

# The Effect of Wordwall on Elementary Students' Vocabulary Mastery

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## Abstract

Although many media have been used to acquire English vocabulary in classroom learning, many students still need to develop their English vocabulary. Therefore, the study was conducted with the aim of finding out whether it has an influence in improving the mastery of English vocabulary by utilizing Wordwall. This research employed quantitative methods with a pre-experimental design and involved 20 grade 5 students from a public elementary school in Central Java, Indonesia as participants. Pre test and post test scores were used to measure students' English vocabulary acquisition. The data were analysed using SPSS 25 with the Wilcoxon signed rank test. The results showed that the average pre test score was 14.5, while the average post-test score increased substantially to 84.25 after the use of Wordwall. The Wilcoxon signed rank test produced an Asymp. Sig value of 0.0 ( $p < 0.05$ ), on the pre and post test scores there were many statistical changes. This means that the use of Wordwall had a significant positive effect on students' English vocabulary mastery. Based on these findings, it was concluded that Wordwall could be used as an effective alternative learning media in the classroom.

**Keywords:** Effect; Elementary School Student; Vocabulary Mastery; Wordwall

## INTRODUCTION

Vocabulary is a part of language that contribute directly to the mastery of the four language skills. In English language learning and teaching, vocabulary plays a very important role. Students should learn English as a world language because it helps them communicate with people from different countries using different expressions at various levels (Aziza, 2020). If students do not have adequate vocabulary, they will have difficulty understanding the meaning of what they hear and read, as well as expressing it (Kahar & Baa, 2021). Vocabulary mastery is very important in learning, but there are still many students who have not mastered it, especially at the elementary school level. Many need more English vocabulary mastery, which is a severe problem. Vocabulary-related problems that are often encountered include that sometimes students cannot follow the lesson, or they do not pay attention to the lesson, or they are bored (Nugroho, 2017).

Related to English language learning in Indonesia, it turns out that there are still many students who need more mastery of English, as seen from their English speaking ability. This may be due to the teacher's monotonous learning system or lack of variety in practice, so that students are easily bored and sleepy in class. Apart from the monotonous system, motivation in learning is needed to encourage students' enthusiasm in learning English vocabulary (Metri, 2022). According to Kainta and Rombot (2020), motivation has an important function in improving students' vocabulary achievement. Motivation is a drive in the form of attitudes and values that make someone want to do something and make every effort to achieve a goal (Filgona et al., 2020). Several studies have been conducted to overcome problems related to vocabulary mastery in elementary school students, who still lack research on effective strategies to help students enrich their vocabulary using specific methods (Permana, 2020). The use of word

mapping in improving vocabulary (Ridwan, 2025). Card game media to enrich children's English vocabulary (Setyawan et al., 2020). Although the study results show that it is effective in enriching vocabulary, the aspects that make students avoid feeling bored, bored, and sleepy still need to be fulfilled. Therefore, based on the gaps, the researcher decided to use the Wordwall media strategy with the theme of clothing to find out the potential of elementary school students to master English vocabulary through web-based game media or Wordwall.

Vocabulary is one of the areas of language knowledge that is very important for students' language comprehension. Students need a basic understanding of vocabulary, such as understanding it, before they learn more complex vocabulary, such as creating terms, sentences, and clauses. A wider vocabulary in students is a major factor in the growth of their language skills. Vocabulary holds the greatest significance aspect of meaning in learning English as a foreign language, and another definition explains vocabulary as the entirety of words understood or used by individuals, along with their meanings, which act as the main tool in conveying language and understanding information when communicating (Manda et al., 2022). That is, without vocabulary, people cannot express their ideas effectively. This explains the importance of vocabulary in language learning, which will help students in mastering language skills, especially young learners in primary school.

Teaching English vocabulary classes for lower levels has a different approach compared to teaching at higher levels. Young learners prefer vocabulary learning related to fun and interactive activities such as games, singing, and imitating. At their age, the more fun the learner has, the better they remember the language they are learning. At primary school age, children aged between 7 and 11 years old, which is at the concrete operation stage, classifying and remembering things, will develop (Aminah et al., 2022). In teaching vocabulary, Santosa (2021) chooses the correct vocabulary to teach that matches students' abilities and interests. English vocabulary teaching in elementary schools should ideally use methods that match the characteristics of children, namely learning through what is seen, heard, and done. Meanwhile, vocabulary teaching for adults is very complex. They can learn more vocabulary but less freely because they are more careful in their language. Based on the above methods, the way to teach vocabulary is through what they see, hear, and do.

