Vol. 15, No. 04, pp. 2310-2327, 2025 DOI: 10.23960/jpp.v15i4.pp2310-2327

Jurnal Pendidikan Progresif

e-ISSN: 2550-1313 | p-ISSN: 2087-9849

http://jpp.fkip.unila.ac.id/index.php/jpp/

Enhancing EFL Vocabulary Mastery via Wordwall.net: A Mixed-Methods Study on Achievement and Student Challenges

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Received: 02 September 2025 *Accepted: 17 October 2025* *Published: 25 November 2025*

Abstract: Enhancing EFL Vocabulary Mastery via Wordwall.net: A Mixed-Methods Study on Achievement and Student Challenges. Objective: This study explores Wordwall.net, an online learning platform, to enhance students' English vocabulary and identify the challenges they encounter. **Methods:** This study employed a mixed-methods approach, involving twenty-five students from the Grade X Pharmacy Department at SMK YPKK 1 Sleman. The study aimed to gather quantitative data (pre-tests and post-tests) to measure vocabulary mastery, including spelling dictation, word translation, and collocation in sentences. Meanwhile, semi-structured interviews were conducted to gather qualitative data on the challenges of using the platform from six students, using purposive sampling. The data were analyzed using Miles & Huberman's interactive model, which includes data reduction, data display, and conclusion drawing. **Findings:** The results show a significant improvement in vocabulary mastery, with the average score increasing from 55.76 in the pre-test to 87 in the post-test. Moreover, Wordwall.net has the potential to enhance vocabulary and student engagement. However, students encountered challenges, including competitive pressure and unstable internet connections. **Conclusion:** These findings have significant implications for language teachers, school administrators, and curriculum developers, underscoring the importance of effectively integrating digital platforms. Additionally, policymakers should consider enhancing digital infrastructure in schools to ensure equitable access to online learning resources. The findings suggest that classroom teachers can effectively integrate Wordwall.net to enhance vocabulary mastery, boost motivation, and make learning more engaging. For institutions, this highlights the importance of providing digital infrastructure and training teachers in using web-based platforms. School administrators and policymakers should also support equitable access to reliable internet to ensure consistent learning outcomes.

Keywords: challenge, vocabulary mastery, word wall, web-based learning.

To cite this article:

Anjani, N. M., Karim, S. A., Radjaban, R. Y., Matas, G., & Winarna, (2025). Enhancing EFL Vocabulary Mastery via Wordwall.net: A Mixed-Methods Study on Achievement and Student Challenges. *Jurnal Pendidikan Progresif*, *15*(4), 2310-2327. doi: 10.23960/jpp.v15i4.pp2310-2327.

INTRODUCTION

The ability to communicate effectively in a language can open doors to various opportunities in education, business, and personal relationships (Soid et al., 2025). Therefore, mastering a language is crucial for achieving personal and professional success in an increasingly interconnected world. However, achieving English proficiency requires a strong foundation in vocabulary. Li et al. (2021) confirm that vocabulary is the fundamental building block of learners' four skills. The importance of vocabulary for learning English cannot be overstated. A strong vocabulary is essential for

effective communication and comprehension in any language. According to Rashid et al. (2022), vocabulary mastery allows learners to articulate their thoughts clearly and comprehend complex texts. Agustin & Purnama (2021) confirm that students with a strong vocabulary foundation tend to perform better academically across a range of subjects, as vocabulary is closely linked to reading comprehension and overall academic achievement.

Without an adequate vocabulary base, students may find it difficult to express themselves clearly or understand what they read and hear (Hazratqulova et al., 2024; Alhebshi & Gamlo, 2022). Studies have shown that students with limited vocabulary struggle to speak and write English, leading to frustration and disengagement in the learning process (Harselina et al., 2024). Therefore, improving vocabulary mastery should be a primary focus in English language education, as it has a direct impact on overall communication skills

In the context of English language learning, vocabulary mastery is a challenge for many students. Despite recognizing its importance, students often struggle with limited vocabulary knowledge, which hinders their ability to fully engage with the language (Harselina et al., 2024). Therefore, effective vocabulary instruction is essential and crucial; it not only improves language skills but also increases students' confidence in using the language in the academic context (Al-Sofi, 2024; Hasram et al., 2021; T. Yang & Jeaco, 2023). According to Sari & Munir (2024), innovative teaching methods that combine technology and interactive activities can significantly improve vocabulary retention and usage among students. AbdAlgane et al. (2025) states that pedagogical benefits of implementing spaces learning through technology. By addressing this challenge through engaging teaching strategies, educators can foster an environment that supports vocabulary growth.

In the digital era, technology has brought about significant changes to the world of education, including the teaching of English. The use of video games may promote the development of communication skills and result in L2 vocabulary gains (Calvo-Ferrer, 2020). Technological platforms may create an effective environment for vocabulary learning (Alfares, 2025; Q. F. Yang et al., 2020). One of the widely used platforms in technology-based learning is Wordwall.net. This web-based application enables teachers to create a variety of interactive activities, including quizzes, word matching exercises, and text-based games. Arifin & Manda (2024) stated that Wordwall.net is a flexible tool and can be adapted to various learning needs, making it effective in increasing student engagement. In addition, Roviani et al. (2025) noted that Wordwall.net offers a more enjoyable learning experience, which can increase students' motivation in understanding English vocabulary.

