

THE USE OF WORDWALL TO ENRICH STUDENTS' VOCABULARY

N. Dwiningrum¹, E. Bunau², E.F. Rahmani³

¹²³English Study Program, Universitas Tanjungpura, Pontianak, Indonesia

e-mail: nadyadwiningrum68@gmail.com, eusabinus.bunau@fkip.untan.ac.id, wardah@fkip.untan.ac.id

This study aims to determine whether the use of Wordwall can enrich junior high students' vocabulary acquisition. This study used a pre-experiment research design. A total of 40 students who were in class 8C at SMP Muhammadiyah 1 Pontianak were taken as the research sample by using cluster random sampling technique. The instruments of this research were pre-test and post-test. Descriptive statistics was used to analyze the data. The calculation of effect size obtained was 3.50 which shows a strong effect. Meanwhile, the results of data analysis showed that the t-test value for vocabulary was 5.31 and the t-table was 2.024. This means that the t-test is greater than the t-table or $5.31 > 2.074$. The calculation implies that alternative hypothesis (H_a) is accepted and the null hypothesis (H_0) is rejected. Therefore, it can be concluded that the use of Wordwall can enrich students' vocabulary and is suggested to be used in the teaching and learning process.

Keywords: *Pre-experimental; Vocabulary; Wordwall*

1. INTRODUCTION

Based on the researcher pre-observation during MBKM, students still require a lengthy vocabulary list to be taught, especially when their learning about the genre of the text. In reality, many students have some problems in learning English text such as narrative, recount, descriptive, and many other. One of the problems is the students' lack of vocabulary because the teacher just gives a list of vocabulary to the students based on the genre of the text being taught and asks them to memorize it. When learning vocabulary, students also get bored. It makes students not interested to learn English, especially vocabulary. Despite those facts above, there are many methods, strategies, and techniques that can be used by teachers in teaching vocabulary, But, most of the English teacher still use the old ways to teach the student which will lack to motivate the students to improve their English vocabulary. Therefore, the majority of students in Pontianak are struggled to learn English vocabulary.

However, students seldom use English language in daily communication. Students are a lack of interesting when learning English and they have the lack of vocabulary. Along with the other four language skills as mentioned above, vocabulary is crucial for English language learners (Kahar & Baa, 2021). Therefore, learning vocabulary in English as a foreign language do not seems simple and most of students appear to have trouble in memorizing it. Additionally, it appears that the students find learning English in class to be boring through the old way which depends on the dictionary.

Teaching vocabulary is just like teaching English skills which needs the utilization of acceptable strategies to make sure flourishing learning. Students can learn the meaning of words, the relationship between form and meaning, and usage by being taught vocabulary (Kahar & Baa, 2021). There are some aspects in vocabulary such as spelling, meaning, and pronunciation. One way to convey meanings, concepts, and emotions is through vocabulary. Furthermore, vocabulary is essential to the English language because without it, learners will find it difficult to comprehend what others are saying or to express their own ideas (Putri & Wahyuni, 2019).

In this digital era, teaching or learning vocabulary can be done through many strategies of teaching which may facilitate students enriching and improving their vocabulary. One of the strategies is using the online based technology in language learning. Technology and language learning have become terms that are frequently used in the beginning of the 21st century, leading to the use of web-based tools in English language classrooms (Çil, 2021). Online games have grown into significant industries, and they have been the subject of years

of discussion as technology advances exponentially (Kurniawan et al., 2022). Online games nowadays add interest to subjects that students might not have previously found interesting, so using them for educational purposes is the right approach. Additionally, it enhances students' ability to concentrate and more interest in learning vocabulary.

One of the online based technologies that can be used as learning media is Game Based Learning. The support of multimedia elements such as images, text, sound, video and animation are increasingly attractive because they can produce visualisation interesting because it can produce maximum visualisation. A corollary to this definition is that the design process of games for learning involves balancing the need to cover the subject matter with the desire to prioritize game play (Plass, Perlin, & Nordlinger, 2010).

