IMPROVING NON-ENGLISH MAJORS' VOCABULARY RETENTION THROUGH ONLINE TEACHING TOOL WORDWALL

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ABSTRACT
This study investigates the effectiveness of using the online teaching tool Wordwall in improving vocabulary retention among non-English majors and the students' attitudes towards this website after using it in six weeks. A pre-experimental design was employed, involving 23 first-year students majoring in pedagogics at Thai Nguyen University of Education. Participants joined in an experimental group, which involved Wordwall website application. The intervention lasted for seven weeks, including pre-tests, post-tests, and questionnaires to evaluate vocabulary retention and students' attitudes. After the experiment, the group showed a significant improvement in vocabulary test scores. Moreover, survey results revealed positive attitudes of the Wordwall tool. The study concludes that the use of Wordwall can be an effective tool in promoting vocabulary retention for non-English majors. These findings highlight the potential of digital platforms to enhance language learning in education and provide suggestions for integrating educational technology into English teaching practices.

Keywords: Vocabulary Retention; Wordwall website; Effectiveness; Non-English majors.

1. INTRODUCTION
Language enables individuals to express their thoughts and achieve their goals. Expanding one's vocabulary enhances language use, making communication more effective. Researchers agree that vocabulary is fundamental to learning, as it helps students organize their thoughts into coherent sentences. As David Wilkins (1972) famously stated, "without grammar, little can be conveyed; without vocabulary, nothing can be conveyed." This highlights the indispensable role of vocabulary in language proficiency. Wilkins (1972) argued that vocabulary instruction is essential for EFL students. Similarly, Nation (2013) emphasized that language-focused learning, which includes intentional vocabulary instruction, should be a major component of every foreign language course. Vocabulary learning is not just about memorizing word lists; it involves understanding word meanings, usage, collocations, and contexts. Without a strong vocabulary, students find it difficult to understand spoken or written language and to express themselves effectively. Conversely, a broad vocabulary enhances language skills and facilitates meaningful communication.

In traditional classrooms, vocabulary instruction often relies on repetitive strategies, which can lead to student disengagement. This lack of variety in teaching methods makes it difficult for students to retain new vocabulary. Richards and Schmidt (2002) noted that teaching methods

significantly impact learner motivation, which in turn affects vocabulary development. Engaging students through diverse and interactive activities can stimulate their interest and promote better retention. Games, storytelling, project-based learning, and multimedia resources are some of the approaches that can make vocabulary learning more dynamic and enjoyable.

Today, teachers are encouraged to incorporate additional resources to improve vocabulary retention and boost student motivation. According to Hikmah (2019), integrating technology into the teaching and learning process has become increasingly important, replacing traditional media in many educational contexts. Online learning tools can facilitate the educational process, enhance student engagement, and improve vocabulary retention. Digital tools provide interactive and personalized learning experiences, allowing students to practice vocabulary in varied contexts. The integration of technology in teaching is crucial for fostering student motivation and promoting interactive learning environments (Licorish et al., 2018; Santosa, 2017; Wang & Lieberoth, 2016; Zarzycka-Piskorz, 2016). However, using modern technology also presents challenges, particularly in terms of effective assessment (Godwin-Jones, 2015). Teachers need to develop new assessment strategies to measure vocabulary acquisition accurately in technology-enhanced learning environments. Hadijah et al. (2020) highlighted that modern students have different needs compared to previous generations, necessitating careful selection of appropriate learning tools.

One such tool is the Wordwall platform. Haq et al. (2021) found that Wordwall, as a digital game-based learning tool, positively influences students' vocabulary acquisition and significantly increases their enthusiasm for academic activities. The interactive nature of Wordwall games fosters active participation, which is crucial for vocabulary retention. Utilizing Wordwall in teaching maximizes instructional time, enhances student engagement, and improves vocabulary retention during classroom activities. It allows teachers to create customized activities that cater to different learning styles and proficiency levels. This study aims to further investigate the effectiveness of Wordwall in vocabulary learning.

