

## The Influence of Wordwall as a Digital Learning Media on Grammar Mastery of 8th Grade Students

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**Abstract:** This study aimed to examine the influence of Wordwall, a gamified digital learning media, on the grammar mastery of eighth-grade students at Madrasah Tsanawiyah Negeri (MTsN) 1 Kota Serang, with a focus on comparative adjectives. A quasi-experimental design was employed, involving two groups: an experimental group (class VIII H) that received instruction using Wordwall-based activities, and a control group (class VIII I) taught through conventional methods. Both groups were given pre-tests and post-tests to measure changes in grammar proficiency. Data were analysed using descriptive statistics, normality and homogeneity tests, and an independent samples t-test via SPSS version 27. The results showed an increase in both groups' scores after treatment; however, the statistical analysis revealed no significant difference between the experimental and control groups ( $p = 0.073 > 0.05$ ), indicating that the use of Wordwall did not have a measurable impact on students' grammar mastery. Despite this, qualitative classroom observations suggested that Wordwall fostered greater student engagement and motivation. These findings suggest that while Wordwall may support affective aspects of learning, its effectiveness in improving grammar outcomes is limited without deeper integration and extended instructional time. The study contributes to the discourse on digital learning tools in EFL contexts and offers considerations for educators aiming to balance engagement with instructional effectiveness.



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## INTRODUCTION

Grammar is the backbone of effective language acquisition, functioning as a system that governs how words are combined to create coherent and meaningful expressions. Mastery of grammatical rules is essential for learners to produce and interpret language accurately in written and spoken forms. As Zahrani (2023) posits, grammar competence is pivotal in enabling learners to communicate meaningfully, acting as a foundational element in second language learning. Nevertheless, despite its importance, many students struggle to internalise and apply grammatical structures appropriately, especially those at the secondary level. These difficulties often manifest in their inability to transfer grammatical knowledge to real-life communicative situations, undermining their overall language proficiency.

One of the contributing factors to this persistent challenge is the reliance on conventional, teacher-centred instructional methods that prioritise rule memorisation over contextual application. Such approaches often fail to foster active engagement and overlook students' individual learning preferences, resulting in diminished motivation and suboptimal learning outcomes. In the wake of increasing demands for pedagogical innovation, particularly in English as a Foreign Language (EFL) settings, educators have begun exploring integrating technology to enrich classroom practices and enhance student participation. As digital tools become more accessible, interactive platforms offer promising alternatives to traditional grammar instruction, allowing for more dynamic, student-centred learning experiences. Student-centred learning emphasizes active participation, autonomy, and engagement—elements that are increasingly achievable through technology-enhanced instruction. In this context, Wordwall has garnered attention for its pedagogical versatility and user-friendly interface. It is an online platform that enables educators to design interactive activities such as quizzes, word games, and match-ups, all of which can be aligned with targeted linguistic objectives (Musthafa & Anam, 2023). By allowing learners to interact directly with content in diverse formats and at their own pace, Wordwall supports a student-centred approach, fostering greater motivation, personalized learning, and deeper understanding of grammar concepts.

Unlike static teaching materials, Wordwall facilitates real-time feedback, repetition, and student interaction—features that support language retention and comprehension. Existing studies have highlighted the platform's positive impact on vocabulary acquisition and learner engagement in various educational contexts (Syamsidar et al., 2023; Yudhawati et al., 2024). For instance, students exposed to Wordwall activities demonstrated higher motivation and improved lexical recall compared to those taught through traditional worksheets. However, empirical studies that systematically evaluate the effectiveness of Wordwall in the domain of grammar, particularly in teaching structural components such as comparative adjectives, remain scarce.

This gap in the literature is particularly significant in the Indonesian EFL context, where grammar continues to be a core component of the national curriculum at junior secondary schools. Despite the centrality of grammar in language education, instructional innovations are often unevenly adopted due to limited access to resources and teacher training. Therefore, there is a pressing need for research that empirically assesses whether digital tools like Wordwall can serve as effective supplements or alternatives to conventional grammar instruction. Furthermore, investigating such tools in underrepresented populations, such as Indonesian junior high school students, may yield insights relevant for broader educational reforms.

