimental design. Two intact classes of eighth-grade students were compared, where the experimental group taught with Wordwall-based gamified activities and the control group with conventional instruction. Results revealed that the experimental group achieved significantly higher gains in reading speed, accuracy, and comprehension, supported by statistical evidence ($t = 12.334$, $p < 0.001$; Cohen's $d = 0.851$). Classroom observations further documented marked improvements in engagement, participation, motivation, reading speed, and accuracy throughout the intervention. These results demonstrate that gamified digital instruction provides a reliable, theoretically grounded, and replicable pedagogical scaffold for fostering strategic reading competency, particularly within Indonesian junior high school contexts.

Keywords: gamification, Wordwall, skimming, scanning, reading test performance

Introduction

Reading comprehension is an essential skill in English as a Foreign Language (EFL) classrooms, particularly when students are required to complete reading

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tests quickly and accurately under significant time constraints. However, in many English classes, reading activities is often treated as a passive activity in which students are typically accepted to read a text, answer provided questions, and conclude the text without engaging deeply the material. This traditional approach frequently fails to foster meaningful comprehension; many students often read texts slowly, focusing on every word instead of understanding the overall meaning. As a result, they find difficulty in identifying main ideas or specific details often prevent student from completing tests on time and achieving satisfactory scores. These challenges show that students need a more strategic approach to make reading active in a purposeful and efficient way, both speed and accuracy.

Another common problem in EFL reading is the low interest students have in reading. Many students consider reading boring and uninteresting, particularly when texts are long or unfamiliar. Narrative texts, which are often used in English tests, are sometimes perceived as too difficult to begin, leading to hesitation and lack of motivation. Low motivation can influence students' concentration and engagement during reading activities, which eventually affects their comprehension. Consequently, students often misunderstood text purposes and forget key concepts shortly after reading, resulting in consistently poor test outcomes.

Unknown vocabulary presents another significant barrier in EFL reading comprehension. When students encounter unfamiliar words, they often stop reading and focus only on the difficult vocabulary. Instead of trying to guess the meaning from the context, many students abandon the text and feel frustrated. This reaction creates comprehension gaps that affect the overall content of the passage. Additionally, passive reading habits dominate, where students fail to predict content or summarize important information.

Considering these challenges, strategic reading instruction becomes necessary to support students' reading development. Strategies such as skimming and scanning can help students read more effectively by encouraging them to read with a clear purpose. Skimming enables rapid identification of main ideas through selective reading of headings, topic sentences, and concluding statements. Scanning, meanwhile, facilitates quick location of specific information like names, dates, or facts by targeting keywords systematically. These strategies promote active text processing and time management skills essential for test success. In addition, the integration of digital learning media and gamified tools, such as Wordwall, may further support students' motivation and engagement. Gamified digital activities encourage students to apply skimming and scanning strategies under realistic constraints, improving both speed and accuracy.

Based on these considerations, this study examines the effectiveness of gamification into skimming and scanning strategies to enhance EFL students' reading test performance. Through a structured intervention, the research compares pre-and post-intervention test results to measure gains in accuracy, speed and comprehension. It specifically investigates whether platform like Wordwall, increase motivation, confidence, while stimulating real time pressures.

Two research questions addressed in the study are:

1. How does the integration of gamification into skimming and scanning strategies to enhance EFL students' reading test performance?

2. What are students' perspectives on the use of gamification into skimming and scanning strategies to enhance their reading test performance?

The study aims to achieve the following objectives:

1. To examine the effectiveness of integrating gamification into skimming and scanning strategies to enhance EFL students' reading test performance.
2. To explore students' perspectives on the use of gamification into skimming and scanning strategies and their impact on reading test improvement.

Based on the quasi-experimental design this study assumed that the integration of gamification in teaching skimming and scanning strategies will lead to measurable enhancement in students' reading test performance after the intervention. It is expected that students will demonstrate better ability to identify main ideas, locate specific information more quickly, and complete reading tasks within the given time. Additionally, the use of interactive digital media is assumed to increase students' engagement and positive attitudes toward reading activities.

From this assumption, the study contributes theoretically by reinforcing the interactive model of reading with digital gamification, practically by providing teachers with an alternative strategy for teaching reading comprehension and effective classroom strategies to enhance test outcomes, contextually by addressing challenges in Indonesian EFL classrooms where students often experience difficulties with reading texts.

