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The Effectiveness of Wordwall-Based Gamification on Students' Vocabulary Mastery and Students' Perceptions Towards Its Implementation in Learning English Vocabulary

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Abstract: Students' perceptions are important because they influence how learners respond to teaching methods, learning media, and classroom activities. Therefore, examining both vocabulary achievement and students' perceptions can provide a more comprehensive understanding of Wordwall implementation in English learning. This study investigated the use of Wordwall-based gamification in improving students' vocabulary mastery and examined students' perceptions of its implementation in English vocabulary learning. The study employed a quantitative approach with a pre-experimental one-group pre-test and post-test design. The participants were 25 tenth-grade students from the Electrical Engineering 1 class (X TE-1) at SMK Negeri 2 Gerung. Data were collected through vocabulary tests and a students' perception questionnaire. The data from the vocabulary test were examined through descriptive statistics, a normality assessment, and the Wilcoxon Signed-Ranks Test as the scores from the post-test did not follow a normal distribution. The results indicated that the average score for students rose from 29.80 in the pre-test to 72.00 in the post-test. The Wilcoxon assessment revealed a notable difference between the pre-test and post-test outcomes, $Z = -4.376$, $p < .001$. Every one of the 25 students achieved improved scores in the post-test, with no negative rankings or ties present. The questionnaire results also indicated positive to very positive perceptions of Wordwall, particularly in terms of ease of use, affective engagement, usefulness, and learning engagement. These findings suggest that Wordwall-based gamification can support vocabulary learning and create a more enjoyable and engaging classroom atmosphere. However, because this study used a pre-experimental design without a control group, the results should be interpreted as evidence of improvement associated with the intervention rather than definitive causal proof.

Keywords: Gamification, students' perception, vocabulary mastery, Wordwall.

INTRODUCTION

Vocabulary plays a crucial role in learning the English language. It forms the basis for learners' capability to comprehend both spoken and written materials and to share their thoughts in a significant way. If students do not have a strong grasp of vocabulary, they may face challenges in improving other language abilities like listening, speaking, reading, and writing. Saumi et al. (2025) emphasize that students with stronger vocabulary knowledge tend to face fewer difficulties in learning English. Similarly, Ekayanti and Thohir (2019) state that students with broader vocabulary knowledge are more capable of understanding both written and spoken language.

Despite its importance, vocabulary mastery remains a challenge for many EFL learners. One possible factor is the continued use of conventional teaching methods that emphasize memorization, textbook-based instruction, and one-way classroom interaction. Such approaches may limit students' opportunities to participate actively and engage meaningfully with the learning material. Bonwell and Eison (1991) argue that passive learning can reduce students' motivation, attention, and engagement. As a result, students may become bored more quickly and less enthusiastic during the learning process.

In the current digital era, traditional vocabulary instruction needs to be supported by more interactive and engaging learning media. Many students today are familiar with digital platforms and are more likely to respond positively to technology-based learning activities. Lail (2019) states that attractive learning media can help increase students' focus and motivation.

Rosidah et al. (2024) also explain that learning media function as a bridge between teachers, students, and teaching materials in creating an effective learning process. Therefore, teachers need to integrate learning media that are relevant to students' digital learning habits.

One method that can be utilized for learning vocabulary is gamification. Gamification means incorporating game features into situations that are not games to boost motivation, involvement, and participation (Deterding et al., 2011). Within language instruction, gamification may involve points, tasks, stages, incentives, and rivalry to enhance classroom activities, making them more lively and fun. Zhang et al. (2020) explain game-based learning as the use of games in education to reach learning goals. With gamified tasks, learners can repeatedly practice vocabulary while staying interested in the educational experience.

Wordwall is one of the digital platforms that can support gamified learning. This platform allows teachers to design interactive activities such as quizzes, matching games, word searches, and other game-based tasks that can be adjusted to students' needs and proficiency levels. Saumi et al. (2025) note that Wordwall provides interactive features that teachers can adapt for vocabulary instruction. In addition, Barata et al. (2013) found that gamification can increase students' engagement and concentration, which may lead to greater classroom participation and collaboration.