Nowadays, many Indonesia schools are implemented the *Merdeka* Curriculum. In the merdeka curriculum, students serve as learning centers or are called student centers. Students are considered as the essence of education so that they become the main target when the learning process must have a facilitator to develop their talents, interests and potential in the field of English. Facilitators are teachers, principals and staff (Kemdikbud, 2022). This is then reinforced by the law governing the national education system contained in UU No. 20/2003 concerning SISDIKNAS *pasal 1 ayat 20* that explains that learning is the process of interaction between students and educators and learning resources in a learning environment (Depdiknas, 2003). Thus, learning is an effort that involves interaction between learners and teachers and uses the teacher's knowledge in the learning process to achieve learning goals. Thus, it can be understood that in the learning process related to vocabulary, English teachers are considered as facilitators who can provide and use the technology as a media and materials that can be used in assisting students' teaching and learning process related to vocabulary.

According to the background above, the researcher was inspired to find out the use one of learning game in an attempt to give a solution to the teacher's problem in teaching and learning vocabulary. The selection of the online game used is a website that is rarely seen but has many benefits in making learning meaningful. This learning website may be suggested for students' learning so that it is not monotonous and more fun. Students can learn the vocabulary based on topic in the classroom more which is called Wordwall. Using Wordwall is suitable for the students in teaching vocabulary and it gives solutions for the teacher teaching-learning activities. Wordwall.net is a website for educational entertainment that offers a variety of games, according to Cil (2021), who classifies it as an online game. Every game, including matching, picture matching, quizzes, wheel of fortune, puzzles, and so on which can be played alone or in a group. Create interactive learning materials that can be printed or used online with the help of Wordwall.net's features.

This online game appealing user interface, numerous and comprehensive features, and reasonable pricing make it a high-quality platform. The user interface of this online game appears to be very straightforward. The menu display and its features are straightforward to locate. Daud et al. (2015) claimed that mobile learning has been proven to maximize the potential of portable electronics as teaching aids in language learning settings. Wan Azli et al. (2018) claim that using online games in the classroom has great benefits for students and that they help with the learning process. According to Cahyono and Mutiaraningrum (2015), information and communication technology (ICT) in the field of education has recently gained popularity. Therefore, the teachers can use this online game to assist students in learning vocabulary through the fun learning. Wordwall is used to achieve the purposes of this research to see if Wordwall may help junior high school students improve their vocabulary.

There were several previous researches related to the Wordwall. First, the research conducted by Syam (2015) concludes that the use of Wordwall is effective to be used in teaching simple present tense. Second, the research conducted by Swari (2023) aims that the characteristics of Wordwall and its benefits as a learning media to increase students reading interest. Third, the previous research from Maniam et al. (2022) shows that the implementation of Wordwall can improve students' understanding of the English language learning process as well as students' engagement in ESL classrooms.

Although many researchers had done similar researches regarding the use of Wordwall

in a classroom, there least of them focused on enriching students vocabulary by using Wordwall. This is the gap that the researcher wanted to fill in. Those previous researches have proven the effectiveness of Wordwall in the scope of teaching simple present tense, improving reading interest, and enriching classroom engagement. Meanwhile, this research would focus on finding out the use of Wordwall in vocabulary enrichment especially in SMP Muhammadiyah 1 Pontianak effective. The researcher uses a pre-experimental design with one group experimental without group control where the participants are the eight-grade student of SMP Muhammadiyah 1, Pontianak. The research questions are whether the use of Wordwall effective for students and what is the effect size of Wordwall in teaching Vocabulary.

2. RESEARCH METHOD

In this study, a pre-experimental design (one group pre-test and post-test) was used. This research design would include one group test that undergo pre-testing (O1), treatment exposure (X), and post-testing (O2) (Hamsir, 2017). It attempted to determine whether there was a significant change between the time before and after utilizing the Wordwall and students' vocabulary could be enriched. This research study used quantitative approach. A quantitative approach was one in which the investigatory primarily used postpositive claim for developing knowledge (i.e., cause and effect thinking, reduction to specific variables and hypotheses and question, use of measurement and observation, and the test of theories) employed strategies of inquiry such as experiment, survey, and collect data on predetermined instrument that yield statistics data.