The main objective of this research is to examine whether incorporating the Wordwall online platform into vocabulary instruction can enhance students' vocabulary acquisition and retention while providing a more engaging learning experience. This study focuses on improving English vocabulary among non-English majors at Thai Nguyen University of Education through the integration of Wordwall in the teaching process. By analyzing the impact of Wordwall on vocabulary learning outcomes, this research seeks to contribute valuable insights into the potential of digital tools in language education.

2. RESEARCH METHODS
2.1. Participants

The study takes place at Thai Nguyen University of Education in Thai Nguyen City, with 23 non-English majors selected from Education class K59. Their age range is from 19-20 years, and all are currently enrolled in the academic year 2024-2025. These students were chosen because they represent a typical sample of non-English majors in Vietnamese universities, providing relevant insights into vocabulary retention challenges.

Since they are not English majors and are studying the English book "Life A2-B1 Student's Book 2nd Edition (Vietnam Edition)," their English proficiency, also based on their English Practice subject scores in the previous term, is mostly around A2-B1 in the Common European Framework of Reference for Languages (CEFR). This proficiency range aligns with the goals of

the study, focusing on improving vocabulary retention among learners at the elementary to intermediate level.

2.2. Research design

This study adopts a pre-experimental design since the fixed class schedules and the inability to randomly assign participants to different groups make it impractical to apply a true experimental design. In such cases, pre-experimental approaches are considered appropriate and feasible. According to Shadish, Cook, and Campbell (2002), quasi- and pre-experimental designs are especially useful in real-world educational settings where full control over variables is limited. By incorporating both pre-tests and post-tests, this design allows the researcher to measure changes in students' vocabulary retention before and after the intervention using the Wordwall tool. Even though there is no control group, using both a pre-test and post-test still helps show if students improved after the intervention.

2.3. Data collection Instruments
2.3.1. Test

In this study, students of the group were given pre-tests and before the treatment was applied, then the researchers studied their vocabulary retention. After the group experiences treatment, they completed post-tests and questionnaires. The results of pre-and post-tests enable researchers to make comparisons and conduct their study. The pre-tests were designed based on the content from" Environment Vocabulary Quizzes" from website englishclub.com to ensure alignment with students' current curriculum. The pre-tests included A2-B1 (CEFR) level exercises in multiple-choice questions to assess productive vocabulary knowledge. This approach is supported by Read (2000), who emphasized the importance of using diverse test formats to capture different aspects of vocabulary knowledge. Students will take the pre-tests before the treatment and post-tests afterward, allowing researchers to evaluate their improvement in vocabulary retention. The researchers analyze both the test results and the learning process during the treatment, providing qualitative data. This approach enables them to draw comprehensive conclusions about the treatment's effectiveness in improving vocabulary retention.

Post-tests were designed based on tests of Checkpoint A2+/B1. Student's Book, published by Macmillian Education and Life (Second Edition) Pre-Intermediate Student's Book, published by National Geographic. The content of the test was from the vocabulary that students had encountered in flashcards and exercises on Wordwall. There were 21 questions in total, which were multiple choice.

2.3.2. Questionnaire

Questionnaires are employed to gather qualitative data on students' perceptions of using Wordwall in their vocabulary learning process. Questionnaires are valuable tools for collecting self-reported data on learners' attitudes, experiences, and preferences (Dörnyei, 2003). The questionnaires consist of questions that seek a comprehensive understanding of the participants' learning experiences.

Grover (2006) stated that a questionnaire is a formalized set of questions for gathering information from respondents. Moreover, it is the heart of a survey (Krosnick and Presser, 2009). It helps researchers study participants' attitudes and interactions, supporting them in concluding their research. In this experiment, the participating students will complete a questionnaire designed

from Linkert scale after the tests to express their opinions towards Wordwall. The questionnaire includes questions about their experiences and thoughts before and after the treatment. Students share their views on how the Wordwall website impacted their vocabulary learning. The researchers collect and analyze this data to study the effectiveness of the tool.