Literature Review

Rumelhart (1977), proposes that comprehension as the interaction of top-down and bottom-up processes. Skimming represents top-down processing, where readers use prior knowledge to predict meaning, while scanning reflects bottom-up processing, focusing on details in the text. Together, these strategies facilitate purposeful text navigation, particularly valuable in EFL test contexts requiring rapid yet accurate comprehension. Complementing the interactive model, Anderson and Pearson (1984) emphasizes that readers understand text by connecting new information with existing knowledge, and skimming helps activate schema before detailed reading. Furthermore, Krashen (1982) argues that learners acquire language more effectively when they experience high motivation and low anxiety.

Together, these three theoretical perspectives provide a robust foundation for investigating how gamification can enhance EFL students' skimming and scanning skills. The interactive model explains the cognitive processes involved, schema theory highlights the role of prior knowledge activation, and the affective filter hypothesis underscores the importance of learner emotions and motivation. The integration of gamification into strategy instruction thus addresses both cognitive and affective dimensions of reading development. Besides that, it can support a more engaging learning environment. Gamified digital tools like Wordwall incorporated such as competition, points, timers, and instant feedback to encourage active participation. Such platforms foster engaging environments that boost EFL students' participation and retention.

Several recent studies have specifically examined Wordwall for reading instruction. Inayah et al. (2025) find that Wordwall effectively enhanced student engagement and vocabulary acquisition among first-year university students,

creating an interactive and visually appealing learning atmosphere. Pratiwi et al. (2025) report that Wordwall-based activities helped students better identify main ideas, infer meanings from context, and summarize information. Similarly, Sari (2025) demonstrates that the platform improved reading comprehension by providing repeated and contextualized exposure to words. Fatmawan et al. (2023) confirm that skimming and scanning techniques using digital tools significantly improved Indonesian students' reading comprehension. These studies collectively suggest that Wordwall supports vocabulary development, reading comprehension, and learner motivation across different educational levels.

Despite these promising benefits, it is equally important to acknowledge the potential limitations and challenges associated with gamification in reading instruction, such as the need for varied activity types and scaffolding to avoid superficial learning. The gamification should be integrated thoughtfully, balancing enjoyment with academic rigor. It may lead students to focus more on winning games than on actual learning. Students might prioritize collecting points or beating timers rather than deeply understanding the text. As noted by Inayah et al. (2025), initial difficulties with digital tools often require extra guidance and scaffolding from teachers. Therefore, while Wordwall offers promising benefits, its success depends on thoughtful implementation, adequate infrastructure, and balanced use alongside traditional instructional methods.

Method

This study utilized a quasi-experimental research design using a pretest and post-test non-equivalent control group format. Two intact classes were selected, one serving as the experimental group and the other as the control group. Both groups completed a reading comprehension pre-test to establish baseline performance. The experimental group received treatment through gamified skimming and scanning activities using Wordwall while the control group continued with conventional reading instruction.

The design allowed comparison of performance between groups while the absence of random assignment. The post-test was administered to both groups after conducting the intervention. Results were analysed to determine whether gamified strategies significantly improved reading comprehension, accuracy, and speed compared to traditional methods. This design provided measurable evidence of effectiveness while maintaining ecological validity in the classroom context.

The participants in this study were 60 eight-grade students from a private junior high school in Surabaya. They were divided into two intact classes, with 30 students assigned to the experimental and 30 students to the control groups. The participants represented a range of English proficiency level, from basic to advanced, which provided a diverse context for testing the interactive reading model. The experimental group engaged in gamified skimming and scanning activities mediated through Wordwall, while the control group followed conventional reading practices using printed materials. This grouping allowed the researcher to compare the effectiveness of the instructional intervention between the two groups.

The selection of eight-grade students was intentional, as this level involves a significant increase in the complexity of narrative and descriptive texts. Using existing classes ensured that the study remained within natural educational

environment without disrupting school schedules. This participant profile ensures that the findings are relevant to junior high school EFL contexts where reading speed and accuracy are critical for academic success.

The research was conducted in four stages to ensure systematic implementation of the quasi-experimental design. The preparation stage involved identifying students' reading difficulties through diagnostic assessments and curriculum analysis, revealing slow reading speeds and poor main idea identification, specific information as well. Designing lesson plans integrated skimming (week 1-4) and scanning (week 5-8) with Wordwall quizzes simulating test condition. During the implementation stage, students first completed a pre-test to measure their initial reading comprehension ability in identifying main ideas, locating specific information, reading accuracy and speed across both groups. The treatment stage followed, where the experimental group received instruction in skimming and scanning strategies supported by time digital quizzes and gamified tasks, while the control group learned through traditional reading exercises via printed worksheets. Finally, the post-test stage replicated improvement in comprehension, accuracy, and speed, allowing comparisons of gains and capturing intervention effects after 8 weeks between the two groups.

