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The Effectiveness Of Using Wordwall To Improve Students Vocabulary: An Experimental Study At Seventh Grade Students Of Smp IT Abata Lombok Academic Year 2025/2026

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Abstract

This study aims to determine the effectiveness of using Wordwall in improving English vocabulary, especially adjectives, among seventh-grade students at SMP IT Abata Lombok in the 2025/2026 academic year. The research method used is quantitative with a pre-experimental one-group pre-test and post-test design. The sample was 27 seventh-grade students selected through purposive sampling. The research instrument was a pre-test and post-test vocabulary test consisting of 20 questions. Data were analyzed using SPSS through normality test, homogeneity test, and hypothesis test. The normality test showed that the data were normally distributed, the homogeneity test showed that the variances were homogeneous, and the paired sample t-test obtained a significance value (Sig. 2-tailed) of 0.000 < 0.05. Thus, the null hypothesis (H_0) was rejected while the alternative hypothesis (H_a) was accepted. The results showed that students' vocabulary skills improved significantly after using Wordwall, with an average pre-test score of 45.93, increasing to 87.96 in the post-test. This study recommends that English teachers utilize Wordwall as an innovative learning medium such as wordwall games with quizzes, match-ups, and anagrams to improve students' motivation, engagement, and learning outcomes.

Keywords: Wordwall, Vocabulary, Adjectives, English Learning, Pre-Experimental Design.

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INTRODUCTION

Language is a system of sounds and symbols used by humans to communicate thoughts and feelings (Hornby, 1995). Learning a foreign language is a complex process because it involves not only mastering linguistic components but also understanding the culture associated with the language (Kramsch, 1998). In Indonesia, English has been taught as a foreign language for decades; however, the level of English proficiency remains relatively low. According to the 2023 EF English Proficiency Index, Indonesia is categorized as having "Low Proficiency" with a score of 487, ranking 80th out of 112 countries (Education First, 2023). This indicates that English proficiency among Indonesian students is still below the global standard, even though English is a fundamental skill required in the globalization era (Crystal, 2012).

In learning English as a foreign language, there are four main skills: listening, speaking, reading, and writing. These skills are interrelated and supported by vocabulary mastery (Nation, 2001). Vocabulary is an essential component because it enables learners to express meaning and understand others in communication (Alqahtani, 2015). Schmitt (2020) also asserts that vocabulary knowledge plays a crucial role in developing communicative competence. Without sufficient vocabulary, learners will struggle to convey their ideas effectively.

Technology-based learning, particularly through websites and digital media, allows students to access materials anytime, encourages self-paced learning, and promotes collaboration through interactive platforms (Sakshi, 2017). The integration of multimedia elements such as visuals, animations, and interactive quizzes enhances student engagement and accommodates diverse learning styles (Mayer, 2016). One of the approaches that utilize technology in language learning is *Game-Based Learning (GBL)* , which integrates educational content into game-like activities to increase motivation and facilitate learning through experience (Prensky, 2001; Gee, 2003). According to Vygotsky's *Zone of Proximal Development (ZPD)* theory, learners can achieve higher learning outcomes when supported by appropriate scaffolding and interactive tools (Vygotsky, 1978). In this context, digital educational games such as *Wordwall* can serve as scaffolding media that assist students in developing vocabulary within their proximal learning zone.

Wordwall is an online platform that provides customizable educational games designed to make learning more engaging and interactive (Lestari, 2021). The platform allows teachers to create activities such as quizzes, match-ups, and anagrams that promote repetition and reinforcement key strategies in vocabulary retention (Melani, 2025). According to Nga (2003), learning through games reduces students' anxiety and increases their motivation to learn new words. Similarly, Insani et al. (2023) found that game-based learning media effectively enhanced vocabulary mastery among junior high school students. Moreover, Aisyah et al. (2025) noted that using digital games like *Wordwall* aligns with the learning habits of today's students, who are already familiar with technology and prefer interactive environments.