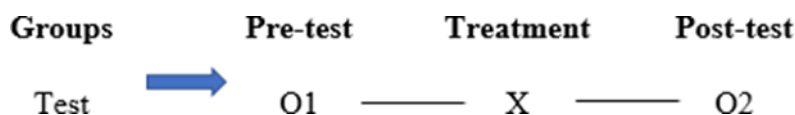


Figure 1. Design of Pre-Experimental

This research was conducted at SMP Muhammadiyah 1 Pontianak. The population of this study consisted of three classes of eight-grade of SMP Muhammadiyah 1 students with a total of 120 students. Sample is defined as a set of respondents (people) selected as representative individuals from a large population. Sampling includes the act, process, or technique for selecting a sample (Kindy et al., 2016). In this study cluster random sampling method was used as the sampling technique in which a class was randomly selected (Acharya, et al., 2013). The research was conducted in 8C class with the total number of students was 40 students. The researcher chose SMP Muhammadiyah 1 because the Wordwall was appropriate to be used by junior high school students.

The measurement technique is used by the researcher so that students can comprehend how to assess the accuracy of the information and how to communicate it to audiences (Gregory, Charlotte, & Silki, 2020). The test was employed to analyze the students' vocabulary whether there was an improvement after the treatment. The vocabulary test's results would be carefully measured and recorded with exact numbers. The tests consisted of pre-test and post-test to assess the effect of treatment on the students' ability in vocabulary. The pre-test and post-test would be about the adjective. The test was adopted and taken from several internet sources therefore it was considered important to check its validity (Siregar, 2019) and reliability test (Nurgiantoro, 2010) before the test is administered.

To analyse the test score, the researcher used the statistical formula (Siregar, 2019) to measure the comparison of results before and after the participants do the test and the effect size of the use Wordwall toward enriching students' vocabulary.

Table 1. Effect Size (Cohen, 2000)

Size	Intepretation
0 - 0.20	Weak Effect
0.21 - 0.50	Modest Effect

0.51 - 1.00
 > 1.00

Moderate Effect
 Strong Effect

When the data has been completed, the researcher interpreted the results by comparing the t-test score with t-table at a significance level of 0.05 which was obtained from the result of degree of freedom ($df = n - k$) of two tail tests. If the t-test score is ($t\text{-test} > t\text{-table}$), it means the H_a (alternative hypothesis) is accepted. It means the use of Wordwall is effective for students. If the test score is ($t\text{-test} < t\text{-table}$), it means the use of the Wordwall is not effective for students.

3. FINDINGS AND DISCUSSION

As the first phase of collecting the data, the researcher conducted a pre-test. During this phase, the researcher asked the students to answer a test consisting of multiple choice (20 questions), fill-in-the-blank task (12 questions) and matching activity (8 questions). There are 40 questions in all of the test items. The purpose of the tests was to determine students' prior vocabulary knowledge before treatment began. It is known that determining students' prior vocabulary knowledge is good enough. After obtaining the results of the pre-test, treatment was carried out for 3 meetings in the implementation of Wordwall to enrich students' vocabulary related to the material discussed, namely adjectives. Then, the post-test was conducted with the same test and instructions as the pre-test. In the post-test, the researcher compared the results of post-test scores with the pre-test scores to understand the whether the use the Wordwall in enriching students' vocabulary effective. So, it is known that after the implementation of vocabulary teaching could increase students' knowledge and enriching students' vocabulary.