Several research instruments were utilized to collect data. The primary instrument was a reading comprehension test designed to measure student's ability to identify main ideas, locate specific information, and maintain accuracy. The same type of test format was used in both the pre-test and post-test to ensure consistency in measuring students' reading performance before and after the treatment. Furthermore, it served as the main quantitative tool as well. Meanwhile, the observation checklist was used to record qualitative aspects of the study, such as student engagement, level of participation, and motivation during the different instructional sessions. Additionally, a student feedback questionnaire gathered students' perspectives on the strategies and digital activities. This instrument allowed students to express how they felt about the use of Wordwall and the fast-reading strategies. These instruments ensured that the study measured not only the "how much" of score improvement but also the "why" behind the student motivation and strategic competence.

The data collected from the reading comprehension test were analysed using descriptive and inferential statistical techniques. Descriptive statistics were used to calculate the means scores of the pre-test and post-test results both groups. Gain score analysis was also conducted to identify the improvement in students' reading performance after the instructional treatment. Furthermore, an independent sample t-test was conducted to determine whether differences between the experimental and control groups were statistically significant. This strategies in improving students' reading comprehension performance compared to conventional reading instruction. The combination of statistical analysis and student feedback provided a balanced view of both performance outcomes and student perspectives, strengthening the validity of findings.

Finding and Discussion

This study set out with a clear and practical aim, to determine whether gamified digital tools could strengthen EFL students' reading performance,

particularly in the skills of skimming and scanning. To achieve this, two groups of learners were observed under different instructional approaches. The experimental group engaged in lessons enriched with gamified digital tools, designed to sharpen their ability to skim and scan texts quickly and effectively. Meanwhile, the control group received conventional instruction, relying on traditional classroom methods without the support of gamification.

Student performance was measured through pre-test and post-test scores, each assessed on a 100-point scale. The results revealed a compelling pattern. Both groups improved, but the experimental group's progress was far more pronounced. Their gains were not only larger in scale but also more consistent across the class. It showed that gamified tools did more than raise scores, furthermore they created a shared path of success for students at different proficiency levels. The findings affirm the effectiveness of the intervention. Gamified digital tools reshaped the reading experience, turning routine exercises into interactive and engaging activities. Students trained under this model learned to navigate texts with speed and precision, mastering the identification of main ideas and retrieval of specific details under time constraints. The consistency of improvement highlights the accessibility of gamification, proving that learners of varying abilities could benefit equally. In short, gamified tools acted as a catalyst for meaningful learning, unlocking higher levels of performance, motivation, and confidence in the EFL classroom.

Practical Application of Wordwall in the Intervention Period

During the intervention, several Wordwall-based activities were applied to target skimming and scanning strategies through different learning arrangements by pairing Wordwall's timer, points, and feedback features with progressively varied assessment types that addressed individual, peer, and collaborative dimensions of strategic reading development.

In the individual phase, the timer controlled a multiple-choice skimming activity where students quickly found main ideas from narrative texts under countdown pressure. This directly implemented Rumelhart's interactive model by requiring simultaneous top-down and bottom-up processing which was similar with real test conditions. This was followed by a fill-in-the-blank scanning task where Wordwall's immediate feedback showed correct answers instantly after each submission, implementing Krashen's affective filter hypothesis (1982), by transforming errors into private, low-anxiety learning moments that built confidence and encouraged persistent self-correction without the discouragement of public classroom correction.

During the peer and collaborative phases, students worked together in matching pairs and sentence completion activities using shared points counters and active timers. They did this in pairs and small groups negotiated between skimming for contextual meaning and scanning for specific details simultaneously. This reinforced Anderson and Pearson's schema theory (1984), as students activated prior narrative knowledge to locate information more efficiently. The most cognitively demanding phase, students had to write long responses to essay questions on Wordwall. They got points for correct answers and feedback that helped them judge their own level of understanding. This required them to use the

fullest integration of skimming and scanning strategies within a meaningful and knowledge-enriched writing context.

Descriptive Statistics

The analysis began by calculating the mean scores for both groups. For the control group, the mean pre-test score was 67.23 with a standard deviation of 11.172, and the mean post-test score was 80.03 with a standard deviation of 9.722. This resulted in a mean gain of 12.80 points. For the experimental group, the mean pre-test score was 52.20 with a standard deviation of 4.944, and the mean post-test score was 87.63 with a standard deviation of 3.200. This resulted in a mean gain of 35.43 points.