Children learn vocabulary that relates to the concepts they are learning. Children value nouns more because they are easier to explain. Vocabulary suitable for elementary school children is usually about what they wear, fruits, colors, limbs, animals, and professions. Nouns in the surrounding environment that they often see can be exemplified by holding objects or can be seen. In addition, vocabulary in daily life is very suitable for vocabulary acquisition because it will facilitate communication in English. Then, introducing vocabulary with visuals or pictures can enhance the learning of new vocabulary (Kumala et al., 2023). According to Kristiani (2024), using images that have many colors is one of the effective learning methods that can enrich students' understanding, such as pictures or posters that have many colors. This is because the characteristics of young learners or elementary school students are learning with fun using interactive activities. Therefore, vocabulary is one of the important things in language. Based on the above points, vocabulary that can be seen or exemplified by holding attractive visual images is the basis for material development in this study, and the characteristics of fun and interactive vocabulary teaching are used as a guide in this study.

Wordwall is an online web games media in learning that displays many words that are arranged according to the terms needed to make a sentence (Arsini et al., 2022). The words displayed on the wall systematically are not just a display but also a tool that can be used. The words can be classified or categorised on the Wordwall. Wordwall has many exciting activities that can be done on the web. Wordwall has many uses in supporting specific vocabulary learning objectives. According to Mujahidin (2021), it can be used efficiently by using a browser, worksheets can be shared and accessed by many people, and what is no less attractive is the

many features that can be utilised. In addition, it can provide diverse and meaningful vocabulary teaching with student engagement and skills with high creativity. It is also stated by Izlin & Widiyati (2023) that multimedia Has a great contribution to the development of English language skills.

Wordwall has various features that can be used to encourage students to master vocabulary. These features include matching, quizzes, talking cards, spin the wheel, sort groups, match pairs, open boxes, find pairs, flashcards, complete sentences, and shuffle. It also has many free templates or free activities that allow users to use other features, and not just one feature (Fitria, 2023). However, some Wordwall features have paid access. One example of a feature in Wordwall is "match up", by pairing a word with its definition, the teacher creates several words in Wordwall and then asks students to find the same or opposite word. Students come forward to rearrange the words on the Wordwall. This media can help teachers create a rewarding and meaningful classroom environment. If students can match the words that the teacher plays, they will be excited and develop creative ideas to convey the material.

The way to use the features in Wordwall is by logging in using email and on the first page there is "create activity". There are several Wordwall features provided on the page. One of them is the match up feature, which is pairing a word with a picture, the teacher creates several words and includes pictures in Wordwall and then asks students to find the same word as the picture. This media can help teachers create a useful and meaningful classroom environment. Because according to Nurammida et al (2024), Wordwall can make it easier to help students develop vocabulary in a fun and interactive way. Vocabulary can be added gradually so that their vocabulary increases by using the features on the Wordwall. Therefore, based on the above points, it will be a guide or guideline to use Wordwall in learning in elementary schools in this study and use two features, namely match up and anagram. In a way, students will match the picture with the appropriate vocabulary or features that match what is in the picture, looking for vocabulary in a set of letters that have been scrambled.

## **METHOD**

### **Design**

This study used quantitative methods with a pre-experiment design. Quantitative method is an approach that measures objectively through the relationship of the variables involved, so that the data produced can be in the form of numbers and analyzed using statistical techniques (Creswell, 2014). While pre-experimental research is systematic research that tests the hypothesis of a causal relationship (Iswara et al., 2018). The pre-experimental method in this study is used because it focuses on direct effects on a single group (grade 5) that has been given treatment, does not have a comparison group, and only compares the results before and after treatment. The study followed a design that included a pre test and post test assessment on one group. In the initial phase of learning, students take a test (pre test) with the aim of knowing their knowledge before the special method is carried out. After that, students are given specific methods through learning by using. After the students get a special method, they take a test or post test. The treatment results are known by the difference in pre test and post test scores.

### **Participants**

This study was conducted in a public elementary school in Central Java, Indonesia. 20 grade 5 elementary school students were taken as research participants. The participants involved were characterized as aged between 10-11 years old with 12 female students and 8 male students.

### **Data Collection Instrument**

This research, the instrument used was a test. At the beginning of learning, a pre test was administered to 5<sup>th</sup> grade students before the treatment. The pre test was conducted to determine students' intelligence because the pre-test provides a measure of students' vocabulary

knowledge before being given treatment. The pre-test contains 20 questions, namely with 5 matching questions, composing letters, short form, and fill-in-the-blanks related to English vocabulary. Then, after students got treatment, namely the media using Wordwall. Students take a post test to find out whether the treatment can determine students' understanding of English vocabulary. The questions in the two tests are the same clothing theme but different types of questions in each word, there were 20 questions with a time of 25 minutes. To measure the extent to which the content of the instrument covers all aspects. The validity test was conducted by lecturers and English teachers in one of the elementary schools. This validity is done to ensure the guaranteed relevance of the instrument, which means ensuring that the questions are based on the research objectives and material coverage.