Web-based learning on platforms such as Wordwall.net is an interactive educational tool designed to enhance learning through an engaging game format. These games allow educators to create customized activities that align with specific learning objectives, making vocabulary acquisition more enjoyable and effective for students (Haviza & Efendi, 2024; Rodríguez-Escobar et al., 2023). Web-based learning can significantly increase student motivation. Another advantage of Wordwall.net is its ability to support differential learning, where teachers can adjust the material according to the level of student understanding (Marensi et al., 2023). With its interactive and easily accessible features, this platform can be a solution to challenges in vocabulary mastery, especially for students who require more dynamic and engaging learning methods.

Challenges in the educational context refer to obstacles or difficulties that hinder the achievement of learning goals while simultaneously offering opportunities for growth and adaptation.

Bonini et al. (2024) characterize challenges as tests of strength, skill, or ability, often involving engagement with complex, unpredictable, or stimulating tasks. Similarly, Marsevani (2022) identifies challenges in e-learning as arising from the need to transition traditional learning methods to digital platforms, requiring both learners and educators to adapt to technological demands. Another relevant problem for EFL learners concerns limits contexts for communicating in English Chen et al. (2021). These challenges, when addressed effectively, can enhance motivation, engagement, and learning outcomes.

Studies on Wordwall as an online medium for learning English have been conducted by several researchers, such as Rahmawati & Wijayanti (2022), who investigated the implementation of Wordwall to enhance students' reading comprehension skills. This study utilized textbooks, literature, notes, and various reports. The findings revealed that the application has a positive impact on students' learning engagement, and the platform's presence helps teachers assess students' tasks individually, as it can record students' scores in detail. Pradini & Adnyayanti (2022) conducted a study using an experimental design, using a pre-test, treatment, and post-test. This research demonstrated that Wordwall can enhance students' vocabulary achievement and motivation to learn English.

Another study was conducted by Rosydiyah et al. (2022), who investigated the effectiveness of Wordwall online games as technology-based learning on Grammar Quality among Junior High School students. Utilizing an experimental design, this study collected data from both pre-tests and post-tests (a grammar multiple-choice test). The results showed that the Wordwall online games have a significant influence on students' grammar quality.

Despite the plethora of studies on Wordwall.net as an online platform for English learning, a study specifically addressing the use of Wordwall in improving students' vocabulary mastery is, to the best of the researchers' knowledge, a rarity. For instance, a study conducted by Rahmawati & Wijayanti (2022) focused on the implementation of Wordwall to improve students' reading comprehension skills. Pradini & Adnyayanti (2022) investigated the students' motivation in learning English using Wordwall. Meanwhile, Rosydiyah et al. (2022) investigated the effectiveness of Wordwall as an online game-based learning technology on students' grammar Quality.

Vocabulary mastery is central to English proficiency, as it underpins communication and academic achievement (Rashid et al., 2022). However, many students struggle with limited vocabulary, which reduces their confidence and engagement (Harselina et al., 2024). Technology-assisted methods offer interactive and motivating solutions (Sari & Munir, 2024). According to Alfadil (2020), foreign learners have often struggled with limited vocabulary when learn a new language. Therefore, exploring suitable platforms is crucial for addressing vocabulary challenges in EFL classrooms.

Based on the preliminary observations at SMK YPKK 1 Sleman, it was found that the crucial factor causing students to be reluctant to learn English is a lack of vocabulary. Additionally, a brief interview with several English teachers revealed that students struggled with learning and memorizing new vocabulary and were less motivated to learn the English language. Consequently, teachers needed to draw on extra energy in their teaching and always employed varied methods to prevent students from becoming easily bored while learning.

Wordwall.net is distinguished from other platforms because it combines accessibility, flexibility, and engaging game-based activities. It allows teachers to customize tasks to learners' levels, provides immediate feedback, and supports differentiated learning (Arifin & Manda, 2024; Roviani et al., 2025). Unlike simpler quiz tools, Wordwall offers diverse activity formats

(e.g., matching, sequencing, word games) that sustain learner motivation and are easy to implement, making it the most practical and effective solution. Therefore, the researchers are interested in utilizing Wordwall.net, a Web-based learning platform, aiming to help teachers teach English vocabulary and enhance students' vocabulary mastery. Additionally, this study further examines the challenges of utilizing Wordwall.net as a web-based learning platform for English vocabulary acquisition.

By understanding the challenges faced by students, this study can provide deeper insight into the effectiveness of this platform and offer recommendations for teachers on optimizing its use in the classroom. Indeed, teaching English using technology is necessary as it facilitates students' learning of the English language both inside and outside the classroom, and helps them memorize vocabulary for their daily communication. Thus, this research is expected to contribute to the existing body of knowledge in the field of teaching English as a foreign language (TEFL), particularly in the context of technology-based learning platforms. To this end, the present study seeks to answer the following questions: 1) To what extent does Wordwall.net improve students' vocabulary mastery in terms of form, meaning, and use? 2) What challenges do students encounter when learning vocabulary through Wordwall.net?

METHOD

Participants

Twenty-five students of class X SMK YPKK 1 Sleman, majoring in Pharmacy in the Academic year of 2024/2025, were involved in this study. There was one class in the Pharmacy Department during the academic year. They were all taken as the sample for the study in the pre- and post-tests. Meanwhile, in the semi-structured interview, six students were involved using purposive sampling.