To address this need, the present study examines the influence of Wordwall-based instruction on students' mastery of comparative adjectives—a fundamental grammatical structure introduced at the junior secondary level. The research focuses on eighth-grade students at MTsN 1 Kota Serang, an Islamic state school in Indonesia. This study employs a quasi-experimental design involving two classes with a pretest-posttest model. The rationale for choosing this design lies in its suitability for preliminary investigations conducted in natural classroom settings, where random assignment is often not feasible.

By using this methodological approach, the study aims to determine whether the integration of Wordwall into grammar instruction can lead to statistically significant improvements in learners' grammar proficiency. The findings are expected to contribute to the growing body of literature on technology-mediated language learning and provide practical implications for EFL educators seeking to enhance grammar instruction through digital innovation.

## **THEORETICAL SUPPORT**

### *Grammar Mastery*

Grammar mastery refers to the ability of learners to understand and apply grammatical rules accurately in spoken and written communication (Sáenz García, 2015). It involves not only the memorisation of rules but also the application of these rules in real-life contexts (Zahrani, 2023). According to Brown (2007), grammar mastery is crucial for effective communication and requires consistent practice with meaningful input and output. This study focused on comparative adjectives, essential elements of English grammar that allow students to describe differences between two or more objects. Mastery of comparative structures includes understanding sentence patterns, applying correct forms (e.g., taller than, the tallest), and using them contextually in speaking and writing activities.

### *Digital Learning Media*

Digital learning media encompasses technological tools that support teaching and learning processes by enhancing interactivity, accessibility, and engagement (Retnawati et al., 2018). In recent years, digital platforms have become increasingly popular in educational settings due to their capacity to provide personalised, interactive, and gamified learning experiences. Several studies support the claim that digital learning tools improve linguistic competence. Özçalışkan et al. (2017) showed that interactive media enhance student's grammar development by reducing anxiety and fostering engagement. Moreover, Brown (2007) emphasised the role of learner-centred technology in promoting sustained grammar practice.

The constructivist approach to learning posits that learners actively construct knowledge through experience and interaction. Digital tools like Wordwall, which offer gamified grammar exercises, align with this pedagogical framework. Wordwall provides immediate feedback, repetition, and engaging formats conducive to acquiring grammatical rules (Annisa et al., 2025). Wordwall is one such platform that enables educators to create customised interactive content such as quizzes, matching pairs, unjumble sentences, and multiple-choice games tailored to specific learning objectives (Musthafa & Anam, 2023). These features allow students to practice grammar in an engaging environment, promoting active participation and reinforcing memory retention.

### *Gamification in Language Learning*

Gamification theory posits that incorporating game-like elements into education increases intrinsic motivation and encourages deeper learning (Thurairasu, 2022). Gamified approaches make abstract rules more tangible and memorable when applied to grammar

instruction. Dehghanzadeh et al. (2021) emphasise that gamification can enhance student performance when integrated thoughtfully within instructional design. Wordwall exemplifies gamification by transforming traditional exercises into competitive and interactive tasks. This aligns with the Communicative Competence theory, which emphasises that grammar must be understood and used effectively in real communication rather than merely memorised as a set of rules (Lee & Baek, 2023).

#### *The Role of Technology in EFL Classrooms*

Integrating technology in English as a Foreign Language (EFL) classrooms has shown promising results in improving motivation and language proficiency (Bilova, 2023; Mukhamadiarova & Nizamutdinova, 2023). Studies indicate that digital tools like Wordwall contribute positively to vocabulary acquisition and grammatical accuracy by providing immediate feedback and opportunities for repeated practice. Ariyanto et al. (2023) found that gamified digital media significantly increased student engagement and improved learning outcomes in mathematics, suggesting similar potential in language learning. However, the effectiveness of such tools depends heavily on teacher guidance, classroom management, and alignment with curriculum goals.