However, despite the growing popularity of *Wordwall* as a digital learning tool, there remains a limited number of empirical studies investigating its effectiveness in improving specific aspects of vocabulary—particularly adjectives—within the Indonesian EFL context . Previous research has mainly focused on general vocabulary or grammar learning using *Wordwall* , leaving a research gap in exploring how this platform supports the mastery of adjectives among secondary school students. This study aims to fill this gap by examining the effectiveness of *Wordwall* in improving students' vocabulary, especially in learning adjectives, at SMP IT Abata Lombok.

Preliminary observations at SMP IT Abata Lombok revealed that Grade VII students showed enthusiasm in learning English but faced several challenges. Many students can read English texts but struggle to comprehend their meanings due to limited vocabulary. Their lack of confidence and fear of making mistakes prevents them from using new words in communication. Based on test results, approximately 80% of students scored below the minimum standard (KKM = 80), with an average score of only 50. Interviews further indicated that students were unmotivated and less confident in using English because of limited vocabulary exposure and monotonous

learning methods. The English learning process in the school predominantly uses the Grammar Translation Method (GTM), which emphasizes grammatical accuracy rather than vocabulary enrichment (Richards & Rodgers, 2014). In addition, English is taught only two hours per week, while religious subjects receive more instructional time, limiting students' exposure to English vocabulary.

Considering these conditions, this study proposes the use of *Wordwall* as an alternative medium to make English learning more engaging and effective. Through its interactive features, *Wordwall* is expected to increase students' motivation, confidence, and vocabulary retention.

While numerous studies have examined digital tools for vocabulary learning, few have focused specifically on the use of *Wordwall* for adjective mastery in the Indonesian EFL context. Therefore, this study addresses the gap by investigating whether *Wordwall* can effectively improve students' vocabulary—particularly adjectives—at the junior high school level. Theoretically, this study contributes to the development of language learning theories by integrating *Game-Based Learning* and *Vygotsky's ZPD* framework within the context of vocabulary acquisition. Practically, the study offers English teachers an effective, technology-based learning alternative that can enhance students' vocabulary mastery and motivation in the classroom. It also provides insights for curriculum designers to incorporate interactive digital tools into English instruction to support the needs of 21st-century learners.

METHODS

This study used a quantitative method with a single-group, pretest-posttest, pre-experimental design. This design was chosen to measure the effectiveness of the Wordwall media in improving students' vocabulary mastery. According to Creswell (2016), a single-group, pretest-posttest design is suitable for classroom research where random assignment is not possible, and the entire group is used as the research sample.

This design allows researchers to observe changes that occur after a specific treatment by comparing students' scores before (pretest) and after (posttest) the intervention. The main advantage of this design is its simplicity and feasibility in a real-life classroom setting. However, one limitation is the lack of a control group, which makes it difficult to eliminate external factors that might influence the results (e.g., students' prior learning or outside exposure). To minimize this limitation, the researchers:

1. Conducted the study over a short, controlled period (three sessions over two weeks) to minimize external influences.
2. Ensured that no other vocabulary-related materials were taught outside of the Wordwall sessions during the study period.
3. Using the same pre- and post-test instruments to maintain consistency in measuring student progress. This approach helps maintain internal validity despite the inherent limitations of its design.

Research Instrument

The primary instrument used in this study was a vocabulary test consisting of 20 multiple-choice items. Each item assessed students' understanding of adjectives, including their meaning, form, and use in context. Each correct answer was scored 5 points, and each incorrect answer was scored 0 points, resulting in a maximum total score of 100.

Before the test was used in the actual study, it was validated by two English teachers and an English language education lecturer to ensure content validity, ensuring that the items aligned with the curriculum and the students' proficiency levels.

To ensure reliability, a pilot test was conducted on 10 students outside the study group. The test results were analyzed using Cronbach's Alpha in SPSS, and the resulting reliability coefficient was 0.82, indicating a high level of internal consistency (based on Nunnally's (1978) standards).

Treatment Procedure

The treatment was conducted over three 40 minute sessions over a two-week period. The learning process followed a Game-Based Learning (GBL) approach using Wordwall, an interactive online platform designed to enhance vocabulary mastery through digital games.