Research Design and Procedures

This study employed a mixed-methods design, utilizing a one-group pre-test and post-test to examine students' English vocabulary mastery and challenges encountered by tenth-grade students at SMK YPKK 1 Sleman when using Wordwall.net, a web-based English learning platform. Both quantitative and qualitative data were collected to assess students' vocabulary mastery through pre-tests and post-tests. The qualitative data were used to explore students' experiences and challenges in using Wordwall.net in more detail. Both approaches allow researchers to collect empirical evidence while capturing the nuances of students' engagement and learning outcomes. This design lacks a control group, so improvements may not be fully attributed to the intervention alone. Other factors, such as prior exposure or external influences, could also affect outcomes.

Instruments

The pre-tests and post-tests were administered to assess students' vocabulary mastery. Fraenkel et al. (2009) state that testing is a method commonly used to assess one or more ideas under predetermined conditions in educational research. The vocabulary test (Form, Meaning, Use) was adapted from Nation (2001), and the semi-structured interview was based on Bartle (1996). Tables 1 and 2 below present the list of question items (Form, Meaning, and Use) for the pre-test and post-test.

Table 1. The pre-test item

	(FORM)
Listen and spell the word correctly!	
1.	EAT
2.	TELEPHONE
3.	SCHOOL
4.	CLEAN
5.	BUY
6.	BOOK

7.	PHARMACY
8.	DOCTOR
9.	HOSPITAL
10.	TABLET
(MEANING)	
Choose the correct meaning!	
1.	JADWAL = SCHEDULE
2.	PAGI = MORNING
3.	PERPUSTAKAAN = LIBRARY
4.	GURU = TEACHER
5.	OBAT = MEDICINE
6.	PASIEN = PATIENT
7.	MINUM = DRINK
8.	SAKIT KEPALA = HEADACHE
9.	KAPSUL = CAPSULE
10.	MENULIS = WRITE
(USE)	
Complete the sentences below with the correct words!	
1.	I always check my _____ before starting work. a. telephone b. schedule c. website d. email
2.	I usually eat breakfast in the _____. a. morning b. night c. evening d. afternoon
3.	The _____ in our school is very fast. a. internet b. network c. computer d. printer
4.	We often use a _____ in math class to do calculations. a. ruler b. phone c. calculator d. pencil
5.	He forgot his _____ and could not log in. a. password b. phone c. email d. name
6.	Which one is the place to buy medicine? a. Restaurant b. Pharmacy c. Library d. Market
7.	Before going to bed, I always brush my teeth with _____. a. water b. toothpaste c. soap d. shampoo
8.	You need to wear _____ to protect your hands in thr laboratory. a. gloves b. mask c. apron d. hat
9.	We were a _____ to cover our nose and mouth. a. hat b. mask c. glove d. scarf
10.	Medicine in liquid form is called_____. a. capsule b. tablet c. syrup d. powder

Table 2. The post-test items

(FORM)	
Listen and spell the word correctly!	
1.	CLOCK
2.	. TEMPERATURE
3.	SICK
4.	NOTE
5.	COUGH
6.	SYMPTOM
7.	VEGETABLE
8.	FEVER
9.	PREPARE
10.	WINDOW
(MEANING)	
Choose the correct meaning!	
1.	LELAH = TIRED
2.	SAYURAN = VEGETABLE

3.	BERBICARA = SPEAK
4.	DEMAM = FEVER
5.	PENYAKIT = DISEASE
6.	JARUM SUNTIK = SYRINGE
7.	PERSIAPAN = PREPARE
8.	BERAT = WEIGHT
9.	USIA = AGE
10.	MENJELASKAN = EXPLAIN
	(USE)
Complete the sentences below with the correct words!	
1.	My mom bought a _____ to clean the house. a. broom b. ruler c. marker d. clock
2.	I use _____ to measure the temperature of water. a. syringe b. scale c. thermometer d. cup
3.	The _____ in the pharmacy told me how to take the medicine. a. teacher b. nurse c. patient d. pharmacist
4.	They go to the _____ to buy bread and snacks. a. library b. market c. school d. dragstore
5.	In science class, we use a _____ to mix liquids. a. breaker b. spoon c. ruler d. dropper
6.	The doctor gave me a _____ to buy medicine. a. recipe b. prescription c. note d. paper
7.	I carry my books and notebooks in my_____ when I go to school. a. pocket b. basket c. bag d. box
8.	We take medicine when we are _____. a. happy b. healthy c. tired d. sick
9.	A teacher writes lessons on the _____. a. window b. wall c. whiteboard d. chair
10.	A _____ is used to crush or grind medicine. a. mortar b. dropper c. syringe d. cup

The sample of the Wordwall.net platform used as the instrument of the vocabulary test (word completion) can be seen in Figure 1 as follows:

Figure 1. Wordwall.net platform (word completion)

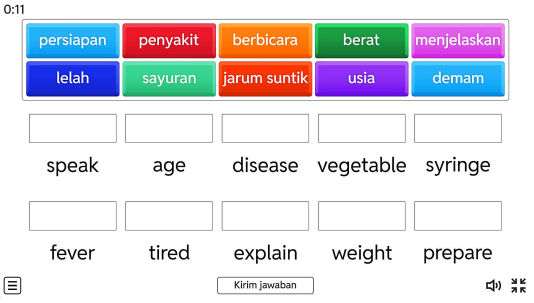

Figure 2. Wordwall.net platform (word matching)

Another sample of the Wordwall.net platform used to test their vocabulary (word matching) is presented in Figure 2:

Semi-structured interviews were conducted as a qualitative data collection method to explore students' challenges further. The selected students were chosen from the results of a previously conducted post-test, specifically two students with an "excellent" classification, two students with a "good" classification, and two students with a "fair" classification.