#### *Previous Research*

To better understand the current state of research regarding the application of Wordwall in language education, Table 1 presents a synthesised overview of previous studies. The table outlines key aspects such as authors, year of publication, research focus, methodological approach, educational level, and main findings. This summary highlights the strengths and outcomes of prior investigations and identifies critical gaps, particularly the limited exploration of Wordwall in grammar instruction among junior high school students. The current study seeks to address this gap by using Wordwall to enhance grammar mastery, specifically on comparative adjectives.

**Table 1.** Previous Research on Wordwall in English Language Learning

Author(s) & Year	Research Focus	Methodology	Key Findings	Limitations / Gaps Identified
Dehghanzadeh et al. (2021)	Effectiveness of gamification in English language learning	Systematic literature review	Gamification enhances engagement, motivation, and learning outcomes when properly integrated.	Variation in study designs and lack of longitudinal studies limit generalizability.
Thurairasu (2022)	Theoretical perspectives on gamification in language learning	Conceptual / Literature Review	Gamification can enhance motivation and learner engagement when integrated thoughtfully into instruction.	Lacks empirical data; does not evaluate specific tools or real classroom implementation.
Musthafa & Anam (2023)	Integration of Wordwall in vocabulary learning	Quantitative (quasi-experiment)	Wordwall significantly improved vocabulary mastery in elementary students.	Focused only on vocabulary; no grammar instruction or junior high context.
Syamsyidar et al. (2023)	Student engagement through Wordwall	Descriptive qualitative	Students were more motivated and engaged using interactive media	No assessment of academic performance; only focused on

	activities		like Wordwall.	engagement level.
Zahrani (2023)	Role of grammar in language acquisition	Literature review	Grammar is essential for meaningful communication in language learning.	Theoretical discussion only; no empirical testing of digital tools in grammar learning.
Lee & Baek (2023)	Impact of gamification on English language proficiency (in South Korea)	Meta-analysis	Gamification improves student interest and short-term outcomes, but effects on deep learning are less consistent.	Limited focus on higher-order thinking; lacks qualitative insight into learner experience.
Yudhawati et al. (2024)	Wordwall's effectiveness in vocabulary and student interest	Classroom Action Research	Wordwall increased learning interest and vocabulary retention.	No grammar focus; research was limited to an elementary school setting.
Astuti et al. (2023)	Use of interactive media in grammar instruction	Mixed methods	Interactive tools enhanced grammar learning in general, but not Wordwall-specific.	Wordwall was not examined; there is a need for tool-specific grammar research.
Maharani et al. (2023)	Grammar learning through online platforms	Quantitative (pretest-posttest)	Online media improved grammar test scores among high school students.	Different platforms were used; Wordwall was not implemented or studied.
Rahma & Fithriani (2024)s	ICT-based grammar learning effectiveness	Quasi-experiment	Technology use in grammar teaching is effective across various levels.	It did not specify the platform; it lacked focus on interactivity and student engagement.
Annisa et al. (2025)	Wordwall integration and its impact on student activity	Quantitative (classroom-based)	Wordwall increased student participation, reduced anxiety, and encouraged repetition-based learning.	Did not focus on grammar instruction or higher-order grammar application tasks.

The review above shows that most prior studies focused on vocabulary enhancement or student motivation using Wordwall, while grammar instruction remains underexplored, particularly on specific grammar topics like comparative adjectives at the junior high school level. Furthermore, few studies have employed a pre-experimental design to test measurable learning outcomes in grammar with Wordwall integration. Therefore, this research seeks to fill the gap by empirically investigating how Wordwall affects grammar mastery among eighth-grade students, particularly on comparative adjectives.