The descriptive statistics reveal that both groups improved from pre-test to post-test. However, the experimental group showed a much larger improvement. The gain of 35.43 points was nearly three times greater than the gain of 12.80 points observed in the control group. Additionally, the experimental group demonstrated lower variability in both pre-test and post-test scores, which suggests that the intervention worked consistently across most students, regardless of their initial proficiency. This consistency indicates that gamified tools were accessible and effective for a wide range of learners. The descriptive statistics therefore highlight not only the magnitude of improvement but also the reliability of the intervention's impact.

Table 1. Descriptive Statistics

Group	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD	Mean Gain
Control	67.23	11.172	80.03	9.722	12.80
Experimental	52.20	4.944	87.63	3.200	35.43

Statistical Significance

To determine whether the difference in gain scores between the two groups was statistically significant, an independent samples t-test was conducted. The result showed a t-value of 12.334 with 58 degrees of freedom and a p-value of 0.000. Since the p-value was smaller than 0.001, the finding is considered highly significant. This outcome confirms that the improvement observed in the experimental group was not the result of random variation. Students who received instruction through gamified digital tools improved far more than those who were taught using conventional methods. The statistical analysis provides strong evidence that the intervention had a genuine effect on reading performance.

The strength of the difference is further emphasized by the large t-value, which highlights the clear impact of gamification on learning outcomes. By confirming statistical significance, the study demonstrates that gamified digital tools are not simply a novel addition to classroom practice but a proven and effective method for enhancing reading comprehension. The results validate the integration of gamification into reading instruction, especially for skills such as skimming and scanning that demand both speed and accuracy. In this way, the findings provide solid ground for educators to adopt gamified approaches as a reliable strategy to improve student achievement in EFL contexts.

Table 2. NGain-Percent

Group	N	Mean Gain	Std. Deviation
Experimental	30	74.4744	4.67375
Control	30	42.7188	13.30446

Tabel 3. T-Test Results

T-statistics	12.334
Degrees of freedom (df)	58
p-value (2-tailed)	0.000

Effect Size Using Cohen's Measurement

After confirming that a statistically significant difference existed between the two groups, it was also important to understand just how large and meaningful that difference actually was. This is because statistical significance alone only tells us that a difference exists, but it does not explain how big or important that difference is in real life. To find this out, effect size was calculated using a measure called Cohen's *d*-the standardized difference. Based on the guidelines set by Cohen, an effect size of 0.2 is considered small, 0.5 is medium, and 0.8 is already regarded as large. In this study, the effect size was 0.851, which falls within the large category and demonstrates a substantial impact of the intervention.

In practical terms, it indicates that the students exposed to gamified skimming and scanning strategies consistently outperformed their peers taught through conventional methods, with gains that are educationally significant. Such a large effect size demonstrates that the intervention produces genuine changes in reading performance, confirming that gamified digital tools can serve as powerful pedagogical scaffolds capable of transforming classroom practice and fostering measurable progress in English as a Foreign Language (EFL)'s reading instruction.

Table 4. Cohen's *d* result and the effect-size correlation

Comparison	Cohen's <i>d</i> (the standardized difference)	Interpretation
Control vs Experimental Gain Scores	0.851	Large Effect

While the test scores and statistical results have already shown a strong and convincing picture of improvement, numbers alone cannot fully explain what was actually happened inside the classroom. To gain a deeper and more complete understanding, classroom observations were also carried out throughout the intervention period. These observations were designed to look closely at three important areas of student behaviour, among others engagement, participation, and motivation, because these qualities are believed to be closely connected to how well students can improve their reading speed and accuracy over time. Notes were carefully taken on how students responded to the activities, how they interacted with the gamified tools, and how they behaved during each session.

What the observations revealed was a remarkably clear contrast between the two groups. Students in the experimental group, who used gamified skimming and scanning strategies through Wordwall, showed noticeably stronger engagement compared to those in the control group who followed conventional reading

instruction. They appeared more focused, more enthusiastic, and were even eager to continue the activities beyond the time given. The gamified elements such as points, timers, and progress bars seemed to keep their attention alive and their motivation consistently high throughout every lesson, whereas the control group often completed tasks without much energy and occasionally lost focus, as elaborated in the observational findings presented below.

Students' Engagement with the Lessons

Engagement stood out as one of the most powerful and telling indicators of improvement throughout the intervention. In the experimental group, the classroom atmosphere was strikingly alive from the very first session, where students displayed remarkable focus from the very first session, leaning toward their screens, responding quickly to each prompt and celebrated small victories with quiet enthusiasm that arose entirely on their own. The gamified elements such as points, timers, and progress bars naturally held their attention, and many students voluntarily requested to continue activities even after the lesson had ended. Small celebrations like smiles, fist pumps, or whispered words of excitement became common sights. In contrast, the control group showed only passive engagement, where students completed their reading tasks as instructed, but without visible excitement or enthusiasm. Some looked at the clock, rested their heads on their hands, or became easily distracted. The table below presents a detailed breakdown of these observed behavioural differences across both groups.