Data collection from this interview was in the form of voice recordings, which were transcribed. The questions asked in this semi-structured interview stage were adapted from Bartle (1996), specifically focusing on two indicators: Achievers and Explorers. Achievers focus on accomplishment, completing challenges, and increasing their scores or progress. The theory is suitable because it allows researchers to directly measure vocabulary improvement within the same group, making it practical in school settings with limited participants and providing clear before and after evidence of Wordwall's impact. The following is a list of semi-structured interviews adapted from Bartle (1996).

Table 3. The semi-structured interview items

No.	Indicator	Question
1.	Achievers	What is the biggest challenge you have faced while using Wordwall to learn vocabulary?
2.	Achievers	How do you feel when you fail to complete a challenge on Wordwall?
3.	Achievers	Do you feel a need to get a high score when doing vocabulary exercises on Wordwall?
4.	Achievers	Are you motivated to learn vocabulary when you get a high score on Wordwall? If so, why? If not, why not?
5.	Achievers	Are you motivated to learn vocabulary when you get a low score on Wordwall? If so, why? If not, why not?
6.	Explorer	What makes you interested or uninterested in using Wordwall to learn English vocabulary?
7.	Explorer	Do you feel more motivated to learn vocabulary through Wordwall compared to other methods? Why?
8.	Explorer	Have you used the right strategy to complete the vocabulary questions on Wordwall? Why?
9.	Explorer	Do the facilities and features provided by the Wordwall platform make it easier and more beneficial for you to improve your vocabulary skills?
10.	Explorer	What problems have you encountered while working on vocabulary questions on the Wordwall platform, and how have you addressed them?

Data Analysis

In this study, the quantitative data analysis focused on the main aspects of vocabulary mastery as proposed by Nation (2001), namely "Form (F)", "Meaning (M)", and "Use (U)". Form covers how students recognize and write words correctly, including in terms of spelling and pronunciation. Meaning relates to students' understanding of the meaning of words, both individually and in the context of sentences. Meanwhile, Use highlights how students can use words in the correct language structure, including collocation and grammar. Furthermore, these three aspects of question types were measured

in the pre-test and post-test, which were designed to be appropriate as indicators of each aspect. Form is measured through "spelling dictation", where students are asked to write down the words they hear with the correct spelling. Meaning is tested through "word translation", which requires students to choose the meaning of the word in Indonesian or English that is appropriate. Meanwhile, Use is measured through "collocation in sentence", where students must complete sentences with the most appropriate word based on the context of its use. Each indicator was assessed through a series of 10 questions with different forms designed in the Wordwall platform to measure students' vocabulary mastery. Table 4 presents the three question types as the indicators of each aspect. The test measured only receptive skills (recognition and comprehension), not productive skills (speaking and writing). Thus, findings may not fully capture students' ability to actively use vocabulary.

Table 4. The identification of question types

No.	Question Types	The Item Numbers	Percentage
1.	Spelling Dictation	10 items	33.33%
2.	Word Translation	10 items	33.33%
3.	Collocation in a Sentence	10 items	33.33%
	Total	30 items	100%

Adopted from Arikunto (2009)

In determining vocabulary mastery when taking a test, students are considered to have completed the learning process if they achieve a score of 75 or higher, according to the Minimum Criteria of Mastery. Table 5 is the calculation of the results based on the evaluation question assessment guidelines.

Quantitative tests measured improvement in vocabulary mastery across form, meaning, and use, while qualitative interviews explored students' experiences and challenges. Integrating both provided a comprehensive understanding: test scores demonstrated effectiveness, while interviews explained motivational and contextual factors behind the results.

Table 5. Scoring classification

Score Range	Classification
90-100	Excellent
75-89	Good
60-74	Fair
50-59	Less
0-49	Poor

Adopted from Arikunto (2009)

After receiving the final scores, the semi-structured interviews were conducted. Six students were selected for an interview based on their post-test data analysis results, using purposive sampling (two from the highest-scoring achievers, two from the middle, and two from the lowest-scoring achievers). They were asked 10 questions related to the challenges students face when using web-based learning on Wordwall.net to learn English vocabulary. The qualitative data were analyzed using an interactive model proposed by Miles & Huberman (1994), which included data reduction data presentation, and conclusion. Interviews were conducted with students across achievement levels (excellent, good, fair). Responses showed recurring themes until no new information emerged, indicating data saturation. Therefore, the selected six students represent the experiences of the wider group.

■ RESULT AND DISCUSSION

Students' English Vocabulary Mastery through Web-based Learning on Wordwall.net

To gather data on students' vocabulary mastery in relation to their performance on Wordwall, a web-based learning platform, a pre-test and a post-test were administered. Students'

abilities were analyzed in three main aspects: Form (F), which refers to Spelling Dictation; Meaning (M), which involves understanding Word Translation; and Use (U), which focuses on Collocation in Sentences. Each aspect of their responses was examined thoroughly to assess their overall vocabulary achievement. The comparison between the mean score of the pre-test and the post-test of each aspect is presented in Figure 1, as follows:

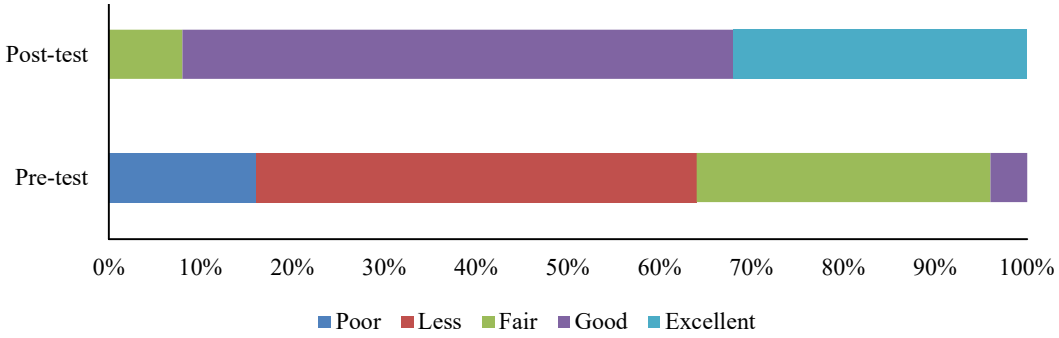

Figure 1. The result of pre and post test

Based on Figure 1, it can be seen that in the pre-test results, most students fell into the 'Less' category. Meanwhile, 32.0% were in the 'Fair' category, 16.0% in the 'Poor' category, and only 4.0% achieved the 'Good' category. Similar to the pre-test, the post-test was conducted to assess students' vocabulary mastery. In the post-test results, the majority of students (60.0%) fell into the 'Good' category, followed by 32.0% in the 'Excellent' category, and only 8.0% in the 'Fair' category. The mean score of the pre-test and post-test of each indicator is presented in Figure 2, as follows:

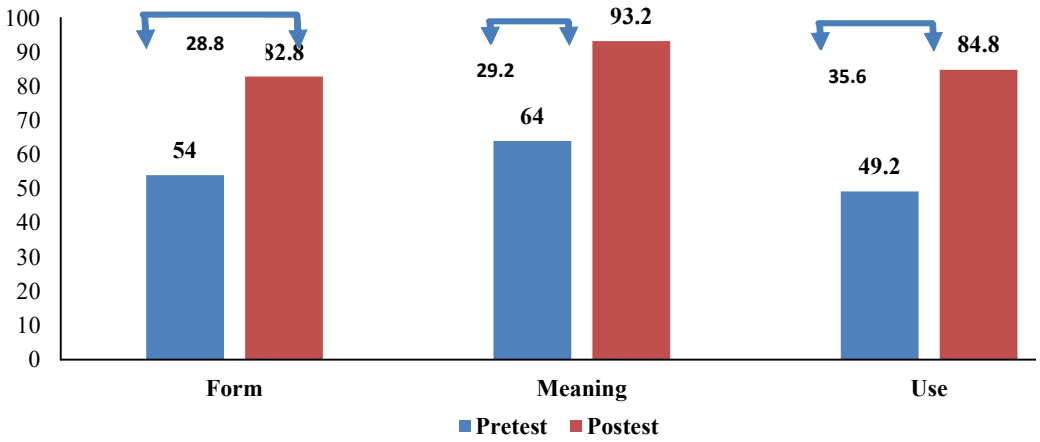

Figure 2. Pre and post test mean score for each indicator

Figure 2 shows the bar chart of each aspect (Form, Meaning, and Use). It can be seen that the average post-test scores are higher than the average pre-test scores. The 'Form' aspect showed an average increase of 28.8, the 'Meaning' aspect increased by 29.2, and the 'Use' aspect by 35.6. Therefore, it can be concluded that the improvement in the 'Use' aspect was greater than in the other two aspects.

The comparative scores per aspect are as follows: Form (Spelling Dictation) increased from a mean of 52.4 to 86.8. Meaning (Word

Translation): increased from mean 66.8 to 94.4, and Use (Collocation in Sentence): increased from mean 48.0 to 80.9. These results show the greatest impact on 'Meaning' and 'Form', indicating that Wordwall.net strongly supports vocabulary recognition and comprehension, while also improving usage to a slightly lesser degree.

The distribution of N-Gain effectiveness for each aspect is as follows: first, Form, with Medium effectiveness being the most frequent at 52%, High effectiveness at 40%, and Low effectiveness at the lowest rate of 8%. Second, meaning: High effectiveness is significantly dominant at 72%, Medium effectiveness is 24%, and Low effectiveness is the lowest across all categories at 4%. Third aspect: Use. High effectiveness is the most common, at 52%. Medium effectiveness is 32%, and Low effectiveness is the highest among the three aspects, at 16%.

Since the calculated t-value (18.439) is much greater than the critical -value (), it is acknowledged that the intervention had a statistically significant impact on the respondents' scores. Meanwhile, Cohen's measures the magnitude of the intervention's effect. The calculated effect size is . Furthermore, the effect size is , which is considered an extremely large effect, indicating a profound positive impact of the intervention in increasing the respondents' scores.