1. Pre-test (Session 1, 10 minutes)
   Students completed a vocabulary test to assess their initial understanding of adjectives.
2. Treatment 1 – Quiz Game (Session 1, 30 minutes)
   Objective: Introduce 10 new adjectives (e.g., tall, clean, happy, beautiful, friendly). o Activity: Students participated in a Wordwall "Quiz" game projected on an LCD, taking turns answering multiple-choice and true/false questions.
   Duration: 30 minutes.
   Focus: Recognition and pronunciation of new words.
3. Treatment 2 – Matching Game (Session 2, 40 minutes)
   Objective: Reinforce the meaning and contextual use of adjectives
   Activity: Students work in small groups using the Wordwall "Match" feature, matching words to pictures or definitions.
   Duration: 40 minutes.
   Focus: Understanding word meaning and contextual usage through peer collaboration.
4. Treatment 3 – Anagram Game (Session 3, 40 minutes)
   Goal: Improve spelling accuracy and recall.
   Activity: Students play the Wordwall "Anagram" game individually, rearranging the scrambled letters to form the correct adjectives.
   Duration: 40 minutes.
   Focus: Spelling, recall, and accuracy.
5. Post-test (After Session 3, 10 minutes)
   Students complete the same vocabulary test as the pre-test to measure progress after the treatment.

Learning Context

This study was conducted in a seventh-grade class at SMP IT Abata Lombok. The class consisted of 27 students with varying levels of English proficiency. The English teacher collaborated with the researcher during the treatment. The researcher acted as the primary instructor, while the teacher observed and assisted in managing classroom interactions.

During the Wordwall sessions, students were highly motivated and enthusiastic, demonstrating increased participation compared to regular learning. The game-based format helps reduce anxiety, and students often express joy when completing activities. According to classroom observation notes, students were highly engaged during the competition phase, often cheering when their group answered correctly.

Data analysis

Normality

The normality test was used to determine whether the data distribution followed a normal pattern, which is a very important assumption for parametric statistical tests. In this study, the Shapiro-Wilk test was used because it is considered more effective for small sample sizes (Shapiro & Wilk, 1965). Data analysis was conducted using SPSS. Therefore, if the Sig. is greater than 0.05, the data are normally distributed, whereas if the Sig. is less than 0.05, the data are not normally distributed.

Homogeneity

According to Field (2013), homogeneity of variance is an important assumption to ensure that differences in results are caused by the treatment and not by variations in data distribution. In this study, homogeneity was measured using Levene's test in SPSS. If the significance value is greater than 0.05, then the variances between the data are equal, thus meeting the assumption of homogeneity. However, if the significance value is less than 0.05, the variances between the data are significantly different.

T-test

The t-test compares the mean scores of two samples to identify significant differences. According to Sugiyono (2013), a "t-test" is a method used in quantitative studies to determine the differences between two samples. This test helps assess experimental results to determine the effects of treatments or other interventions. In this study, a post-test analysis was conducted to examine the use of WordWall media using SPSS. This aims to determine the research hypotheses.

FINDINGS AND DISCUSSION

This research is a pre-experimental study with a pre-test and post-test experimental design conducted at SMP IT Abata Lombok. The population in this study was seventh-grade students. The sample selection of 27 seventh-grade students was carried out using a purposive sampling approach, a sampling technique carried out with specific considerations. The subjects were seventh-grade students at SMP IT Abata Lombok. This study used a quantitative method, with the results reported numerically.

Testing the analysis requirements.

Normality Test

The following are the results of the data normality test using the Shapiro-Wilk method in the SPSS for Windows program.