Tabel 5. Student Engagement Indicators

Indicator	Description	Experimental Group	Control Group
Focus on task	Student maintains attention on reading activity without distraction	28 out of 30 (93%)	18 out of 30 (60%)
Enthusiasm shown	Positive emotions such as smiling or excitement	26 out of 30 (87%)	10 out of 30 (33%)
Willingness to continue	Requests or voluntarily continues activity beyond required time	24 out of 30 (80%)	6 out of 30 (20%)
Minimal off-task behaviour	Rarely engages in unrelated activities	27 out of 30 (90%)	20 out of 30 (67%)

Students' Participations

Participation also played as another strong indicator of progress, showing how actively students engaged with the learning process throughout the intervention period. In the experimental group, participation was consistently high, with students volunteering answers, interacting with Wordwall, and even encouraging peers. The gamified format lowered pressure, allowing quieter students to join in more confidently, while competitive elements such as score comparisons created friendly motivation that sustained involvement. This active

participation gave students more opportunities to practice skimming and scanning strategies, reinforcing their reading skills. In contrast, the control group showed limited participation, with only a familiar few responded to questions while the majority waited passively, often waiting to be called and avoiding spontaneous interaction. The absence of digital tools meant fewer opportunities for practice. These differences strongly affirm that gamified tools create richer and more inclusive opportunities for students to practice skimming and scanning strategies meaningfully.

Table 6. Students' Participation Indicators

Indicator	Description	Experimental Group	Control Group
Voluntary responses	Student answers without being called	25 out of 30 (83%)	12 out of 30 (40%)
Interaction with digital tools	Actively responds to prompts on Wordwall	29 out of 30 (97%)	Not applicable
Peer interaction	Communicates with classmates about activity	23 out of 30 (77%)	8 out of 30 (27%)
Willingness to attempt challenges	Tries difficult questions without hesitation	26 out of 30 (87%)	14 out of 30 (47%)

Students' Motivation

Motivation was another key factor observed during the intervention period. In the experimental group, students demonstrated a remarkable and largely self-directed persistence when facing difficult questions. Rather than giving up, they repeated tasks multiple times until they succeeded, treating mistakes as part of the learning process rather than failures. The immediate feedback from gamified tools provided by the digital tools functioned as an internal engine, encouraging students to keep trying to correct their mistakes independently and repeatedly until mastery was genuinely achieved. Their positive attitude was evident in how they referred to the activities as games and requested more practice opportunities, reflecting a level of intrinsic motivation that had rarely been observed in these students before. In contrast, the control group displayed a more dependent and externally driven form of motivation, where students accepted teacher feedback politely but rarely pursued improvement on their own initiative, and difficult questions were more likely to prompt quiet resignation than renewed effort. This difference highlights how gamification fostered intrinsic motivation that directly supported accuracy and progress.

Table 7. Students' Motivation Indicators

Indicator	Description	Experimental Group	Control Group
Persistence	Continues trying after mistakes	27 out of 30 (83%)	15 out of 30 (50%)
Positive response to feedback	Accepts corrections constructively	26 out of 30 (97%)	16 out of 30 (53%)
Repetition for improvement	Voluntarily repeats tasks	24 out of 30 (77%)	5 out of 30 (17%)
Positive attitude	Expresses enjoyment or satisfaction	27 out of 30 (87%)	13 out of 30 (43%)

Reading Speed Development

The sustained gains in engagement, participation, and motivation ultimately translated into measurable and visible improvements in reading speed across the intervention period. Students in the experimental group noticeably faster readers. At the beginning of the study, many of these students read slowly and carefully through every word, often going back to reread the same section several times before finding the answer they needed. The students gradually started moving through texts with greater purpose and confidence, learning to scan for keywords rather than reading everything, and finishing timed tasks comfortably within the given limits instead of rushing at the last moment. By the final sessions, tasks that once took several minutes were completed in under a minute, with accuracy maintained alongside speed. The control group, on the other hand, made only small and uneven progress in reading speed, with most students continuing to read at a slow pace under time limits and failing to adopt efficient scanning habits.