3. RESULTS AND DISCUSSION

3.1. The results of pre-test and post-test
Table 1: The results of pre-test
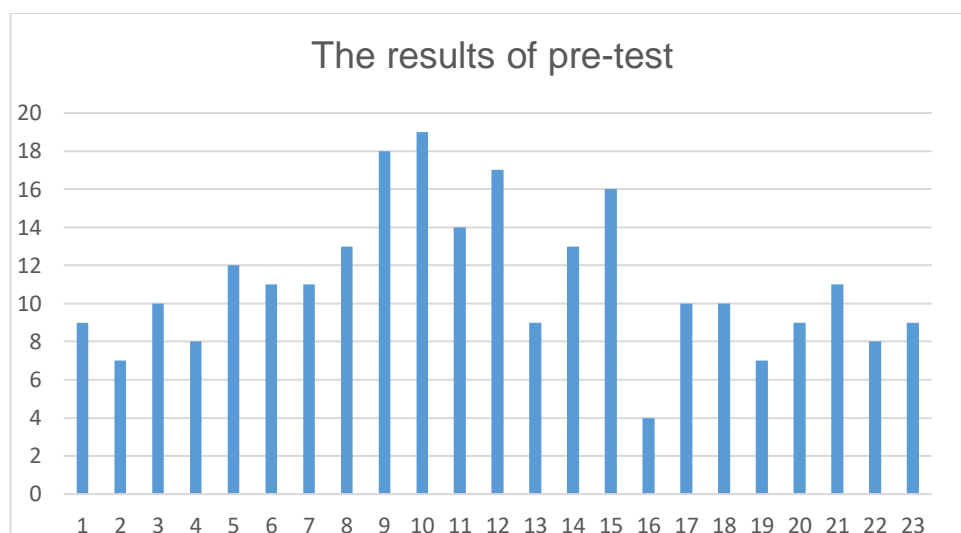
The analysis of the results revealed a wide range of vocabulary proficiency among the students. Specifically, 14 out of 23 students (61%) scored higher than 10 out of 20, which can be interpreted as a satisfactory level of vocabulary knowledge. Notably, some students achieved exceptionally high scores, with the highest being 19 and 18 correct answers, indicating that they already had a strong vocabulary foundation even before participating in the Wordwall-enhanced instruction. These students may have benefited from previous learning experiences, strong self-study habits, regular exposure to English outside the classroom, or a personal interest in language learning.

On the other hand, 9 students (39%) scored below or equal to 10, suggesting more limited vocabulary knowledge. This result reflects a common issue among non-English majors, who often lack consistent exposure to English and may not consider English vocabulary a priority in their studies. Possible contributing factors for these lower scores include irregular study routines, minimal classroom engagement, lack of motivation, or reliance on rote learning methods that do not facilitate long-term vocabulary retention.

These results indicate a mixed level of vocabulary ability within the experimental group. This diversity underscores the necessity of implementing a more engaging and interactive teaching

tool like Wordwall that can support learners of different ability levels. The pre-test scores are particularly useful in identifying students who may benefit the most from this digital learning approach.

While this section primarily focuses on the pre-test, it is important to anticipate the potential effects of Wordwall on students' vocabulary performance. It is expected that after six weeks of exposure to interactive and game-based Wordwall activities, students will show measurable improvements in vocabulary retention. However, the degree of improvement may vary. Some students, especially those with a strong foundation, may demonstrate significant gains due to enhanced engagement and reinforcement of known vocabulary. Others may show only modest progress or, in a few cases, maintain similar performance levels. These variations could depend on individual learning preferences, motivation, frequency of participation, and attitudes towards technology-based learning.

