18% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

Filtered from the Report

- Bibliography

Match Groups

43 Not Cited or Quoted 17%
Matches with neither in-text citation nor quotation marks

3 Missing Quotations 1%
Matches that are still very similar to source material

0 Missing Citation 0%
Matches that have quotation marks, but no in-text citation

0 Cited and Quoted 0%
Matches with in-text citation present, but no quotation marks

Top Sources

12% Internet sources
7% Publications
8% Submitted works (Student Papers)

Match Groups

- **43** Not Cited or Quoted 17%
  Matches with neither in-text citation nor quotation marks
- **3** Missing Quotations 1%
  Matches that are still very similar to source material
- **0** Missing Citation 0%
  Matches that have quotation marks, but no in-text citation
- **0** Cited and Quoted 0%
  Matches with in-text citation present, but no quotation marks

Top Sources

12% Internet sources
7% Publications
8% Submitted works (Student Papers)

Top Sources

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

1	Internet	jtuh.org <1%
2	Internet	publikasi.stkippgri-bkl.ac.id <1%
3	Internet	repository.ar-raniry.ac.id <1%
4	Student papers	UIN Maulana Malik Ibrahim Malang <1%
5	Internet	ejournal.iainpalopo.ac.id <1%
6	Internet	journalcenter.org <1%
7	Internet	repository.uinsaizu.ac.id <1%
8	Student papers	UIN Sunan Gunung DJati Bandung <1%
9	Internet	ejournal.unikama.ac.id <1%
10	Internet	pmc.ncbi.nlm.nih.gov <1%

11	Internet	
repository.iainpare.ac.id		<1%
12	Internet	
ijere.iaescore.com		<1%
13	Internet	
journal-gehu.com		<1%
14	Internet	
jurnal.larisma.or.id		<1%
15	Internet	
ejournal.unuja.ac.id		<1%
16	Internet	
banrjournal.org		<1%
17	Internet	
journals.unizik.edu.ng		<1%
18	Internet	
repo.uinsatu.ac.id		<1%
19	Internet	
slideplayer.com		<1%
20	Internet	
admin.tapchikhxh.vass.gov.vn		<1%
21	Internet	
journal.iaincurup.ac.id		<1%
22	Internet	
www.researchgate.net		<1%
23	Publication	
Muhammad Kamarul Kabilan, Mohd Iqbal Ahamat, Utami Widiati, Jasper Kun-Tin...		<1%
24	Publication	
Saariah Saariah, Luthfi Qolbi Azzahra, Dea Agta Syarafina, Nasiruddin Nasiruddin...		<1%

25	Internet	
ijrrjournal.com		<1%
26	Internet	
jurnal.fkip.unila.ac.id		<1%
27	Internet	
scholarspace.manoa.hawaii.edu		<1%
28	Student papers	
Universitas Muhammadiyah Sumatera Utara		<1%
29	Internet	
ijllalw.org		<1%
30	Student papers	
Nanyang Technological University		<1%
31	Internet	
sajhrm.co.za		<1%
32	Internet	
ejournal-hipkin.or.id		<1%
33	Internet	
epe.lac-bac.gc.ca		<1%
34	Internet	
repository.unsulbar.ac.id		<1%
35	Internet	
umppbi.com		<1%
36	Internet	
ejournal.uin-suska.ac.id		<1%
37	Internet	
repository.uinpalopo.ac.id		<1%
38	Internet	
www.ijser.org		<1%

Journal of General Education and Humanities
Vol. 5, No. 1, February 2026, pp. 2083 – 2092, https://doi.org/10.58421/gehu.v5i1.1170
ISSN 2963-7147

Digital Game-Based Learning Wordwall to Improve Vocabulary Mastery of Grade Eight Students at SMPN 2 Labobo

Nurhayati A Ahdani[1], Mochtar Marhum[2], Zarkiani Hasyim[3], Afrillia Anggreni[4]
[1,2,3,4]Universitas Tadulako, Palu, Indonesia

Article Info

Article history:

Received 2026-02-08
Revised 2026-02-19
Accepted 2026-02-28

Keywords:

Digital game-based learning
Rural school
Vocabulary mastery
Wordwall

ABSTRACT

Rural EFL students at SMPN 2 Labobo face difficulties in mastering English vocabulary because the learning process is often boring and relies on traditional, teacher-centred methods. resulting in frequent word retention problems, inaccurate usage, and low motivation in learning English. Therefore, this research aimed to evaluate the effect of game-based learning using Wordwall on improving English vocabulary mastery of eighth-grade students at SMPN 2 Labobo. The research employed a quantitative pre-experimental design with a one-group pre-test and post-test approach, involving 19 students. The intervention consisted of six meetings using interactive Wordwall activities, including matching pairs, quizzes, word searches, sentence building, and categorisation, focusing on nouns, verbs, and adjectives in context. Vocabulary mastery was assessed via written tests evaluating grammatical accuracy, appropriate vocabulary use, and sentence clarity. Data from the pre-test and post-test were analysed using a paired-samples t-test. The results showed a significant improvement, with pre-test mean scores rising from 36.63 to 72.16 post-test, a gain of 35.53 points, and a paired t-test confirming statistical significance, t = -10.809, p = 0.000. These findings highlight that Wordwall's strategy is effective in enhancing engagement and retention in a rural school context, offering pedagogical implications for integrating digital tools in English as a Foreign Language (EFL) instruction.

Corresponding Author:

Nurhayati A Ahdani
Faculty of Teacher Training and Education, Department of Language and Art Education, Tadulako University.
Email: nurhayatiahdani22@gmail.com

1. INTRODUCTION

Vocabulary plays a crucial role in language learning because it supports listening, speaking, reading, and writing skills. Vocabulary is a basic English component and one element that links the four language skills. Vocabulary is the most important aspect of language proficiency because it determines how well learners speak, listen, read, and write

[1]. Vocabulary can be defined in various ways, but it generally refers to the knowledge of words and their meanings. It can also be viewed as an organised collection of terms and their definitions. Vocabulary consists of the words used to form sentences and convey meaning [2]. Nation [3] states that without grammar, little can be communicated, and without vocabulary, nothing can be communicated. In addition, vocabulary is needed for student growth and development before grammar and pronunciation. In vocabulary learning, parts of speech, fundamental categories that classify words by function, play a crucial role in the structure and meaning of language [4]. The phrase "part of speech" refers to how words are categorised according to their roles in conventional grammar [5]. In general, parts of speech consist of nouns, verbs, adjectives, adverbs, pronouns, prepositions, conjunctions, and interjections. Parts of speech are a basic structure in learning English.

Despite its importance, many students still struggle to learn vocabulary. Preliminary observations and questionnaires conducted at SMPN 2 Labobo indicated that eighth-grade students showed low engagement in learning English vocabulary. Many students quickly forgot new words, had difficulty applying vocabulary in sentence construction, and were reluctant to participate in classroom tasks. As a rural school in Banggai Regency, Central Sulawesi, SMPN 2 Labobo also faces common challenges, including limited learning resources and limited exposure to English outside the classroom. These conditions make vocabulary learning even more challenging and highlight the need for more engaging instructional strategies. Vocabulary-learning strategies are recognised as a key component of language learning. Foreign language learners often encounter difficulties in acquiring vocabulary; however, they can apply various strategies to address these challenges [6]. Therefore, vocabulary learning strategies remain an important area of discussion in applied linguistics.

To enhance students' interest, particularly in vocabulary mastery, teachers should choose an effective strategy and use various media to boost students' interest significantly. The use of interactive digital media is therefore essential to improve students' vocabulary mastery and increase their interest in learning English, especially in contexts where traditional methods have proven insufficient. Goodman *et al.* [7] state that media games can improve students' engagement, language skills, and learning effectiveness. The use of interactive digital media is therefore essential to improve students' vocabulary mastery and increase their interest in learning English, especially in contexts where traditional methods have proven insufficient. Game-based learning is considered one effective way to increase students' motivation and participation [8]. Kahar and Baa [9] explain that one digital platform that supports game-based learning is Wordwall. Wordwall allows teachers to design interactive activities, such as quizzes, matching tasks, and word-grouping games, that help students enjoyably practice vocabulary.