Previous studies have reported the benefits of Wordwall and gamification in improving learning outcomes. For example, Khofifah and Trisni (2022) found that Wordwall-based interactive media positively influenced students' science learning outcomes. Listiani (2024) also reported that students responded positively to the use of Wordwall because it made learning more interactive and engaging. However, many previous studies have focused mainly on cognitive achievement, while students' perceptions of using Wordwall in English vocabulary learning have received less attention, especially in the vocational high school context.

Students' perceptions are important because they influence how learners respond to teaching methods, learning media, and classroom activities. Dörnyei (2006) argues that motivation and perception are closely related because students who perceive learning activities as interesting are more likely to participate and invest effort in learning. Therefore, examining both vocabulary achievement and students' perceptions can provide a more comprehensive understanding of Wordwall implementation in English learning.

Based on this background, the present study investigates the effectiveness of Wordwall-based gamification in improving students' vocabulary mastery and explores students' perceptions of its use in English vocabulary learning at the vocational high school level. The study is expected to provide empirical evidence and practical insights for English teachers who wish to design more interactive, enjoyable, and digitally relevant vocabulary learning activities.

METHODS

Research methods

This study employed a quantitative approach using a pre-experimental one-group pre-test and post-test design. This design was used to examine the difference between students' vocabulary mastery before and after the implementation of Wordwall-based gamification. Since the design did not involve a control group, the findings should be interpreted carefully as evidence of improvement after the intervention rather than as a definitive causal comparison with other teaching methods.

The participants of this study were 25 students from class X TE-1 of SMK Negeri 2 Gerung. They were selected because they were involved in English vocabulary learning during the period of the study. The implementation of Wordwall was conducted in vocabulary learning activities through several interactive game-based tasks, such as *Find the match, Open the Box, Maze Chase, and Speaking Card*. The treatment was conducted in four meetings, with each meeting lasting 90 minutes (2 JP). The vocabulary materials focused on narrative texts, particularly action verbs and verb collocations.

Data collection

The data were collected using two instruments: a vocabulary test and a students' perception questionnaire. The vocabulary test was administered twice, as a pre-test before the implementation of Wordwall and as a post-test after the treatment. The test was used to measure students' vocabulary mastery. The test consisted of 30 items, including 10 multiple-choice questions, 5 fill-in-the-blank items, 5 error recognition items, and 10 sentence recognition items. Each correct answer was scored equally,

and the total scores were converted into a scale of 0–100 for analysis.

The questionnaire was used to examine students' perceptions of the implementation of Wordwall in vocabulary learning. The questionnaire consists of 15 items used a four-point Likert scale and covered several indicators, including perceived usefulness, perceived ease of use, engagement, affective response, and motivation. The interpretation of students' perception scores was based on the score ranges shown in Table 1.

Data analysis

The information was evaluated using SPSS. Descriptive statistics were employed to find the average score and standard deviation of the students' pre-test and post-test outcomes. Following this, a normality assessment was performed to identify the suitable inferential statistical method. Since the post-test results did not follow a normal distribution, the Wilcoxon Signed-Ranks Test was applied to assess if there was a significant change between the pre-test and post-test scores. The questionnaire results were analyzed by determining the average score of each question and interpreting the findings according to the perception score categories.

Table 1. Students' perceptions questionnaire score range

Score Range	Perception Category
3.26 – 4.00	Very Positive
2.51 – 3.25	Positive
1.76 – 2.50	Fairly Positive
1.00 – 1.75	Less Positive

FINDINGS AND DISCUSSION

Findings

Students' Vocabulary Mastery

The data gathered from 25 participants indicated a gain in students' vocabulary skills following the use of Wordwall-based gamification. As shown in Table 2, the average score of the students rose from 29.80 on the pre-test to 72.00 on the post-test. This growth suggests that students had improved performance after acquiring vocabulary through Wordwall exercises. The standard deviation also increased slightly from 18.50 in the pre-test to 19.92 in the post-test, indicating that students' post-test scores were more varied after the treatment. Although the variation increased, the overall mean score showed a substantial improvement.