Table 2: The results of post-test
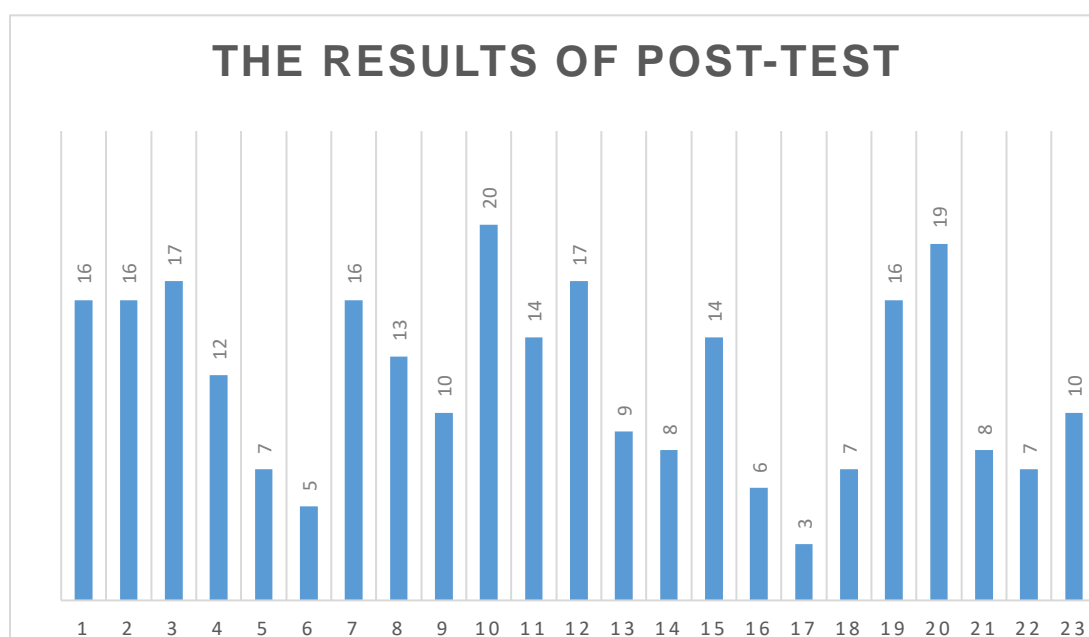
Generally, the post-test results show improvement in a number of students. Several participants made significant progress, as their scores have increased compared to that of the pre-test. Notably, two students achieved excellent results, with one reaching a score of 10 and another attaining a score close to 10 on the 10-point scale. These outcomes suggest that the application of Wordwall activities had a positive effect on their vocabulary retention and overall learning performance.

Despite these encouraging results, it is also important to acknowledge that not all students showed the same level of progress. While some learners benefited greatly from the interactive learning experience provided by Wordwall, others continued to struggle, with several students achieving low scores in the post-test. These low results show that the Wordwall-based intervention

may not have been fully effective in addressing their specific learning needs or helping them retain the vocabulary taught during the sessions.

This discrepancy in performance highlights an important consideration in evaluating the effectiveness of educational tools like Wordwall: while they can be highly engaging and beneficial for many learners, they may not yield uniform results across an entire group. Various factors such as individual learning styles, prior knowledge, motivation, and even external influences (e.g., time spent reviewing or technical difficulties) could have affected the outcomes.

The post-test data suggests that Wordwall contributed positively to the vocabulary acquisition of several students, particularly those who achieved high scores. However, its impact was not equally strong for every participant.

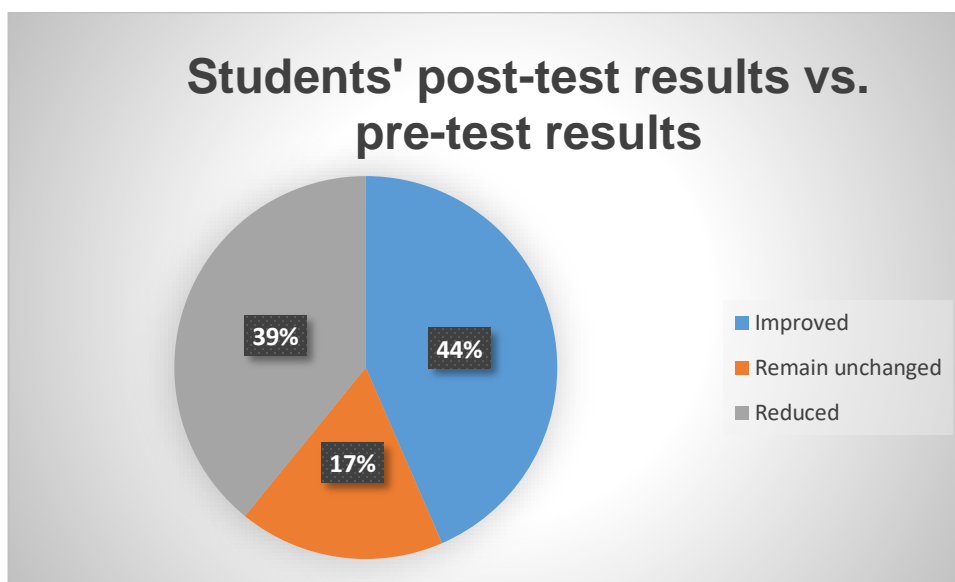**Chart 1.** Comparison between Pre-test and Post-test