Furthermore, the wordwall.net platform facilitated students' vocabulary mastery tests. It made it possible for students to get a higher score due to its great features (self-scoring, error checking, and task submission time), as seen in Figure 3:

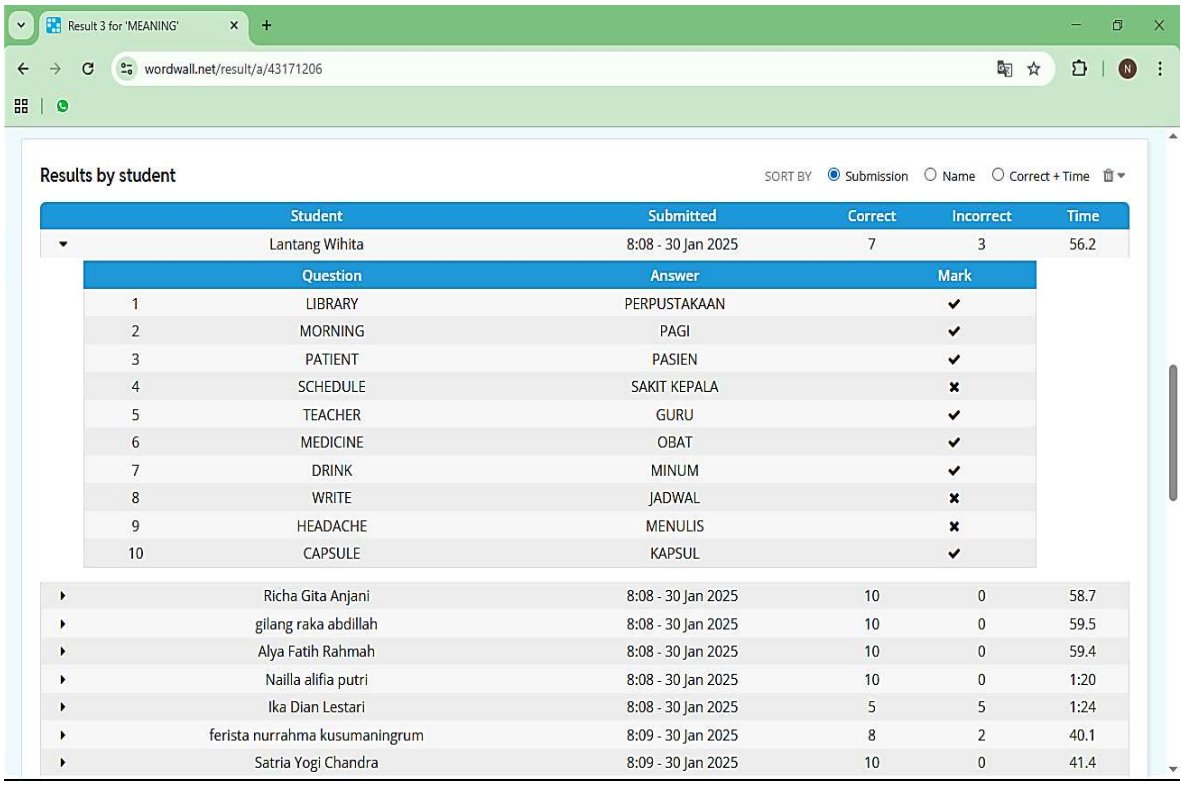

Figure 3. Several beneficial features of the Wordwall.net platform

Students' Challenges of Using Web-based Learning on Wordwall.net in Learning English Vocabulary

The data on the challenges encountered by the six students when using Wordwall.net, a web-based learning tool for English vocabulary, were obtained through semi-structured interviews. The questions asked in this semi-structured interview stage were adapted from Bartle (1996), specifically focusing on two indicators: Achievers and Explorers. Achievers focus on accomplishment, completing challenges, and increasing their scores or progress. The following are the details of the interview results.

Achievers

In the Achievers indicator, five questions are given to six students. In the first question, "*What is the biggest challenge you have faced while using Wordwall to learn vocabulary?*". One key component identified in this question was "getting the desired score"; six students (ASF, AKP, SM, SYC, EJR, WC) provided similar responses regarding the challenges they encountered when using Wordwall for vocabulary learning. One of them, ASF, expressed his opinion regarding the challenge, as seen in excerpt 1, as follows: *" The challenge I face is more about how I can have a higher score than others". (ASF).*

ASF indicates that individuals are challenged by individual achievement, such as getting a high score and reaching a certain rank in learning. The main focus is on achieving success in the game and proving his abilities against others. ASF's statement highlighting the difficulty of getting a high score indicates that the main motivation is the result and achievement in learning. SM also made another statement regarding challenges. This can be seen in excerpt two, as follows: "*I am challenged to get the score I want or even have a perfect score." (SM).*

Both addressed the similarities in the challenges they encountered. The other four respondents (AKP, SYC, EJR, WC) also faced similar challenges, namely the challenge of getting a satisfactory score in vocabulary learning.

The second question in this indicator is "*How do you feel when you fail to complete a challenge on Wordwall?*". Five respondents (ASF, AKP, SM, EJR, WC) stated that they felt disappointed. For instance, EJR and WC stated in excerpt three as follows: *"Disappointed, but I should learn again" (EJR). "Disappointed, because I feel like I failed and wasted my time" (WC).*

Intrinsic motivation arose from enjoyment of interactive games, visual appeal, and personal satisfaction in mastering words. Extrinsic motivation came from scoring, competition, and peer/teacher recognition.

WC and EJR felt disappointed when they failed to complete the tasks assigned on the Wordwall. However, this disappointment did not deter EJR from relearning vocabulary through Wordwall. Meanwhile, SYC expressed a different response from other students, as seen in excerpt 4, as follows: *"I am even challenged to accept other challenges that are given" (SYC).*

The third question is, "*Do you feel it is important to get a high score when doing vocabulary exercises on Wordwall?*" There were two different responses from students: some felt that it was necessary, while others believed it was not. These responses can be seen in excerpt five as follows: *"Yes, because if my grades are high, then my grades are above average." (WC), "Yes, because I am more satisfied if I get a high score when working on questions on the Wordwall" (ASF)*

Meanwhile, other students perceived differently, for instance, AKP and SYC, who stated that vocabulary mastery is more important than getting a high score. They feel that they do not need to get a high score, as stated by AKP, and SYC in excerpt six as follows: *"It is not necessary, because the important thing is that*

you can understand the existing vocabulary, that is enough." (AKP), "No need, because the score does not matter to me" (SYC).