### **Process of Data Collection**

This research was conducted in December 2024 with selected participants, namely grade 5 students in one of the elementary schools in Central Java, Indonesia. As mentioned, this study used pre and post test data collection techniques. The researchers administered a pre test to determine the students' vocabulary understanding. The pre test consisted of 20 questions related to English vocabulary and was given to the students before they received any treatment. After the pre test, the students received treatment with learning using Wordwall media. The treatment was conducted by loading 12 clothing words. After the treatment, a post test was conducted using the same set of questions as the pre test matching, typesetting, short answers and fill the blank but in the post-test the words were more randomized than the pre-test. The test scores were then analyzed using certain criteria to determine whether there was an increase in students' vocabulary mastery.

### **Data Analysis**

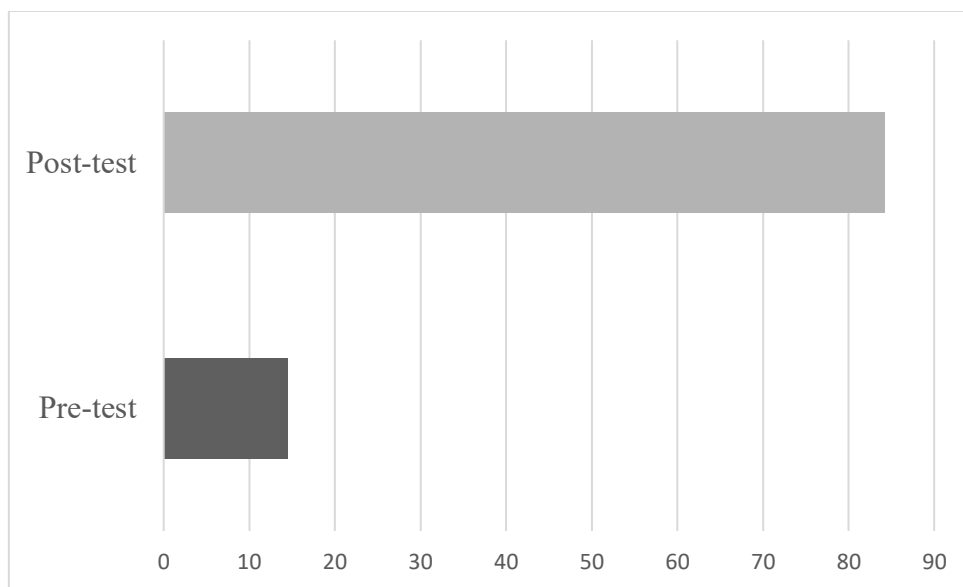
The data obtained through data collection were analysed quantitatively and measured numerically. The steps taken to analyse the data collected from the pre test and post test results were processed using the Wilcoxon signed rank test. The Wilcoxon signed rank test is a nonparametric test to measure the significance scale data that are not normally distributed. This test is an alternative to the paired t-test because data is not normally distributed. The Wilcoxon signed rank test is usually used to measure the significance between students' pre and post test scores. Therefore, in this study, researchers used the Wilcoxon signed rank test to analyse students' pre and post test scores. The table shows the effectiveness of the Wordwall technique in elementary school children's vocabulary acquisition.

## **RESULTS AND DISCUSSION**

### **Results**

This study presents the findings of a quantitative analysis to evaluate the effect of wordwall on English vocabulary in elementary school students through comparing pre test and post test mean scores. Data were collected using the Wilcoxon signed rank test, and analysis was conducted with the Wilcoxon test to identify considerable differences found between scores before and after the test.

This section, the researchers explain the output of the research that has been done at one of the State Elementary Schools in Central Java, Indonesia. The researchers took 20 students who served as research subjects. In the instrument, the researchers used a vocabulary test about clothing. This is the same test this research is quantitative, so the data analysis is done statistically. For data analysis, SPSS 25 was used to calculate the Wilcoxon signed-rank test. Which results are used to measure accurate scores between the pre test and post test scores. The results of the graph comparison are as follows:



**Chart 1.** Sudents’ score average in the pre test and post test

Based on graph one above, which shows the comparison of student scores, it can be seen that the average between the pre-test and post-test scores is different. The average post-test score is higher than the average pre-test score. This means that the Wordwall media used in this study successfully improved students' scores on their mastery of English vocabulary. To ensure that the results of this study and the data shown above. The researchers analysed by using Wilcoxon rank test data to determine the comparison between the pre-test and post-test.