## METHOD

### *Research Design*

This study employs a quasi-experimental method using a cluster random sampling technique, in which intact classes are randomly selected as the experimental and control groups to evaluate the effectiveness of Wordwall-based instruction on students' mastery of comparative adjectives. Although the researcher does not assign individual participants randomly, this approach allows for a controlled comparison within a natural classroom setting. (Creswell, 2017). The experimental group is given treatment in the form of grammar learning using Wordwall, while the control group use conventional learning methods without digital media in the form of paper-based worksheets.

### *Population and Sample*

The population consisted of all eighth-grade students at MTsN 1 Kota Serang during the academic year 2024/2025. The participants in this study were 60 eighth-grade students from class VIII-H as experiment class and VIII-I as control class at MTsN 1 Kota Serang, an Islamic junior secondary school located in Banten, Indonesia. All students in this class had similar exposure to basic English grammar concepts but had not previously been taught using Wordwall or similar digital tools. Their average age ranged from 13 to 14 years.

### *Treatment*

1. Experimental Group: Received two sessions of grammar instruction using Wordwall-based activities.
2. Control Group: Received the same number of sessions using conventional methods, such as lectures and worksheets.

### *Instruments*

The researcher developed a set of grammar tests to assess the students' grammar proficiency, particularly in using comparative adjectives. These consisted of a pre-test and a post-test, each comprising 20 question items focusing on comparative forms, sentence construction, and error identification. The items were constructed following Bloom's taxonomy to cover lower-order (recognition and recall) and higher-order (application and analysis) thinking skills. The validity of the test items was ensured through expert judgment from two English education lecturers, while reliability was assessed through a pilot study with a parallel class, yielding a Cronbach's alpha of 0.83, indicating high internal consistency.

### *Procedure*

The study was conducted over three weeks during regular English class hours. The procedure followed three main stages:

1. Pre-test Administration: Before the intervention, students were given a grammar pre-test to assess their initial understanding of comparative adjectives.
2. Instructional Treatment Using Wordwall: Wordwall was integrated into teaching comparative adjectives over six instructional sessions. The researcher designed a series of interactive grammar games on the Wordwall platform, including matching games, quizzes, and sentence sorting activities, aligned with the targeted grammar topic. Students accessed these activities via the school's computer lab and mobile devices, working individually and in pairs. Emphasis was placed on immediate feedback, peer discussion, and repetitive practice.
3. Post-test Administration: After the treatment phase, The same test was used for both pre-test and post-test administrations to ensure consistency in measuring the targeted grammar skills. Although this approach may introduce a test-retest effect, efforts were made to minimize its impact by spacing the tests several weeks apart and embedding the items within broader classroom activities. Moreover, the focus of the instruction was on skill development rather than memorization of specific test items.

During the treatment sessions, the teacher was a facilitator, guiding students in navigating the Wordwall activities and encouraging reflective learning. Observational notes were also taken to capture student engagement and response to the instructional approach.

### *Data Analysis*

Quantitative data from the pre-test and post-test were analysed using descriptive statistics (mean, standard deviation) and inferential statistics, specifically a paired-sample t-test, to determine whether there was a statistically significant improvement in students' grammar performance following the intervention. The significance level was set at  $p < 0.05$ . The analysis used SPSS (Statistical Package for the Social Sciences) Version 25.0. This methodological approach provides a structured framework to explore the potential of technology-enhanced instruction in improving grammar proficiency. While the absence of a control group may constrain generalizability, the results offer practical insights into the pedagogical viability of Wordwall for grammar instruction in junior high school contexts.

## **RESULT AND DISCUSSION**

This section presents the study's findings and discusses their implications concerning previous research on digital learning media and grammar instruction. The results are analysed based on the pre-test and post-test scores, followed by an interpretation of how Wordwall-based instruction influenced students' mastery of comparative adjectives.

In addition to quantitative data, observational notes collected during the intervention provide further insights into student behaviour and engagement. While the experimental group showed a higher mean post-test score, the difference was not statistically significant. However, qualitative observations revealed distinct behavioural patterns that support the affective impact of the Wordwall platform.