Table 1. Students' Vocabulary Pre-Test and Post-Test Score

No.	Students	Pre-Test	Post-Test
1	RRW	82.5	82.5
2	MAA	77.5	80
3	GAA	77.5	80
4	ADA	67.5	75
5	MFK	72.5	85
6	MYA	77.7	85
7	KI	77.5	80
8	HPS	55	85
9	NAA	35	75
10	MNR	47.5	80
11	FAE	82.5	82.5
12	FAW	27.5	70
13	AB	70	80
14	RJR	85	85
15	RFA	85	82.5
16	PPW	85	92.5
17	AYB	87.5	90
18	AM	80	77.5
19	HD	80	85
20	RA	90	80
21	ARA	55	47.5
22	RAS.S	80	90
23	MYII	67.5	92.5
24	SH	55	60
25	MKA	35	90
26	RKH	80	85
27	RHA	57.5	77.5
28	UNC	70	87.5

No.	Students	Pre-Test	Post-Test
29	ZAG	75	87.5
30	KFK	57.5	82.5
31	TIK	80	90
32	ZRS	67.5	77.7
33	NOU	85	82.5
34	HDNA	85	92.5
35	FAPA	50	92.5
36	AFM	80	87.5
37	RFA	57.7	75
38	CNRG	75	92.5
39	MAHRS	80	90
40	AA	80	95
Total Score		2,815.00	3,307.70
Mean Score		70.38	82.69

It was found that the mean score of the pre-test was 70.38. The improvement brings the students' mean score to 82.69. These numbers suggest huge gaps from the pre-test and post-test after the given treatment by using Wordwall.

After knowing the results of the pre-test and post-test, the researcher then calculated the effect size of using Wordwall to enrich students' vocabulary. The calculation can be seen as follows.

a. Standard Deviation of Pre-Test and Post-Test

1. Standard deviation score of pre-tests

$$S_x = \sqrt{\frac{\sum(x_i - \bar{x})^2}{n - 1}}$$

$$S_x = \sqrt{\frac{9,544.38}{40 - 1}}$$

$$S_x = \sqrt{244.73}$$

$$S_x = 15.64$$

2. Standard deviation score of post-tests

$$s_y = \sqrt{\frac{\sum(y_j - \bar{y})^2}{n - 1}}$$

$$s_y = \sqrt{\frac{3,215.31}{40 - 1}}$$

$$S_y = \sqrt{82.44}$$

$$S_x = 15.64$$

b. $SD_{spotted}$ Calculation

$$SD_{spotted} = \sqrt{\frac{(N_1 - 1)s_x + (N_2 - 1)s_y}{N_1 + N_2 - 2}}$$

$$= \sqrt{\frac{(40 - 1)15.64 + (40 - 1)9.08}{40 + 40 - 2}}$$

$$= \sqrt{\frac{609.96 + 354.12}{78}}$$

$$= \sqrt{12.36}$$

$SD_{spotted} = 3.52$

c. Effect Size Calculation

$$Effect\ Size = \frac{\bar{y} - \bar{x}}{SD_{spotted}}$$

$$= \frac{82.69 - 70.38}{3.52}$$

= 3.50 (Strong Effect)

From the result above, the score of the effect size is very big (see table 2), where the effect size is 3.50. This means that the use Wordwall has a strong and significant effect on enriching students' vocabulary.

$$t_{test} = \frac{\bar{X} - \bar{Y}}{\sqrt{\left(\frac{s_x^2}{n_1} + \frac{s_y^2}{n_2}\right) - 2r \left[\frac{S_x}{\sqrt{n_1}}\right] \left[\frac{S_y}{\sqrt{n_2}}\right]}}$$

$$t_{test} = \frac{70.38 - 82.69}{\sqrt{\left(\frac{244.73}{40} + \frac{82.44}{40}\right) - 2(0.40) \left[\frac{15.64}{\sqrt{40}}\right] \left[\frac{9.08}{\sqrt{40}}\right]}}$$

$$t_{test} = \frac{12.31}{\sqrt{\left(\frac{327.17}{40}\right) - 2(0.40) \left[\frac{139.83}{40}\right]}}$$