Table 1 Normality Test

Tests of Normality							
		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Group	Statistic	df	Sig.	Statistic	df	Sig.
Finding	Pretest	.134	27	.200	.927	27	.057
	Posttest	.208	27	.004	.934	27	.087

A normality test was conducted to determine whether the research data was normally distributed or not. The normality test in this study used the Shapiro-Wilk test because the sample size was less than 100, with a significance level of 0.05. Based on the calculation results, the significance value for the pre-test data was 0.057 and for the post-test data was 0.087. Because both significance values were greater than 0.05 (0.057 > 0.05 and 0.087 > 0.05), it can be concluded that both the pre-test and post-test data were normally distributed. Thus, the normality assumption was met, making the data suitable for further analysis using parametric statistical tests.

Homogeneity Test

The homogeneity test aims to determine whether the variance of the research data comes from a homogeneous population. The homogeneity test in this study uses the levene test with a significance level of 0.05. The test results show that the significance value based on the Mean is 0.058, the value based on the Median is 0.051, the value based on the Median and with adjusted df is 0.051, and the value based on the Trimmed Mean is 0.056. From these results, the basis for decision making is determined based on the significance value based on the Mean, which is 0.058. Because this value is greater than 0.05 (0.058 > 0.05), it can be concluded that the research data has a homogeneous variance. Vocabulary mastery of class VII students of SMP It Abata Lombok in the 2025/2026 academic year, especially in adjective learning

Table 2. Homogeneity test

Test of Homogeneity of Variance					
		Levene Statistic	df1	df2	Sig.
Finding	Based on Mean	3.758	1	52	.058
	Based on Median	3.986	1	52	.051
	Based on Median and with adjusted df	3.986	1	49.414	.051
	Based on trimmed mean	3.817	1	52	.056

Hypothesis Testing

The following are the results of the t-test using the Paired Sample Test using the SPSS 25 for Windows program.

Table 3 Hypothesis test using the Paired Sample statistics

Mean			N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	45.93	27	10.381	1.998
	Posttest	87.96	27	6.970	1.341

The paired sample analysis results for the experimental group provide clear evidence of improvement after using Wordwall. Descriptive statistics show that the mean score increased from 45.93 in the pre-test to 87.96 in the post-test, based on the participation of all 27 students. The standard deviation also decreased from 10.381 to 6.970, indicating that students' scores became more consistent after the treatment. Similarly, the standard error of the mean decreased from 1.998 to 1.341, indicating that the post-test mean was estimated with greater precision.

Table 4 Paired Differences

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pretest Posttest	42.037	6.830	1.314	-44.739	-39.335	-31.980	26	.000

The statistical results of this study provide clear evidence of improved student vocabulary mastery after being taught using Wordwall. A paired-sample t-test showed a significant difference ($p = 0.000 < 0.05$) between the pre-test and post-test, with the mean score increasing from 45.93 to 87.96. These results demonstrate not only statistical significance but also practical significance in the classroom context. The significant increase in mean scores indicates that students' vocabulary mastery, particularly of adjectives, improved substantially after the interactive learning session with Wordwall. The decrease in the standard deviation from 10.381 to 6.970 further demonstrates that student performance has become more consistent, indicating that the learning process benefits not only high-achieving students but also low-achieving ones.

The t-test value of -31.980 reflects a very strong difference between students' vocabulary knowledge before and after the treatment. Practically, this means that the use of Wordwall activities—such as quizzes, matching, and anagrams—has a significant impact on students' comprehension and retention of adjectives. These results suggest that integrating digital gamification tools into vocabulary learning can effectively bridge the gap between theoretical understanding and active language use. Students became more responsive and confident in identifying and using adjectives correctly in sentences, indicating that Wordwall promotes accuracy and engagement in vocabulary learning.

These findings align with several key theories presented in the introduction. First, the results align with Nation's (2001) theory, which emphasizes that vocabulary learning is most effective through repetition and contextual exposure. Through Wordwall, students encounter adjectives multiple times in different contexts and formats, thus strengthening memory retention.

Second, this study supports Schmitt (2020) and Thornbury (2002), who argue that vocabulary is a key component of language proficiency and should be taught explicitly through meaningful interactions. Wordwall's interactive design enables this by enabling students to connect adjective form, meaning, and usage.