The following table summarises key indicators observed in the experimental class during Wordwall-based activities:

**Table 2.** Observation key indicators

Behavioral Indicator	Observation
Participation	More students volunteered to answer and asked questions than in the control group.
Attention and Focus	Approximately 63% of students remained focused during gameplay; distractions decreased over time.
Motivation and Enthusiasm	Students showed visible excitement when starting game sessions, especially during competitive tasks.
Risk-Taking in Language Use	Increased willingness to attempt answers without fear of making mistakes.
Peer Interaction and Support	Informal collaboration occurred, with students helping each other during activities.

During the implementation of Wordwall-based activities, students in the experimental class demonstrated noticeably higher levels of engagement compared to the control group. Teachers observed increased participation, as more students volunteered to

answer questions and actively interacted with the tasks. Behavioral indicators such as sustained attention, enthusiasm during game-based exercises, and peer collaboration were also more frequent. Students appeared more motivated and less hesitant to make grammatical errors, likely due to the low-stress, interactive format of the digital platform.

#### *Pretest and Posttest Results*

To determine the effectiveness of Wordwall in improving grammar mastery, a paired-sample t-test was conducted to compare students' pre-test and post-test scores. Table 2 summarises the descriptive statistics of both tests.

**Table 3.** Descriptive Statistics of Pre-test and Post-test Scores

Test	N	Mean Score	Standard (SD)	Deviation	Min Score	Max Score
Pre-test	30	64.7	7.82		50	78
Post-test	30	83.6	6.94		68	94

As shown in Table 2, students substantially improved their grammar proficiency after being taught using Wordwall. The mean pre-test score was 64.7, whereas the mean post-test score increased to 83.6, with a lower standard deviation, indicating a more consistent performance across students.

#### *Statistical Analysis*

To evaluate whether Wordwall-based instruction produced different learning outcomes from conventional teaching, an independent-samples t-test was run after confirming that the data met the normality and homogeneity assumptions. The test compared the post-test grammar scores of the experimental class ( $n = 30$ ) and the control class ( $n = 30$ ). Key results are summarised in Table 3.

**Table 4.** Independent-Sample T-Test Results

Test	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error	95 % CI Lower	95 % CI Upper
Equal variances assumed	1.829	58	0.073	6.167	3.372	-0.584	12.917

An independent samples t-test was conducted to compare the grammar mastery scores between the experimental group (taught using Wordwall) and the control group (taught using conventional methods). The post-test results showed that the experimental group had a higher mean score ( $M = 73.50$ ) compared to the control group ( $M = 67.33$ ), resulting in a mean difference of 6.17 points. However, the t-test analysis yielded a t-value of 1.829 with 58 degrees of freedom (df) and a p-value of 0.073.

Because the p-value (0.073) is greater than the standard significance level of 0.05, the result is considered not statistically significant. This means that the observed difference in post-test scores between the two groups could have occurred by chance, and there is insufficient statistical evidence to conclude that Wordwall-based instruction had a definitive impact on grammar mastery in this study. Additionally, the 95% confidence interval for the



mean difference (−0.584 to 12.917) includes zero, reinforcing the interpretation that the difference is not statistically meaningful.

Therefore, the null hypothesis—which states that there is no significant difference in grammar mastery between students taught using Wordwall and those taught with conventional methods—cannot be rejected. While the numerical trend favored the experimental group, these results suggest that the intervention alone was not strong enough to produce a statistically significant improvement within the limited timeframe and sample size. Further research with extended duration and larger samples may be necessary to determine whether Wordwall can generate measurable improvements in grammar proficiency.

#### *The Role of Wordwall in Grammar Learning*

The findings Earlier studies have portrayed Wordwall as a consistently effective aid for language instruction (Musthafa & Anam 2023; Yudhawati et al. 2024). In the present quasi experimental study, however, the independent samples t test showed no statistically significant advantage for the Wordwall group over the control group ( $t(58)=1.829, p = 0.073$ ) despite a six point mean difference in favour of Wordwall . This result suggests that the motivational boost typically associated with gamified media did not translate into measurable grammatical gains within the two session intervention window.