$$t_{test} = \frac{12.31}{\sqrt{8.18 - (0.80)(3.50)}}$$

$$t_{test} = \frac{12.31}{\sqrt{8.18 - 2.80}}$$

$$t_{test} = \frac{12.31}{\sqrt{5.38}}$$

$$t_{test} = \frac{2.32}{12.31}$$

$t_{test} = 5.31$

The researcher analyzed the difference of pre-test and post-test in students' vocabulary test to determine the significance after the students were given treatment by using Wordwall. The researcher calculates t_count (t_test from the result of counting) by using the above formula. The t_count score is = 5.31. Then, the researcher determines t_count, which $\alpha = 5\%/2=0.025$ because the researcher used two tailed tests with two variables. After that, the researcher checks the t-distribution table of significance (t-table) $df = n - k$, the researcher finds that $df = 40 - 2 = 38$. Since the result of df was 38, then the t-table value is 2.024. Then the researcher compared between t_count and t_table, the result of statistical analysis shows that t_count is higher than t_table (5.31 > 2.024). Thus, it is proven that the alternative hypothesis (Wordwall is effective to enrich students' vocabulary) is accepted and the null hypothesis (Wordwall is not effective to enrich students' vocabulary) was rejected. A significant difference can be interpreted that after using the Wordwall, students' vocabulary is significantly enriching.

Vocabulary teaching is done using a variety of methods and tools. One method and tool are the use of technology in teaching Wordwall, which aims to enrich students'

vocabulary. Based on the data analyzed in the previous chapter, we found that students' vocabulary increased significantly after three classroom treatments using Wordwall. This meant that the mean post-test scores were higher than the mean pre-test scores. The increase in mean values indicates that the treatment generally had a positive effect on enriching students' vocabulary. Looking at the results in the table, the obtained value seems to be higher than the given value, which means that the use of Wordwall is effective, and as a result of the calculation of the effect size, it is classified as a high level.

There are several previous researches which already discuss about the use of Wordwall. Swari (2023) discovered the characteristics of Wordwall and its benefits as a learning media to increase students reading interest. Besides it being proven beneficial, the integration of Wordwall as the learning media also acquired positive responses from the students. Meanwhile, Hidayaty et al. (2022) had found that the use of Wordwall is effective for improving students' interest and their learning outcomes by seeing the large number of the test and questionnaire in positive responses from the students. The research is certainly in line with this study where the main focus is on increasing student vocabulary using Wordwall. The use of Wordwall as the main vocabulary teaching media is proven to provide a significant effect size.

As a technology-based vocabulary teaching media, Wordwall is able to provide new experiences and perspectives in teaching vocabulary for teachers. Wordwall is a web-based digital gamification application that offers a variety of game and quiz features that teachers can use when evaluating materials (Khairunisa, 2021). According to Lestari (2021), Wordwall are useful as teaching, media and engaging assessment tools for students. Wordwall apps include images, sound, animations and interactive games to engage students. The Wordwall training environment provides a methodologically ordered collection of words to convey the impression of terms needed to construct sentences (Arsini et al., 2022). Wordwall has been around for a while. When students receive face-to-face instruction using the word wall environment, the words displayed on the word wall are easier to read and remember (Monita & Sihombing, 2015). Just like when used in traditional classrooms; the only difference is that newer versions of Wordwall use more advanced technology. Therefore, it can be concluded that the use of Wordwall is a new way for the English teachers which can be use media to help students for enriching their vocabulary in eight-grade students of SMP Muhammadiyah 1 Pontianak in the academic year 2022-2023.