Chart 1 shows that the improvement did not vary among all participants. While 44% of students showed noticeable gains, others only progressed modestly. Moreover, there were 17% of students whose performance remained unchanged, and even some whose scores declined. Word wall website can be an effective tool for enhancing vocabulary retention, but it may not benefit all students equally.

Several factors may explain these outcomes. For instance, the effectiveness of Word wall website is influenced by participants' study habits, motivation, frequency of participation in the activities, etc. Students who engaged with the platform and often practiced vocabulary were more likely to experience positive results. In contrast, those who had limited access to online materials might not benefit as much.

Wordwall website can support vocabulary retention for many students, its impact is not uniform across the entire group. Therefore, teachers should consider integrating Wordwall website as part of a blended approach, combining digital tools with traditional methods and providing support for learners who may require different strategies to succeed.

3.2. The students' attitudes towards the use of Wordwall website.

After six weeks of utilizing Wordwall website, the students' attitude toward vocabulary retention showed a positive result. According to the pie chart 2, most of the students had good experience in remembering vocabulary through activities on the Wordwall website, with 39% strongly agree and 48% agree, accounting for a total of 87% positive responses. This means that Wordwall was favored and enjoyed by students. The fact that students found using Wordwall engaging and enjoyable indicates a noticeable improvement in the students' motivation for reinforcing their vocabulary.

Chart 2: Students' interest in Wordwall website
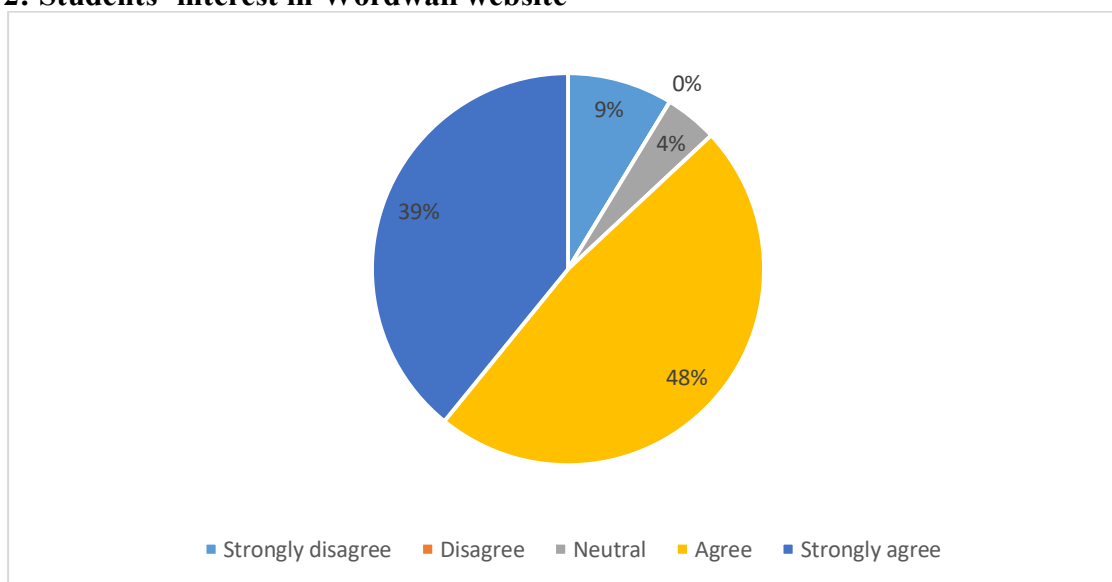
Similarly, as shown in chart 3, 87 % of students expressed agreement (48% agreed and 39% strongly agreed) that they preferred about prefering using Wordwall website to memorize vocabulary in comparision with traditional methods. This demonstrated a clear preference for using Wordwall over conventional vocabulary learning techniques such as rote memorization or copying. The small proportion of students' disagreement and neutrality was only 9% and 4% further emphasizes the students' strong tendency to utilize digital tools in their learning process.