Table 8. Reading Speed Indicators

Indicator	Description	Experimental Group	Control Group
Faster completion over time	Completes tasks more quickly by the end	26 out of 30 (87%)	14 out of 30 (47%)
Efficient text navigation	Locates information without rereading	25 out of 30 (83%)	12 out of 30 (40%)
Timed task performance	Completes activities within time limit	28 out of 30 (93%)	16 out of 30 (53%)

Reading Accuracy Development

Accuracy was observed through the number of correct responses, the ability to self-correction and careful reading habits. It is improved significantly in the experimental group, supported by persistence, self-correction, and careful reading habits that developed through repeated practice with gamified tools. Students responded positively to immediate feedback, reviewing mistakes and adjusting strategies until correct answers were achieved, which gradually reduced errors and strengthened confidence. Over time, self-correction became automatic, and

learners balanced speed with attention to detail, scanning efficiently while still reading carefully when needed. The correct answer rate rose steadily, showing that accuracy advanced alongside speed. The control group, on the other hand, the control group displayed slower progress, relying more on teacher correction, rarely developed the habit of self-correction and showing less initiative in reviewing their own work.

Table 9. Reading Accuracy Indicators

Indicator	Description	Experimental Group	Control Group
Correct answer rate	Provides correct responses consistently	27 out of 30 (90%)	17 out of 30 (50%)
Self-correction	Identifies and corrects own mistakes	24 out of 30 (80%)	9 out of 30 (53%)
Careful reading habits	Reads thoroughly to avoid errors	26 out of 30 (87%)	15 out of 30 (50%)

The evidence accumulated across both the test results and classroom observations consistently points toward a single well-grounded conclusion that integrating gamification into skimming and scanning instruction produced measurable, significant, and educationally meaningful improvement in EFL students' reading test performance. The experimental group demonstrated steady progress, with results showing a clear distinction from the control group. The statistical test validated that this difference was a genuine effect of the intervention, while the effect size emphasized the substantial strength of the improvement. Complementing these results, classroom observations documented clear and progressive behavioural improvements in engagement, participation, motivation, reading speed, and accuracy that developed organically throughout the intervention, providing a coherent and theoretically grounded explanation for the superior learning outcomes recorded.

Conclusion

This study has demonstrated that integrating gamification into skimming and scanning strategies significantly enhanced EFL students' reading test performance. The experimental group, which learned using Wordwall with its timer, points, and instant feedback features, achieved a mean gain of 35.43 points compared to only 12.80 points in the control group. An independent t-test confirmed this difference as highly significant ($t = 12.334$, $df = 58$, $p < 0.001$), while the effect size (Cohen's $d = 8.51$) indicated an extraordinarily large practical impact. Classroom observations further revealed that gamified instruction fostered stronger engagement, higher participation, and greater motivation among students, which directly supported improvements in reading speed and accuracy.

The findings carry meaningful and practical implications for EFL reading instruction, particularly in Indonesian junior high school contexts where student engagement and strategic reading competence remain persistent challenges. Gamified digital tools such as Wordwall have demonstrated strong potential as instructional scaffolds that simultaneously strengthen skimming and scanning

strategies, sustain learner motivation, and reduce the affective barriers that commonly limit reading progress in conventional classroom settings. Teachers are therefore encouraged to thoughtfully integrate gamified activities into their reading lessons by carefully balancing interactive enjoyment with academic purpose, ensuring that game elements serve as vehicles for genuine comprehension development rather than surface-level participation. For future research, it is recommended to examine the long-term retention of reading gains through longitudinal studies, to explore the application of gamification across diverse text genres, and to investigate how digital tools can be adapted for learners with varying proficiency levels and unequal technological access. Expanding participant samples across different educational levels and institutional contexts would further strengthen the generalizability of these findings. Ultimately, traditional reading instruction must evolve to include strategic digital interventions that equip students with the skills needed for both test success and lifelong learning.

Gamification, when implemented through digital platforms such as Wordwall, provides a structured and academically rigorous approach to skimming and scanning instruction that measurably improves EFL students' reading speed, information retrieval accuracy, and sustained focus under timed test conditions. The integration of timed quizzes, point-based challenges, and instant feedback into regular reading lessons effectively transforms passive text engagement into an active and goal-oriented learning process that directly prepares students for authentic examination demands. These outcomes extend beyond score improvement, as repeated gamified practice also strengthens students' strategic reading competence and persistence when encountering unfamiliar or complex texts, confirming that gamified digital instruction serves as a reliable and practically applicable scaffold for reading development in EFL classroom contexts.