Classroom observations help explain this outcome. Although the game format briefly elevated enthusiasm, 68 % of learners still engaged in side conversations, 37 % used phones for non academic purposes, and only 25 % showed sustained competitive interest during gameplay . Such off task behaviour diluted practice intensity and reduced the time available for feedback, limiting the platform’s cognitive impact.

A more structural limitation is that the free Wordwall tier restricts teachers to three drill type templates (matching, multiple choice, unjumble). These activities emphasise surface level form recognition and memorisation, offering too little stimulus for analysis, evaluation, or contextual application of comparative adjectives . Consistent with Lee & Baek’s constructivist view, gamification often lifts affective engagement more readily than higher order learning outcomes when deeper tasks are absent.

In light of gamification theory (Hong et al. 2022; Thurairasu 2022), Wordwall should therefore be treated as a motivational springboard rather than a stand alone grammar solution. Its effectiveness depends on longer interventions, richer game variety, teacher training in task design, and tight classroom management to keep digital play aligned with communicative objectives .

#### *Comparison with Previous Studies and Research Gap*

Although Most Wordwall research has centred on vocabulary gains and learner engagement (e.g., Musthafa & Anam 2023; Syamsidar et al. 2023), leaving its impact on grammar largely unexplored. Broader ICT based grammar studies by Maharani & Safitri (2023) and Rahmah et al. (2024) adopted generic digital tools or descriptive designs, so they could not isolate Wordwall’s specific contribution. By employing a quasi experimental cluster random design with an independent samples t test, the present study directly addresses that gap in the Indonesian junior high context.

Unlike earlier classroom action studies that reported significant grammar or vocabulary improvements with Wordwall (Yudhawati et al. 2024), our data showed no statistically significant difference between the experimental and control groups. Even so, the six point mean advantage refers to the difference in the average (mean) post-test scores between the experimental group (who used Wordwall) and the control group (who did not). suggest a practical, though inconclusive, benefit when the platform is used over only two sessions. Possible causes for this discrepancy include (a) the brief intervention window, (b) limited game templates in the free Wordwall tier, and (c) off task phone use and classroom management issues observed during treatment.

These mixed results reinforce conclusions from gamification theory (Thurairasu 2022; Lee & Baek 2023) that game elements can raise initial motivation but do not automatically yield durable cognitive gains. Wordwall therefore functions best as a supporting tool that must be paired with longer, discourse level tasks and explicit teacher guidance to reach higher order grammatical objectives. Future studies should extend the intervention period, diversify digital activities beyond recognition level drills, and involve larger samples to verify whether Wordwall can produce statistically robust improvements in EFL grammar learning.

#### *Practical Implications*

1. Wordwall is a valuable supplementary tool for teachers that can enrich classroom activities and motivate students.
2. For students, interactive practice improves recall and fosters a positive attitude toward grammar learning.
3. For researchers, this study highlights the need for further investigation into the long-term effects of gamified learning media and optimal integration strategies.

#### *Pedagogical Implications*

Based on the findings, several pedagogical implications can be drawn:

1. This study reaffirms that Wordwall can serve as a useful supplementary tool in EFL classrooms, particularly for increasing short-term engagement and offering alternative modes of grammar practice. Although the quantitative results did not yield statistically significant gains, observational data revealed that the interactive and gamified features of Wordwall helped initiate learner participation, especially among students who were typically less responsive during conventional lessons.
2. For students, Wordwall provided repetitive, visually engaging practice that supported surface-level grammar recognition. However, this study also uncovered limitations: the media's format encouraged mechanical recall rather than deeper conceptual understanding, as many students still struggled to apply grammar rules in contextual tasks. This supports Lee & Baek's (2023) assertion that gamification affects affective domains (like interest) more than cognitive mastery, particularly if not reinforced with guided instruction and reflection.
3. For researchers and instructional designers, the findings signal a need to explore how gamified tools like Wordwall can be more effectively integrated into comprehensive lesson plans. Future studies should investigate the impact of longer intervention periods, the use of paid or diversified templates, and the role of teacher training in maximising the platform's pedagogical value. As emphasized by Thurairasu (2022) and

Retnawati et al. (2018), gamification alone is insufficient unless paired with a holistic learning strategy that aligns digital interactivity with curriculum goals and student needs.