These results demonstrate a significant change in students' perception of effective vocabulary learning strategies. Most people said that the experience was enjoyable, and it was more efficient and preferable to traditional approaches. These results suggest that Wordwall may be a useful replacement for vocabulary instruction, particularly for non-English majors who might not be motivated by them. Moreover, the positive perception implies that using Wordwall activities might enhance learner's cognitive engagement and long-term memory.

Chart 3: Students' interest when using Wordwall website compared to traditional methods
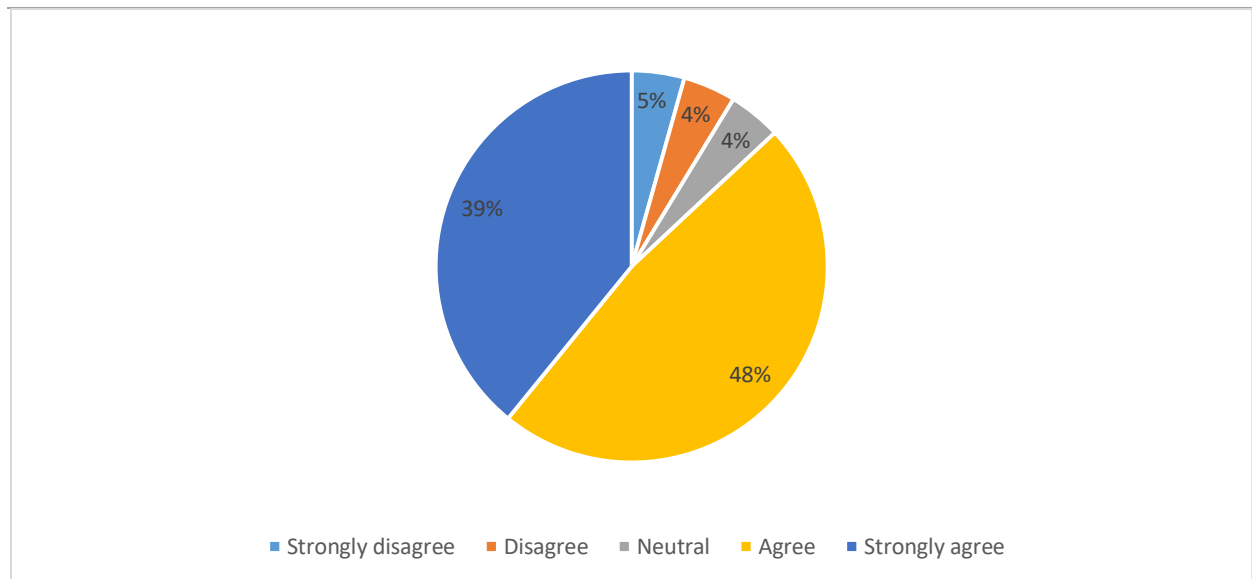
Chart 4: Students' preference for continuing using Wordwall website to learn and remember vocabulary in the future.
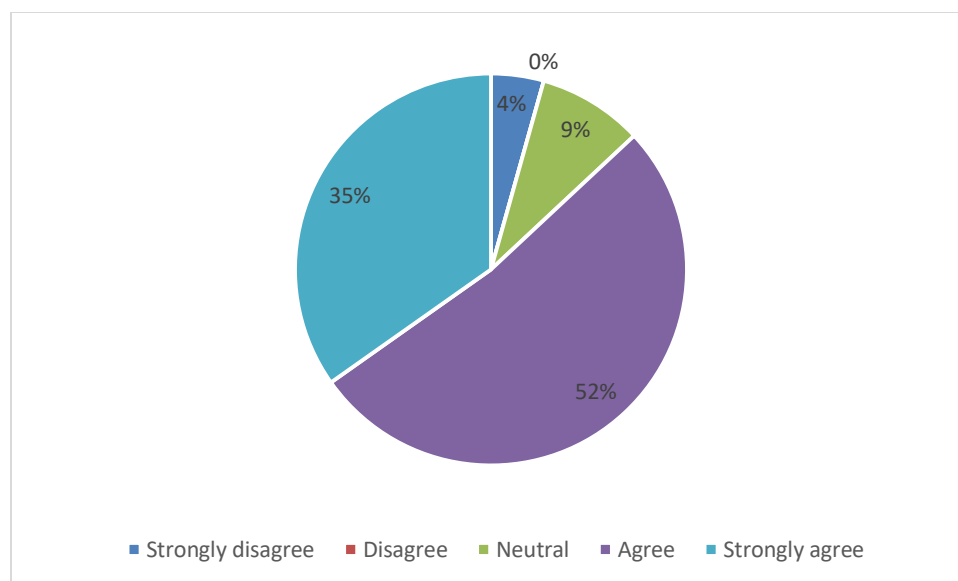