Table 2. Students' pre-test and post-test statistical analysis

N	**Valid**	**25**
	Missing	**0**
Mean	29.8000	72.000
Median	25.0000	82.000
Std. Deviation	18.50450	19.92068
Minimum	2.00	26.00
Maximum	69.00	94.00

Before conducting hypothesis testing, a normality test was conducted to determine the appropriate statistical procedure. The result showed that the pre-test data were normally distributed, with a significance value of 0.221 ($p > .05$). However, the post-test data were not normally distributed, with a significance value of 0.003 ($p < .05$). Therefore, the Wilcoxon Signed-Ranks Test was used instead of the paired sample t-test.

Table 3. Normality test result

Tests of Normality						
	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
	Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
Pre test	.142	25	.198	.948	25	.221
Post test	.216	25	.004	.863	25	.003

a. Liliefors Significance Correction

The Wilcoxon Signed-Ranks Test showed that every student raised their scores following the use of Wordwall. Table 4 demonstrates that there were no negative ranks and no ties present. All 25 participants were identified as positive ranks, indicating that each student achieved a better score in the post-test compared to the pre-test.

Table 4. Wilcoxon Signed-Ranks test result

Ranks

		N	Mean Rank	Sum of Ranks
Post test – Pre test	Negative Ranks	0[a]	.00	.00
	Positive Ranks	25[b]	13.00	325.00
	Ties	0[c]		
	Total	25		

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

The Wilcoxon test statistics also showed a significant difference between students' pre-test and post-test scores. The Z-value was -4.376, and the significance value was less than .001. Since this value is lower than the significance level of .05, the null hypothesis was rejected. This means that there was a statistically significant improvement in students' vocabulary mastery after the implementation of Wordwall-based gamification.

Table 5. Wilcoxon Signed-Ranks statistics test result

Test Statistics[a]

Z	-4.376[b]
Asymp. Sig. (2-tailed)	<,001

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

Students' Perceptions

The questionnaire results indicated that students responded positively to the use of Wordwall in vocabulary learning. The highest mean scores were found in Q10, which was related to the ease of using the application, and Q13, which was related to students' affective engagement during the learning activities. Both items obtained a mean score of 3.52 and were categorized as very positive. The lowest mean scores were found in Q6, related to perceived usefulness, and Q12, related to student engagement while using the platform. Both items obtained a mean score of 3.08, which still falls within the positive category. Overall, the results suggest that students had positive to very positive perceptions of Wordwall as a medium for English vocabulary learning.

Table 6. Questionaire data analysis result

Item	STS	TS	S	SS	Mean	Category
Perceived Usefulness						
Q1	0%	0%	21 (84%)	4 (16%)	3.16	Positive
Q2	0%	1 (4%)	12 (48%)	12 (48%)	3.44	Very Positive
Q3	1 (4%)	0%	18 (72%)	6 (24%)	3.16	Positive
Q4	0 (%)	0%	17 (68%)	8 (32%)	3.32	Very Positive
Q5	0 (%)	0%	16 (64%)	9 (36%)	3.36	Very Positive
Perceived Ease of Use						
Q6	1 (4%)	4 (16%)	12 (48%)	8 (32%)	3.08	Positive
Q7	0%	3 (12%)	13 (52%)	9 (36%)	3.24	Positive
Q8	0%	1 (4%)	17 (68%)	7 (28%)	3.24	Positive
Q9	1 (4%)	3 (12%)	12 (48%)	9 (36%)	3.16	Positive
Q10	0%	0%	12 (48%)	13 (52%)	3.52	Very Positive
Affective Engagement						
Q1	1 (4%)	0%	12 (48%)	12 (48%)	3.40	Positive
Q2	0%	1 (4%)	21 (84%)	3 (12%)	3.08	Very Positive
Q3	0%	0%	12 (48%)	13 (52%)	3.52	Very Positive
Q4	1 (4%)	0%	11 (44%)	13 (52%)	3.44	Very Positive
Q5	0%	0%	14 (56%)	11 (44%)	3.44	Very Positive