#### *Limitations and Future Research*

Despite the promising results, this study has certain limitations:

1. Short Duration of Intervention – This study implemented Wordwall-based instruction over only two sessions, which may have been insufficient to produce measurable improvements in grammar mastery.
2. Limited Generalizability – The research was conducted in a single Islamic junior high school with 60 students, which limits the generalizability of the findings. Variations in school environment, teacher readiness, and student digital literacy could influence outcomes. Therefore, future studies should involve a larger and more diverse sample, including schools from different regions and educational contexts.
3. Surface-Level Grammar Tasks – Wordwall primarily facilitated mechanical grammar exercises (e.g., multiple-choice, matching), which limited students' opportunities to apply grammar in meaningful, communicative tasks. This reflects the findings of Syahnaz & Fithriani (2023), who argue that grammar instruction should be embedded in contextual use. Future research should integrate Wordwall with higher-order activities, such as writing tasks or group discussions, to evaluate its effect on applied grammar skills.
4. Classroom Management Challenges – Observations during the intervention revealed frequent distractions, including off-task phone use and low discipline in time management. These factors may have undermined the effectiveness of the digital media. As suggested by Zhang et al. (2017), gamified tools require strong classroom management and clearly structured guidelines to prevent misuse. Further studies should examine how teacher training and media supervision strategies affect outcomes.
5. Need for Feature Expansion – The use of the free version of Wordwall constrained the variety of activities available to the teacher, limiting instructional creativity and student engagement. Future research should explore the impact of using premium features, which may offer greater interactivity and task variation aligned with grammar learning goals (Musthafa & Anam, 2023).

#### *Summary of Findings*

1. Students who learned grammar using Wordwall showed improved grammar scores, but the gain was not statistically significant ( $p = 0.073$ ).
2. Wordwall increased student engagement and motivation, though it did not fully enhance conceptual grammar understanding.
3. This study highlights the limitations of Wordwall in developing higher-order grammar skills through mechanical exercises alone.
4. Wordwall can support EFL grammar learning, but also requiring integration with contextual activities and teacher guidance for optimal impact.

## CONCLUSION

This study examined the impact of Wordwall based instruction on eighth grade students' mastery of comparative adjectives through a quasi experimental cluster design involving an experimental and a control class at MTsN 1 Kota Serang. Although the experimental group's mean post test score exceeded the control group's by roughly six points, the independent samples t test was not statistically significant ( $p = 0.073$ ), indicating that the observed gain may have occurred by chance.

Despite the lack of statistical significance, classroom observations confirmed that Wordwall's gamified features heightened engagement and motivation, echoing findings that digital tools primarily enhance affective factors (Syamsidar et al., 2023). However, the platform's free templates promoted mainly mechanical drills, offering limited opportunities for higher order grammar practice—an outcome consistent with Lee & Baek (2023), who caution that gamification alone rarely secures deep conceptual learning.

This research therefore extends the Wordwall literature by highlighting its practical but limited contribution to explicit grammar instruction in Indonesian junior high contexts, contrasting with earlier studies that reported significant gains in vocabulary or reading skills (Musthafa & Anam 2023; Yudhawati et al. 2024). While Wordwall can enrich lessons and spark initial interest, effective grammar mastery still requires longer interventions, varied task types, and strong teacher guidance.

Future studies should employ longer treatment periods and larger, more diverse samples—ideally through quasi experimental or randomised controlled trials—to determine whether extended use of Wordwall, coupled with contextual tasks, yields statistically robust improvements in grammar proficiency across different EFL settings..

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