Chart 5: Students' recommendation Wordwall website to their friends for learning English vocabulary.

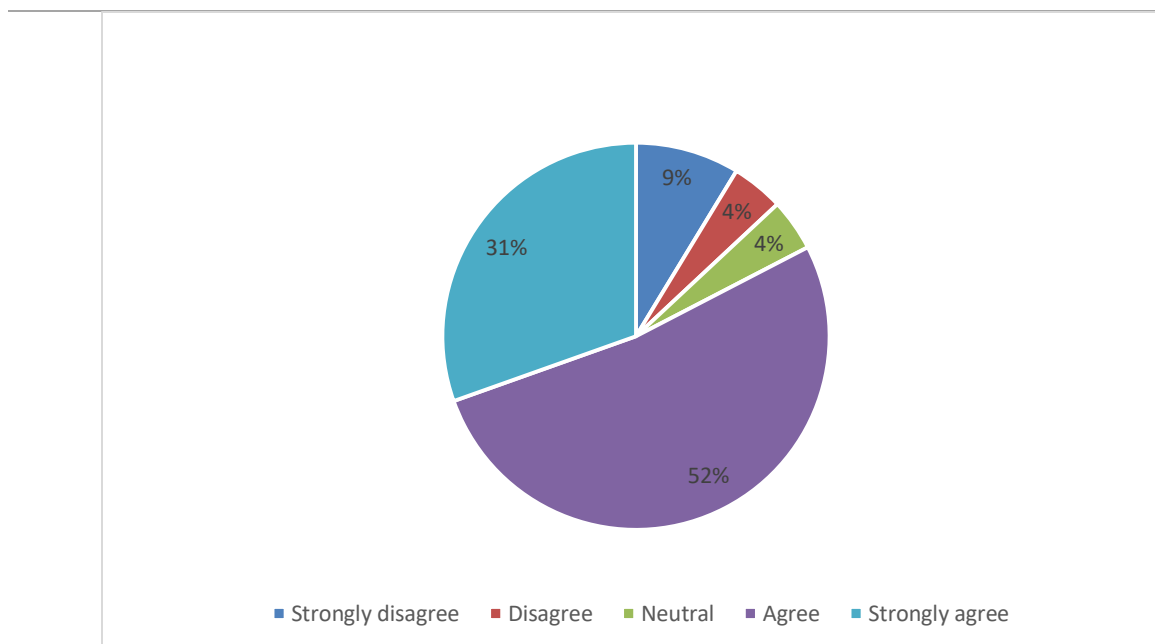■ Strongly disagree ■ Disagree ■ Neutral ■ Agree ■ Strongly agree

Chart 4 and Chart 5 show students' opinions on two aspects whether they wish to continue using it on learning and remembering vocabulary in the future and if they would suggest it to other English learners. It is observed that 87% of students chose to agree utilizing Wordwall website in their learning, and 83% would recommend this website to others . This indicates a high level of satisfaction and perceived success with Wordwall website. This suggests that students find the method highly effective for learning English, and their strong recommendation further highlights its usefulness and value in language learning.