Wordwall is a web-based learning platform that offers interactive, gamified activities for teaching and assessment. Wordwall can be utilised by educators who wish to develop teaching methods that serve as assessment tools in the learning process [10]. Ratnasari *et al.* [11] state that this application serves as a learning medium, a resource, and an engaging online assessment tool for students. It enables teachers to create engaging exercises, such as quizzes, matching tasks, word searches, anagrams, crosswords, flashcards, and sorting

games. These features help make learning more interactive and enjoyable while supporting innovative instructional practices [10]. Wordwall functions not only as a learning medium but also as a resource and assessment tool that encourages active student participation [12]. Wordwall is a useful resource for learning, media, and an enjoyable assessment tool for students [13]. This game can be accessed through laptops or smartphones and includes images, audio, animations, and interactive games that engage students. The platform integrates multimedia elements such as images, audio, animations, and game formats, which help students understand and remember vocabulary more effectively [14]. Although the traditional concept of a word wall refers to vocabulary displayed on classroom walls, the digital Wordwall transforms this idea into an interactive online environment where learners actively engage with words rather than passively observe them [15]. Through this interactive design, Wordwall supports meaningful vocabulary practice and increases learner involvement. Implementing Wordwall in vocabulary instruction typically involves selecting target words based on learning objectives, designing appropriate interactive activities, and engaging students in individual or collaborative practice. Teachers can also use the platform as a formative assessment tool to monitor progress and provide feedback. Empirical evidence indicates that students who learn vocabulary through Wordwall achieve better outcomes than those taught using conventional methods, highlighting its effectiveness as a digital game-based learning tool [16]. Overall, Wordwall supports vocabulary development by integrating motivation, interaction, practice, and assessment into a single digital platform.

Previous studies have demonstrated Wordwall's effectiveness in improving students' vocabulary mastery. Dwiningrum *et al.* [17] reported that Wordwall significantly enriched students' vocabulary, especially adjectives in descriptive texts, with a strong effect size indicating meaningful improvement after the treatment. Sitompul *et al.*[18] reported that students who learned vocabulary through Wordwall games outperformed those taught using traditional methods, with statistical analysis confirming a significant difference between groups. Umar *et al.* [19] revealed that various Wordwall activities, such as matching tasks, crossword puzzles, and meaning-guessing exercises, effectively enhanced students' vocabulary mastery at the beginner level. Napitupulu *et al.* [20] highlighted that integrating Wordwall not only improved students' vocabulary achievement but also increased their learning motivation. The study showed a substantial increase in students' scores after implementing Wordwall-based activities, suggesting that digital tools can create a more engaging and effective learning environment. However, to understand why Wordwall is effective in vocabulary mastery, it is necessary to examine its theoretical foundation in relation to language learning processes.

Wordwall strategy is an effective medium for improving vocabulary mastery and enhancing students' motivation and participation in English learning. Kapp [21] argues that gamification elements such as points, challenges, and competition enhance students' motivation and engagement, which are integrated within Wordwall's features. Rebecca [22] emphasises the importance of learning strategies in developing language proficiency, and Wordwall supports cognitive and memory strategies through structured practice. Mayer [23] states that combining visual and verbal input improves learning effectiveness, which aligns with Wordwall's interactive and visual-based activities. Through its interactive features,

Wordwall helps learners improve their vocabulary mastery through engaging, repeated practice.

Despite previous studies confirming Wordwall's effectiveness in enhancing students' vocabulary mastery and learning motivation, most existing research has been conducted in schools with relatively adequate technological facilities and students who are already familiar with digital learning environments. Many of these studies focused primarily on general vocabulary improvement without specifically examining how Wordwall supports students in using vocabulary within sentence contexts. In addition, limited empirical evidence is available regarding the implementation of Wordwall in rural junior high school settings where students have minimal exposure to educational technology and lower initial levels of English vocabulary mastery.