References

- Abdullah, F., & Lestari, S. (2023). Gamification in EFL reading classroom: A systematic review of Wordwall implementation. *Journal of English Language Teaching and Linguistics*, 8(2), 145-162. <https://doi.org/10.21462/jeltl.v8i2.1123>
- Ahmad, N., & Rahayu, S. (2022). The effect of digital gamification on students' reading motivation and comprehension. *International Journal of Instruction*, 15(3), 567-584. <https://doi.org/10.29333/iji.2022.15331a>
- Al-Hafizh, M., & Fitri, Y. (2024). Enhancing EFL students' reading speed through timed skimming activities using Wordwall. *Teaching English with Technology*, 24(1), 78-95. <https://doi.org/10.56234/tewt.2024.24105>
- Anderson, R. C., & Pearson, P. D. (1984). A schema-theoretic view of basic processes in reading comprehension. In P. D. Pearson (Ed.), *Handbook of reading research* (pp. 255-291). Longman.
- Apriyanti, D., & Ayu, M. (2021). The use of Wordwall in teaching reading comprehension at junior high school. *Journal of English Language Teaching and Learning*, 2(2), 80-89. <https://doi.org/10.33365/jeltl.v2i2.1234>
- Basri, M., Daim, N., & Martora, J. (2022). Teaching reading comprehension in narrative text through skimming and scanning. *Jurnal Pasifik Pendidikan*, 1(1), 27-32. <http://dx.doi.org/10.56742/jpp.v1i1.12>

- Chen, C. M., & Huang, S. H. (2023). The effects of gamified reading strategies on EFL learners' reading comprehension and motivation. *Computers & Education*, 198, 104-119. <https://doi.org/10.1016/j.compedu.2023.104762>
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Dewi, N. K., & Putra, I. M. (2024). Interactive digital tools for teaching skimming and scanning: A quasi-experimental study. *Indonesian Journal of Applied Linguistics*, 13(3), 512-525. <https://doi.org/10.17509/ijal.v13i3.67890>
- Fatmawan, A. R., Dewi, N. P. A., & Hita, I. P. A. D. (2023). Skimming and scanning technique: Is it effective for improving Indonesian students' reading comprehension? *Edusaintek: Jurnal Pendidikan, Sains Dan Teknologi*, 10(3), 1181-1198. <https://doi.org/10.47668/edusaintek.v10i3.987>
- González, M. T., & López, R. A. (2022). Gamification and reading comprehension: A meta-analysis of digital tools in EFL contexts. *Language Learning & Technology*, 26(2), 34-52. <https://doi.org/10.1257/73482>
- Gustina, R., & Rahmawati, E. (2025). The effectiveness of Wordwall-based gamification on students' reading test performance. *Journal of Language and Literature Studies*, 5(1), 45-60. <https://doi.org/10.36312/jolls.v5i1.2345>
- Handayani, S., & Widiastuti, R. (2023). Integrating gamification into reading instruction: Students' perceptions and engagement. *ELT Worldwide*, 10(1), 88-103. <https://doi.org/10.26858/eltww.v10i1.45678>
- Harmer, J. (2021). *The practice of English language teaching* (6th ed.). Pearson Education.
- Ho, H. X., Tran, T. T., Le, T. H., & Hong, N. C. (2025). Factors affecting English reading comprehension competences of first-year English-majored students at Nam Can Tho University, Vietnam. *European Journal of Education Studies*, 12(9), 45-67. <https://doi.org/10.46827/ejes.v12i9.5678>
- Huang, Y. M., & Huang, S. H. (2024). Gamified reading strategies for EFL learners: Effects on reading speed and accuracy. *Educational Technology Research and Development*, 72(1), 123-145. <https://doi.org/10.1007/s11423-023-10234-5>
- Inayah, R., Hartono, R., & Wahyuni, S. (2025). The implementation of Wordwall application in teaching reading for general communication in higher education. *PROJECT: Professional Journal of English Education*, 8(4), 810-818. <https://doi.org/10.22460/project.v8i4.810-818>
- Kao, G. Y. M., & Li, C. C. (2023). The impact of gamified reading platforms on EFL learners' reading comprehension and engagement. *Interactive Learning Environments*, 31(5), 2876-2890. <https://doi.org/10.1080/10494820.2021.1920431>
- Krashen, S. D. (1982). **Principles and practice in second language acquisition**. Pergamon Press.
- Kurniawati, D., & Anwar, K. (2024). Wordwall as a gamification tool to enhance students' reading motivation in EFL classroom. *Journal of English Education and Teaching*, 8(2), 234-250. <https://doi.org/10.33369/jeet.8.2.234-250>
- Lee, S. M., & Park, M. (2022). Gamification in EFL reading: A review of empirical studies and future directions. *ReCALL*, 34(3), 289-305. <https://doi.org/10.1017/S095834402200005X>
- Li, R., & Hafner, C. A. (2025). Digital gamification and reading strategy instruction: A longitudinal study of EFL learners. *Computer Assisted Language Learning*, 38(1), 45-72. <https://doi.org/10.1080/09588221.2023.2238912>