3.4. Discussion

A general improvement in students' vocabulary retention could be seen from the comparison between the pre-test and post-test results before and after using Wordwall website. The average score increased from 5.54 to 5.87. Remarkable gains were seen in several students, whose scores increased by more than 3 points. These improvements indicate that the Wordwall website positively impacted many students' ability to recall and apply vocabulary. However, not all participants showed improvements. Some students showed no progress, and some had a decrease in their post-test scores. Studies by Schmitt (2008) and Webb (2008) highlight that vocabulary retention is influenced by many factors including learner's motivation, frequency of practice, learning styles, and exposure. Therefore, while Wordwall proved effective for many, it should be part of a broader, diversified instructional approach.

From the post-questionnaire data, students saw Wordwall as an enjoyable and effective tool. More than 85% of the participants agreed or strongly agreed that Wordwall made vocabulary learning more enjoyable and effective. These findings align with research by Godwin-Jones (2014) and Prensky (2001), which advocate for the use of gamified and interactive platforms in language learning to enhance student engagement and motivation.

Most students preferred using Wordwall website to remember words to traditional vocabulary learning methods such as rote memorization show a significant shift. Wordwall's interactive games and visual elements appeared to make vocabulary practice less monotonous and more memorable. Over 80% of students showed their willingness to use Wordwall in their learning routine and recommend it to peers. These behavioral intentions indicate that Wordwall is not only effective in the short term but also sustainable as a vocabulary learning strategy. This distinguishes the current study from others that merely assess short-term vocabulary gains without examining learners' future intentions or acceptance of technology.

There are previous studies (e.g. Lin & Lan, 2015; Reinders & Wattana, 2015) that have explored the effectiveness of digital tools and gamification in language learning. This study applied Wordwall in a context where learners often lack motivation and English exposure. It also combined quantitative data (test scores) with attitudinal insights (questionnaire responses), providing a broader picture of both learning outcomes and learner perceptions. Moreover, the findings suggest significant improvements in vocabulary learning can be seen from short-term digital tools. This supports the idea of involving technological tools as supplementary rather than traditional learning solutions.

Despite its positive results, there are some limitations in this study. First, the sample size was small, which was 23 students, and the duration of the experimental process was six weeks short. Additionally, students' actual time spent using Wordwall outside class was not strictly controlled or monitored. Future research could involve a larger, diverse sample and track user engagement more closely.

To sum up, the use of Wordwall had a positive effect on vocabulary retention among non-English majors. The platform not only improved test performance for students but also received high ratings in terms of enjoyment, motivation, and effectiveness. Compared to prior research, this study contributes new evidence from a Vietnamese university context, emphasizing the potential of Wordwall as a supplementary digital tool in vocabulary instruction. Nevertheless, its effectiveness varies among learners, underscoring the need for adaptive and blended teaching approaches in language education.

4. CONCLUSION

This research contributes to the growing body of evidence supporting the use of digital tools in language learning, particularly for vocabulary instruction. Wordwall has demonstrated considerable promise as a motivational and effective resource for non-English majors. Its interactive, visual, and game-based design has not only facilitated vocabulary retention but also fostered positive attitudes and autonomous learning behaviors among students.

Nonetheless, educators should be mindful that technology alone cannot solve all learning challenges. The key lies in thoughtful integration using Wordwall not as a replacement for traditional methods, but as a complement that enhances the overall learning experience. Tailoring its use to the needs of individual students, providing adequate support, and continuously evaluating its impact will ensure that Wordwall and similar tools can fulfill their potential in modern education.

In conclusion, this study offers both theoretical insights and practical guidance for vocabulary instruction. With continued innovation, teacher engagement, and student-centered design, tools like Wordwall can become a powerful ally in bridging vocabulary gaps for non-English majors and beyond.

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