Discussion

Vocabulary Mastery

The results indicated that after using Wordwall-based gamification, students enhanced their vocabulary skills. The rise in the average score from 29.80 to 72.00 implies that the learning tasks allowed students to engage with vocabulary in a more dynamic and frequent manner. This finding is in line with Thornbury (2002), who states that vocabulary mastery requires repeated exposure, practice, and meaningful use of words in context.

Wordwall activities may have supported students' vocabulary learning because they allowed learners to encounter vocabulary items through interactive tasks rather than through memorization alone. In this study, students were encouraged to think, choose answers, and respond to challenges during the learning process. This type of active involvement is relevant to Laufer's (2006) view that vocabulary learning can be strengthened when learners are cognitively engaged with the target words.

The results also align with the levels of processing theory suggested by Craik and Lockhart in 1972. This theory states that information is easier to remember when it undergoes deeper processing. Through Wordwall activities, students did not only recognize vocabulary items but also interacted with them through tasks and games. This interaction may have helped students remember and understand vocabulary more effectively.

In addition, the results support previous research by Khofifah and Trisni (2022), which found that Wordwall-based interactive media improved students' learning outcomes. In the present study, all students showed improvement from pre-test to post-test, suggesting that Wordwall-based gamification was associated with consistent vocabulary gains among the participants. However, because the study used a one-group pre-test and post-test design, the improvement should be interpreted cautiously. Other factors, such as repeated testing, classroom instruction, or students' independent learning, may also have contributed to the score increase.

Students' Perceptions

The findings from the questionnaire revealed that students tended to view the use of Wordwall favorably for learning vocabulary. This finding indicates that students viewed the platform as useful, engaging, and easy to use. The highest mean scores were related to ease of use and affective engagement, suggesting that students did not only find Wordwall accessible but also enjoyable during the learning process.

These findings are relevant to the Technology Acceptance Model proposed by Davis (1989), which explains that technology acceptance is influenced by perceived usefulness and perceived ease of use. In this study, students' positive responses indicate that Wordwall was perceived as a learning tool that could help them understand and remember vocabulary in a more enjoyable way. Although some items obtained lower mean scores than others, these items were still categorized as positive, indicating that students generally accepted the use of the platform.

The positive perception results are also related to students' motivation and engagement. Dörnyei (2006) argues that students are more likely to participate actively when they perceive learning activities as interesting and meaningful. The game-based features of Wordwall, such as challenges, scores, and leaderboards, may have encouraged students to become more involved in vocabulary learning. However, this interpretation is based on questionnaire responses; therefore, future studies could include classroom observation or interviews to obtain deeper information about students' engagement during the learning process.

Overall, the findings suggest that Wordwall-based gamification can support both cognitive and affective aspects of vocabulary learning. It helped students improve their vocabulary scores and created a more positive learning experience. These results provide practical implications for English teachers, especially in vocational high school contexts, where interactive and technology-based learning media may help increase students' interest and participation.