**Wilcoxon Test**

**Table 1.** Result of Wilcoxon Signed Rank’s Test

Post test – Pre test	N	Mean Rank	Sum of Ranks
Negative Ranks	0 <sup>a</sup>	.00	.00
Positive Ranks	20 <sup>b</sup>	10.50	210.00
Ties	0 <sup>c</sup>		
Total	20		

- a. Post test < Pre test
- b. Post test > Pre test
- c. Post test = Pre test

Based on Table 1 above regarding the Wilcoxon signed rank test, it can be seen that there are 3 data in Wilcoxon's theory, namely, negative rank, positive rank, and ties. In this data, the negative rank shows the results of how many students in the post test have negative scores compared to the pre test. The Wilcoxon signed rank test results show that there are no students who have a negative rank. Positive rank in the data shows the results of how many students in the post test have positive scores compared to the pre test. The Wilcoxon signed rank test results show that 20 students have a positive rank. The tie data shows the results of how many students have the same score on the post test and pre test. The Wilcoxon signed rank test results show there are no students who have a relationship. Therefore, the researchers concluded that the Wordwall media used in this study can increase the average score of students. From the Wilcoxon signed ranks test, the following table is also obtained:

**Statistics Test**

**Table 2.** Result of Statistics Test

<b>Post test - Pre test</b>	
Z	-3.930 <sup>b</sup>
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test  
b. Based on negative ranks.

From Table 2 above about the statistical test results, we know that the Z value is -3.930b. This means that the post test score is higher than the pre test score. The table shows the Asymp. Sig. (2-tailed) of 0.000. This means that there is a significant change in the average student score.

### Discussion

The results of this study show that the use of Wordwall as a web-based game significantly improves elementary school students' English vocabulary acquisition. Indicates a statistically significant improvement after the implementation of Wordwall. These findings support my argument that integrating interactive and visually appealing digital media, such as Wordwall, addresses the common problem of student boredom and lack of motivation often found in English vocabulary teaching. By offering fun and game like activities that match the characteristics and interests of young learners, Wordwall not only makes learning more enjoyable but also facilitates in promoting better comprehension of new vocabulary. Overall, the final result of the study found out that the highly influential role of media, especially Wordwall, in the English language learning process. Wordwall media can improve English vocabulary in learning activities, and the results showed that the use of Wordwall media significantly improved vocabulary and even increased their learning motivation. This is in line with Yu et al. (2021) who stated that connecting educational media games to classroom learning can influence students' achievement of effectiveness. Wordwall media which has many interesting features can help students to learn in a fun and interesting way. Although Wordwall is an interesting game media to help master English vocabulary, one of its drawbacks is that Wordwall only uses the sense of sight because it is visual. This makes learning less varied and does not involve other senses that can enrich students' learning experience. As a result, students who prefer to learn by moving (kinesthetic) may not be helped maximally. In addition, students' focus is sometimes more on the attractive appearance of the game rather than really understanding the material in depth. However, with the increasing scores, the Wordwall media is very influential in increasing students' English vocabulary. These results are in line with research Az Zahrah & Anwar (2023) showing that the use of Wordwall application can significantly improve elementary school students' mastery of English vocabulary. Through an interactive and game-based learning approach, Wordwall is able to increase students' motivation and engagement in the learning process, so that their vocabulary learning outcomes are significantly improved. Thus, Wordwall is a fun, effective, and innovative learning media to enrich students' vocabulary at the basic education level. This is in line with Ismaya et al., (2024) that using Wordwall media makes students more interested in learning, more interactive, and fun.

### CONCLUSION

This study found that Wordwall media effectively enriches English vocabulary when learning English vocabulary in one elementary school in Demak, Central Java. The application of Wordwall media creates a more interactive and fun learning environment in the classroom. It

is very helpful in increasing students' motivation and engagement during vocabulary learning. In addition to being an engaging learning, using Wordwall media also facilitates better comprehension of new vocabulary. This findings highlight technology-based media such as Wordwall as an alternative strategy in English vocabulary learning. However, the analysis conducted with limited samples indicates that these findings may not fully represent the wider population. Therefore, to increase the validity and generalizability of the results of this study, it is recommended that the number of samples used in future studies be enlarged. By using a larger sample, more accurate and comprehensive data is expected to be obtained so that the study result can provide a clearer picture of student learning outcomes. Overall, the results of this study confirm that combining learning and games in Wordwall can help students in understanding and increasing their vocabulary. It is also beneficial for teachers to utilize technology and make the classroom atmosphere more interesting. Educators are advised to consider Wordwall media in classroom learning to create a fun, emanric and effective English learning experience.

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