Third, the results of this study strongly reflect Prensky's (2001) concept of digital game-based learning, which states that integrating games into education increases cognitive engagement and motivation. Students in this study were observed to be more enthusiastic and attentive during the Wordwall learning experience compared to conventional learning. The game created a sense of fun, competition, and achievement—elements that are important in maintaining motivation and encouraging deeper learning.

Despite the positive results, this study acknowledges several limitations. First, as a pre-experimental design, the study lacked a control group, which limits the ability to compare the results with other teaching methods. Second, the sample size was relatively small (27 students), which may limit the generalizability of the findings to other contexts or grade levels. Third, this study used online Wordwall activities, which require stable internet access. Some students occasionally experienced internet connection difficulties or data limitations, which may have impacted participation and performance. Future research should consider using a quasi-experimental design with a larger sample size and comparison group to provide stronger evidence of the Wordwall's effectiveness.

Based on classroom observations, the use of Wordwall significantly impacted student motivation, confidence, and participation. During Wordwall-based sessions, students appeared more engaged, competitive, and eager to answer questions. They were no longer passive recipients of knowledge, but rather active participants in the learning process. The game-like nature of Wordwall reduces anxiety and increases students' confidence in using English adjectives, as they can immediately see the results of their answers and learn from their mistakes through instant feedback. This finding supports Hidayati (2021) and Lestari (2021), who found that digital games increase student motivation and engagement in learning English.

Furthermore, the collaborative atmosphere encourages interaction between students, where students help each other and discuss correct answers. This aligns with Buckby's (2006) theory that games encourage communication and create a more natural learning environment. Overall, the learning process becomes more interactive, enjoyable, and effective, which results in improved student vocabulary mastery.In the hypothesis testing stage, using a paired sample t-test, a significance value (2-tailed) of $0.000 < 0.05$ was obtained. This indicates a significant difference between students' pre-test and post-test results after being treated with the wordwall. Therefore, the Ho (Ho) stating that the use of the wordwall has no effect on improving students' vocabulary mastery is rejected, and the (Ha) stating that the use of the wordwall has an effect on improving students' vocabulary mastery is accepted.These results prove

that the Wordwall media has a positive and significant effect on increasing vocabulary mastery of class VII students of SMP It Abata Lombok in the 2025/2026 academic year, especially in adjective learning.

CONCLUSION

Based on the results of the data analysis there is strong evidence to conclude that the use of Wordwall as a learning media significantly improved students' vocabulary, particularly in learning adjectives. The comparison between the pre-test mean score (45.93) and the post-test mean score (87.96) shows an increase of 42 points, indicating the positive impact of the intervention.

Furthermore, the hypothesis testing using the Paired Sample T-Test showed a significance value (Sig. 2-tailed) of 0.000 < 0.05, which means that H_0 was rejected while H_a was accepted. This proves that Wordwall media had a significant effect on students' vocabulary for seventh-grade students of SMP It Abata Lombok in the 2025/2026 academic year.

SUGGESTION

Drawing on the findings and conclusions of this study, several recommendations are proposed to improve students' descriptive paragraph writing, reduce recurring errors, and inform future research. These recommendations are intended for three primary groups: students, teachers, and future researchers.

Teachers are encouraged to use Wordwall media in vocabulary teaching, particularly in adjective learning, as it can increase students' motivation, engagement, and learning outcomes compared to conventional methods. And teachers should monitor students' activities during learning to identify difficulties they encounter and provide opportunities for students to ask questions, share ideas, and practice vocabulary in interactive ways.

Students are recommended to actively use Wordwall activities such as quizzes, matching games, and anagrams to practice new vocabulary so that it becomes easier to remember and apply in communication. Students should also build self-motivation to continuously improve their English skills, not only in the classroom but also outside the school environment, by practicing vocabulary regularly.

This study has demonstrated that Wordwalls have an effect on improving vocabulary mastery, particularly adjectives. Therefore, future researchers are encouraged to further explore Wordwalls with different vocabulary types, larger sample sizes, or different educational contexts to enrich the findings and the application of this medium in language learning.

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