The fourth question: "*Are you motivated to learn vocabulary when you get a high score on Wordwall? If so, why? If not, why not?*. Students perceived two different responses. For instance, four students (SM, SYC, WC, and EJR) answered "yes" and two students (ASF, AKP) answered "no". Furthermore, SM shows that he is motivated by achieving a high score, which encourages him to study vocabulary more actively. Therefore, SM focuses on achievement and skill improvement to achieve maximum results in the vocabulary test. Meanwhile, some students express other opinions regarding achieving a high score. Their perspectives reflect in excerpt seven as follows: *"Yes, because with a high score, I am more enthusiastic about studying various kinds of vocabulary so that my grades are good and my vocabulary mastery improves." (SM), "No, because if I feel satisfied with the score, I do not study anymore." (AKP).*

The fifth question is. "*Are you motivated to learn vocabulary when you get a low score on Wordwall? If so, why? If not, why not?".* The students' opinions in question number five have the same overall answer; it can be seen in excerpt eight as follows: "*Of course, getting a low score can motivate me to study vocabulary harder." (WC). "Yes, getting a low score means that you have not mastered English vocabulary. So, our motivation is built to be more active in learning vocabulary." (SM). "Of course, the motivation came from getting low scores and not understanding the material." (SYC).*

Explorers

In the Explorer indicator, there are also five questions given to six students. In the first question, *"What makes you interested or uninterested in using Wordwall to learn English vocabulary?"*. The researchers found one key component in this question, namely, student interest. Six students (ASF, AKP, SM, SYC, EJR, WC) gave similar descriptions of their interest in using Wordwall when learning vocabulary. One of them, EJR, expressed his opinion about the interest, as seen in excerpt 9, as follows: "*I was interested when I was first shown this Wordwall. I think the visuals of Wordwall are very interesting. So I do not get bored easily." (EJR).*

From the above excerpt, we acknowledged that the Wordwall made EJR interested in learning vocabulary, so that he did not get bored easily when trying to learn vocabulary on the platform. Another student, SM, expressed his interest in learning vocabulary on Wordwall. Furthermore, he is more interested in learning vocabulary through Wordwall because it offers various games that can be selected according to his wishes. This suggests that flexibility and interactivity in learning are key factors in increasing interest in the learning process. His thoughts can be seen in excerpt 10 as follows: *"I am more interested in learning vocabulary through Wordwall than through books or dictionaries, because in Wordwall there are many vocabulary games that we can choose according to our wishes." (SM). "Interested because you can immediately know whether the answer is right or wrong." (SYC).*

The second question is *"Do you feel more motivated to learn vocabulary through Wordwall compared to other methods? Why?"*. Students' responses place more emphasis on the platform, which is interesting, interactive, and user-friendly. Their thoughts can be seen in excerpt 11 as follows: *"*"Yes, because it is easier to understand the meaning and working on the questions is easier." (AKP).*" Yes, because it is more interesting than other applications and more practical than writing on paper." (SYC, WC). "Yes, I am more enthusiastic about working on them than in a book or on paper." (ASF).*

These three statements suggest that students are more motivated to learn vocabulary through Wordwall compared to traditional methods due to its convenience, practicality, and interactive appeal. Moreover, AKP highlighted that Wordwall makes it easier to understand the meaning of vocabulary and simplifies questions. Meanwhile, SYC and WC felt that Wordwall was more interesting than other applications and more practical than writing on paper, which is often considered boring. ASF also noted that learning with Wordwall is more engaging and increases enthusiasm compared to learning from books or paper, which are less interactive. This shows that Wordwall's game features and interactivity make students more enthusiastic, motivated, and feel that the learning process is lighter and more enjoyable.

The third question is *"Have you used the right strategy to complete the vocabulary questions on Wordwall? Why?"*. The results of the interview revealed that they focus not only on getting good scores, but also on finding the most effective way to solve the problems. Their responses to these questions are presented in excerpt 12, as follows: *"Really understand the question before answering." (EJR). "Memorize the vocabulary that will probably come up in the question." (ASF).*

The next question is *"Do the facilities and features provided by the Wordwall platform make it easier and more beneficial for you to improve your vocabulary skills?"*. The following are students' statements in response to the question, as seen in excerpt 13, as follows: *"Yes, because it is easier to understand and answer questions." (AKP). "Yes, the features are interesting and not boring." (EJR).*

The last question in this interview was "*What problems have you encountered while doing vocabulary exercises on Wordwall, and how do you overcome them*?". The results of the interview revealed that several students encountered several problems, as presented in excerpt 14, as follows: *"Difficulty understanding new vocabulary, the solution is to find out or ask friends and teachers." (SYC). "Slow network problems and unclear questions, the solution is to use WiFi or find a place with a good signal." (SM). "Errors in composing words, the solution is to repeat the questions and study again." (AKP).*

Students encountered various challenges when using Wordwall to learn vocabulary, including difficulty understanding new words and technical issues. For instance, SYC mentioned that difficulty understanding new vocabulary could be overcome by finding out on their own or asking friends and teachers, indicating that social interaction plays a role in learning. Meanwhile, SM stated that slow internet and blurry questions could be overcome by using WiFi or finding a place with a better signal, highlighting the importance of technical factors in smooth digital learning. AKP stated that errors in wording could be corrected by repeating questions and re-learning, indicating that repeated practice helps improve vocabulary comprehension.