4. CONCLUSION AND SUGGESTIONS

The results of the research showed that the use of Wordwall was effective in enriching students' vocabulary, with the average post-test score being higher than the average pre-test score. By using Wordwall, students can actively participate in the learning process and acquire good vocabulary. This can be seen immediately in the results of the treatment. This Wordwall also helps students learn vocabulary and increase their interest in learning English, as evidenced by their positive response to the learning process in the treatment course, which allows them to use computers instead of books, which were usually used only in class. These results are certainly in line with the purpose of this study, the researcher wants to increase and enrich students' ability to master vocabulary related to the material they are studying, namely 'adjective' used in descriptive text. In addition, the use of Wordwall as a teaching and learning media related to vocabulary can be used as a way of teaching to be more effective. This is certainly in accordance with developments in this digital era.

REFERENCES

- Arsini (2022). *Hospitality school students' perception on the use of wordwall to enrich students' work-ready vocabulary mastery*. 4. 1-11. <https://doi.org/10.31849/elsya.v4i2.8732>.
- Bunau, E. (2023). *Morphological words awareness in reading text comprehension by Indonesian EFL teachers*. 8. 2023. <https://doi.org/10.21462/ijefl.v8i2.612>.

- Çil, E. (2021). The effect of using wordwall.net in increasing vocabulary knowledge of 5th grade EFL students. *Language Education & Technology (LET Journal)*, 1(1), 21-28.
- Daud, R., Jalil, Z. A., & M. Gunawan, M. N. F. (2015). Community college students' perception towards digital learning in Malaysia. *Procedia-Social and Behavioral Sciences*, 195, 1798–1802. <https://doi.org/10.1016/j.sbspro.2015.06.389>
- Kahar, N. H. & Baa, S. (2021). Using wordwall medium to improve students' junior secondary school vocabulary mastery. *International Conference on English Language Teaching (INACELT)*. pp. 109-115.
- Khairunisa, Y. (2021). Pemanfaatan fitur gamifikasi daring maze chase–wordwall sebagai media pembelajaran digital mata kuliah statistika dan probabilitas. *MEDIASI - Jurnal Kajian dan Terapan Media, Bahasa, Komunikasi*, 2(1). DOI: <https://doi.org/10.46961/mediasi.v2i1.254>
- Kurniawan, A., Noni, N. & Semtidar, S. (2022). The influence of online game towards students' vocabularies captured during game playing by school age youth, *Journal of Technology in Language Pedagogy (JTechLP)*. 1(1). 1-10.
- Lestari, R. (2021). Upaya Meningkatkan Motivasi Belajar Peserta Didik Dalam Pembelajaran Daring Melalui Media Game Edukasi Wordwall Di Kelas Iv Sd N 01 Tanahbaya Tahun Pelajaran 2020/2021. *Jurnal Ilmiah Profesi Guru*, 2(2), 1–6. <https://doi.org/10.30738/jipg.vol2.no2.a11309>
- Monita, D. & Sihombing, L. (2015). Improving junior high school students' vocabulary achievement in reading by applying word wall. *TRANSFORM: Journal of English Teaching and Learning of FBS UNIMED*, 2(4). 1-11. DOI: <https://doi.org/10.24114/tj.v2i4.955>
- Siregar, R. S., Hasibuan, A., & Tanjung, S. (2019). The effect of using board game o students' vocabulary mastery. *Journal Liner (Language Intelligence and Educational Research)*, 2(4), 12–26. <http://journal.ipts.ac.id/index.php/LINER/article/view/1424>
- Swari, N. K. T. A. (2023). Wordwall as a learning media to increase students' reading interest. *Jurnal Pendidikan Bahasa Inggris Indonesia*, 11(1), 21–29. <https://doi.org/10.23887/jpbi.v11i1.1572>
- Yudha, H. T., & Mandasari, B. (2021). The analysis of game usage for senior high school students to improve their vocabulary mastery. *Journal of English Language Teaching and Learning*, 2(2), 74-79.
- Wan Azli, W. U. A., Shah, P. M., & Mohamad, M. (2018). Perception on the usage of mobile assisted language learning (MALL) in English as a second language (ESL) Learning among vocational college students. *Creative Education*, 09(01), 84–98. <https://doi.org/10.4236/ce.2018.91008>.