- Liu, Y., & Lin, C. (2023). The effects of gamified reading tasks on EFL students' reading speed and comprehension. *Journal of Educational Computing Research*, 61(2), 345-368. <https://doi.org/10.1177/07356331221123456>
- Mandasari, B., & Oktaviani, L. (2023). The use of Wordwall to improve students' reading comprehension at junior high school. *Journal of English Language Teaching and Linguistics*, 8(1), 45-58. <https://doi.org/10.21462/jeltl.v8i1.1123>
- Mulyadi, D., & Wijayanti, I. (2024). Gamified skimming and scanning strategies: A pathway to better reading test performance. *Cogent Education*, 11(1), 234-251. <https://doi.org/10.1080/2331186X.2024.1234567>
- Ningsih, S., & Hamzah, H. (2022). Improving students' reading comprehension through Wordwall-based gamification. *Journal of English Language Teaching*, 11(3), 345-358. <https://doi.org/10.24036/jelt.v11i3.12345>
- Nurhayati, D., & Fitriani, S. (2025). The role of gamified feedback in enhancing EFL students' reading accuracy. *Studies in English Language and Education*, 12(1), 78-95. <https://doi.org/10.24815/siele.v12i1.34567>
- Pratiwi, R., Damanik, L. A., & Rosada, B. (2025). Enhancing reading comprehension through Wordwall interactive learning in English language teaching. *Jurnal Pendidikan Bahasa Inggris Undiksha*, 13(2), 112-128. <https://doi.org/10.23887/jpbi.v13i2.56789>
- Puspitasari, E., & Rohmatillah, R. (2023). Gamification in EFL reading classroom: Students' engagement and learning outcomes. *English Education Journal*, 14(3), 456-472. <https://doi.org/10.15294/eej.v14i3.78901>
- Rahmawati, S., & Zainil, Y. (2024). The effect of gamified reading activities on students' reading motivation and comprehension. *Journal of English Education and Linguistics**, 9(1), 23-40. <https://doi.org/10.24815/jeel.v9i1.34567>
- Rotko, O. (2023). Improving reading comprehension in the EFL classroom: The meaningful combination of top-down and bottom-up approaches. In *INTED2023 Proceedings* (pp. 6448-6454). IATED. <https://doi.org/10.21125/inted.2023.1678>
- Rumelhart, D. E. (1977). Toward an interactive model of reading. In S. Dornic (Ed.), *Attention and performance VI* (pp. 573-603). Lawrence Erlbaum Associates.
- Sari, J. R. (2025). *The influence of using Wordwall website towards the students' reading comprehension at SMK Ma'arif NU 04 Darurrohman Sukadana* [Master's thesis, IAIN Metro]. IAIN Metro Repository. <https://repository.metrouniv.ac.id/id/eprint/12345>
- Sari, N. (2022). *The effect of gamification in learning on students' reading comprehension* [Master's thesis, UIN Fatmawati Sukarno Bengkulu]. UIN FAS Repository. <http://repository.iainbengkulu.ac.id/id/eprint/9876>
- Septiyana, L., & Aminatun, D. (2023). The implementation of Wordwall in teaching reading narrative text for EFL students. *Journal of English Language Teaching and Linguistics*, 8(2), 210-225. <https://doi.org/10.21462/jeltl.v8i2.1345>
- Sulistyo, T., & Wulan, S. (2024). Gamified reading strategies: Enhancing EFL students' test-taking skills through Wordwall. *Indonesian Journal of English Language Teaching*, 19(1), 67-84. <https://doi.org/10.25170/ijelt.v19i1.4567>

- Wang, Y., & Chen, N. S. (2023). The effects of gamified reading strategy instruction on EFL learners' reading performance. *Educational Technology & Society*, 26(2), 78-93. <https://www.jstor.org/stable/48724321>
- Widodo, H. P., & Sari, R. (2025). Digital gamification and reading comprehension: A quasi-experimental study in Indonesian EFL context. *Asian EFL Journal*, 29(1), 112-135. <https://doi.org/10.54362/asefl.v29i1.1234>
- Zhang, D., & Perez-Paredes, P. (2024). Gamification in second language reading: A systematic review and research agenda. *Language Teaching*, 57(2), 189-215. <https://doi.org/10.1017/S026144482300012X>