Achievers are motivated by external performance indicators (scores, rankings) because competition aligns with their goal-oriented nature. Explorers, by contrast, are motivated intrinsically, enjoying the process, variety of games, and discovery of new vocabulary. These roles align with Bartle's (1996) typology of learners.

The findings revealed a significant increase in vocabulary learning following the implementation of Wordwall.net. This platform enables educators to design a variety of activities, including quizzes, games, and flashcards, which can be tailored to specific learning objectives. According to Arifin & Manda (2024), this flexibility makes Wordwall a very valuable tool for teachers to create a more dynamic and engaging learning atmosphere. Roviani et al. (2025) noted that this accessibility supports distance learning, enabling Wordwall to become

a vital tool during the digital transformation of education.

Marensi et al. (2023) highlighted that this platform encourages collaborative learning through game-based activities that can be played individually or in groups. Integrating these features with traditional teaching methods enriches students' learning experiences and helps teachers create a holistic learning environment (Xolmurodovna, 2025). Arsyad (2024) emphasized that Wordwall's ease of use encourages more educators to integrate technology into their classrooms, thereby increasing student engagement and learning outcomes.

The results of the interview revealed that Wordwall offers various interactive features that can help students improve vocabulary understanding in a more interesting way than traditional methods. This is evident from student responses, which indicate that the features in Wordwall provide convenience in learning. Overall, student responses indicate that Wordwall not only enhances vocabulary understanding but also makes the learning process more engaging and enjoyable. Active student involvement helps them develop critical thinking and collaboration skills, which are important aspects of 21st-century learning (Fauziyah et al., 2024).

The interview results showed that the majority of students with the achievers' indicator faced the main challenge in getting high scores when using Wordwall to learn vocabulary. They felt challenged to achieve high scores because it provided them with personal satisfaction and increased their sense of accomplishment. However, some students did not consider high scores as important; instead, they focused on understanding the vocabulary itself. These results indicate that students with the achiever's indicator are more motivated by achievement and scores as a measure of success in web-based learning on Wordwall.

Wordwall features are considered to provide convenience and benefits in improving vocabulary mastery because they are interactive, interesting, and not boring. According to Zein et al. (2020), this approach also enables students with special needs to learn in a more comfortable environment, as they can adjust the time and place of learning according to their individual needs. Thus, the accessibility of web-based learning plays an important role in creating inclusive and flexible education.

However, students face several obstacles, including difficulty understanding new vocabulary, slow internet connections, and errors in word composition. Students can find their solutions by asking friends/teachers, looking for places with better signals, and repeating exercises to improve their understanding. Mohamoud (2024) stated that challenges in learning can be a factor that encourages students to adapt, develop new strategies, and improve their skills in dealing with various academic situations. Therefore, the use of technology in learning, especially interactive web-based learning such as Wordwall.net, can be an effective alternative to improve students' vocabulary mastery in English. These resources offer opportunities for practice through games, quizzes, and contextual learning, making the vocabulary acquisition process more engaging and effective (Loor, 2025). Thus, vocabulary acquisition is not just about knowing words; it is also about using them effectively in real-world situations.

. Unlike previous studies focused on reading or grammar, this study highlights that vocabulary mastery improved in 'meaning' and 'form'. Moreover, students' challenges revealed that competition could both motivate and pressure learners, showing a dual effect of gamification. The authors acknowledge several limitations of the present study, including a small sample size from a single institution, which limits generalizability; a one-group design without a

control group; tests limited to receptive skills; and dependence on internet stability.

CONCLUSION

Several key points are highlighted in the present study, including: first, the study demonstrates that Wordwall.net enhances students' vocabulary mastery and makes learning more engaging, thereby motivating students in a vocational school setting where English is essential for their professional future. Second, using a one-group pre-test–post-test design, the study found the improvement in vocabulary mastery after using Wordwall.net. Despite the absence of a control group, results consistently show its improvement. Third, Quantitative results demonstrated substantial gains in vocabulary mastery, while qualitative findings explained that motivation, interactivity, and accessibility supported these gains. Together, the findings confirm that Wordwall.net is both improve and practical for students' vocabulary learning.

The results of the semi-structured interview revealed that students encountered several challenges when using Wordwall.net. The Achievers were primarily motivated by high scores and competition, whereas the Explorers valued interactive learning experiences, visual appeal, and instant feedback.

RECOMMENDATION

Several recommendations follow: first, teachers are encouraged to integrate web-based learning platforms, such as Wordwall.net, into their teaching strategies to enhance student engagement and vocabulary acquisition. Additionally, teachers should manage competition in Wordwall to prevent excessive pressure, for example, by combining cooperative and individual tasks. Schools should ensure stable internet access to reduce frustration. Second, students should be encouraged to use strategies such as repetition, peer support, and exploring features to overcome difficulties. Third, developers or policymakers should adapt Wordwall's features to vocational contexts, such as pharmacy, aligning activities with the professional vocabulary needs of these contexts. Fourth, future researchers should consider exploring the long-term impact of web-based learning on students' overall language skills, including speaking, listening, and writing skills. Further research could also examine the effectiveness of different types of online vocabulary games or compare Wordwall.net to other digital platforms to gain deeper insights into optimal learning strategies.

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