CONCLUSION

This research explored how gamification using Wordwall can enhance students' mastery of vocabulary and looked into students' views on its application in learning English vocabulary. The results indicated that students' vocabulary scores rose following the introduction of Wordwall. The average score went up from 29.80 in the initial test to 72.00 in the final test, and the Wilcoxon Signed-Ranks Test revealed a notable difference between the two score sets. Every student showed progress, with no negative ranks or ties present. The questionnaire results also showed that students had positive to very positive perceptions of Wordwall. Students perceived the platform as useful, easy to use, engaging, and enjoyable for vocabulary learning. These findings suggest that Wordwall-based gamification can be used as an alternative learning medium to support vocabulary instruction and create a more interactive classroom atmosphere. Nevertheless, the findings should be interpreted with caution

because this study used a pre-experimental design without a control group. Future researchers are encouraged to use a quasi-experimental design involving a control group, include a larger sample, and combine questionnaires with interviews or classroom observations to obtain richer data on students' experiences and engagement.

REFERENCES

Barata, G., Gama, S., Jorge, J., & Gonçalves, D. (2013, October). Improving participation and learning with gamification. In *Proceedings of the First International Conference on gameful design, research, and applications* (pp. 10-17). https://doi.org/10.1145/2583008.2583010

Bonwell, C. C., & Eison, J. A. (1991). *Active learning: Creating excitement in the classroom. 1991 ASHE-ERIC higher education reports*. ERIC Clearinghouse on Higher Education, The George Washington University, One Dupont Circle, Suite 630, Washington, DC 20036-1183.

Craik, F. I., & Lockhart, R. S. (1972). Levels of processing: A framework for memory research. *Journal of verbal learning and verbal behavior*, *11*(6), 671-684. https://doi.org/10.1016/S0022-5371(72)80001-X

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, *13*(3), 319-340. https://doi.org/10.2307/249008

Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011, September). From game design elements to gamefulness: defining" gamification". In *Proceedings of the 15th international academic MindTrek conference: Envisioning future media environments* (pp. 9-15).

Dörnyei, Z. (2001). *Motivational strategies in the language classroom* (Vol. 10). Cambridge: Cambridge University Press.

Ekayanti, A., & Thohir, L. (2019). The effectiveness of using crossword puzzle to improve students' vocabulary Mastery. *Jurnal Lisdaya*, *15*(2), 148-154.

Lail, H. (2018). The effectiveness of using English movie with English subtittles in teaching vocabulary at the eighth year students of SMPN 1 Selong in the academic year of 2018/2019. *JOLLT Journal of Languages and Language Teaching*, *6*(2), 100-107. https://doi.org/10.33394/jollt.v6i2.1261

Laufer, B. (2006). Comparing focus on form and focus on forms in second-language vocabulary learning. *Canadian Modern Language Review*, *63*(1), 149-166. https://doi.org/DOI:%252010.1353/cml.2006.0047

Listiani, T. (2024). Implementing Wordwall in teaching sampling techniques for higher education students. *KnE Social Sciences*, 458-467. https://doi.org/10.18502/kss.v9i8.15582

Rosidah, S., Putra, H. D., & Hendriana, H. (2024). The implementation of Kahoot to improve students' understanding ability on integral materials. *(JIML) JOURNAL OF INNOVATIVE MATHEMATICS LEARNING*, *7*(1), 20-31. https://doi.org/10.22460/jiml.v7i1.18641

Saumi, F. K., Melani, B. Z., Wardana, L. A., & Elmiana, D. S. (2025). The Implementation Of Wordwall Platform to Deliver Interactive Medium for Students' Vocabulary in SDN 1 Jeringo. *Journal of Classroom Action Research*, *7*(3).

Sukma, K. I., & Handayani, T. (2022). Pengaruh penggunaan media interaktif berbasis wordwall quiz terhadap hasil belajar IPA di sekolah dasar. *Jurnal Cakrawala Pendas*, *8*(4), 1020-1028. https://doi.org/10.31949/jcp.v8i4.2767

Thornbury, S. (2002). *How to Teach Vocabulary* (1st ed.). Pearson Education.

Zhang, R., Cheng, G., & Chen, X. (2020). Game-based self-regulated language learning: Theoretical analysis and bibliometrics. *Plos one*, *15*(12), e0243827. https://doi.org/10.1371/journal.pone.0243827