Therefore, this study aims to investigate whether Wordwall-based digital game learning significantly improves vocabulary mastery and learning engagement among eighth-grade students at SMPN 2 Labobo. Specifically, this research focuses on students' understanding and use of nouns, verbs, and adjectives in sentence contexts. By implementing Wordwall in a rural school environment, this study seeks to provide empirical evidence on the effectiveness of digital game-based learning in under-resourced settings. Accordingly, the research hypothesis is formulated as follows: H_1: Game-based learning using Wordwall can affect vocabulary mastery in grade eight students at SMPN 2 Labobo. By examining the implementation of Wordwall in a rural school setting, this study is expected to provide new insights into how digital game-based learning can be effectively applied in under-resourced educational environments and contribute to the development of more engaging vocabulary instruction.

2. METHOD

This research employed a quantitative pre-experimental design with a one-group pre-test and post-test. The pre-experimental design involved studying a single group that received an intervention, without a control group for comparison [24]. The research was conducted over four weeks: the students took a pre-test, received a treatment, and completed a post-test to measure their vocabulary mastery.

The research population consisted of the eighth-grade students of SMPN 2 Labobo in the 2025/2026 academic year. The class consisted of 19 students, and total sampling was used because the population consisted of only one class.

The treatment was conducted chronologically, with six meetings using Wordwall interactive games such as matching pairs, quizzes, word search, sentence building, and categorisation activities. The learning focused on vocabulary related to Classroom objects, past-tense verbs, Environmental nouns, Character traits, Feelings, and Sentence construction.

The Wordwall-based game learning strategy served as the independent variable, while students' vocabulary mastery was the dependent variable. Vocabulary mastery was measured through a written vocabulary test administered before and after the treatment. The test focused on students' ability to use concrete nouns, verbs, and descriptive adjectives in sentence contexts. The assessment instrument was developed based on vocabulary-learning

indicators and adapted to the proficiency level of eighth-grade junior high school students, while maintaining essential aspects of vocabulary use, grammar accuracy, and sentence clarity.

Students' responses were evaluated using an analytical scoring rubric adapted from Brown [25] and applied consistently to both the pre-test and post-test. The rubric assessed three aspects:

- grammatical accuracy
- appropriate vocabulary use
- sentence clarity.

Each section of the test had different scoring weights, with a maximum total score of 55, which was later converted to a 0–100 scale for interpretation. The researcher served as the single rater and used the rubric descriptors to ensure consistent scoring. To support content validity, the test items and scoring rubric were designed to align with vocabulary learning objectives and were reviewed before use. A pilot scoring process was conducted to ensure familiarity with the rubric and consistent application of the scoring criteria. Although inter-rater reliability was not calculated, the use of a structured rubric and uniform scoring procedure was intended to enhance reliability.

The research was conducted in three main stages. First, a pre-test was administered to measure students' initial vocabulary mastery. Second, the treatment was implemented through Wordwall-based game learning over six meetings. During treatment, students engaged in interactive digital activities, such as matching games, quizzes, word searches, and sentence-building tasks, designed to reinforce vocabulary learning in meaningful contexts. Third, a post-test with the same format as the pre-test was administered to measure students' improvement after the intervention.

A quantitative analysis of students' pre-test and post-test scores was conducted to determine the effectiveness of Wordwall-based learning. Descriptive statistics, including mean scores and standard deviations, were calculated to summarise students' performance. A paired-samples t-test was then applied to examine whether there was a statistically significant difference between pre-test and post-test results. Prior to hypothesis testing, normality testing was conducted to ensure that the data met the assumptions required for parametric analysis. Hypothesis testing was carried out at a 0.05 level of significance. If the calculated t-value exceeded the critical value, the alternative hypothesis (H_1) was accepted, indicating that Wordwall-based game learning significantly improved students' vocabulary mastery. Nevertheless, the findings should be interpreted cautiously and considered as empirical evidence within the context of this study.

3. RESULTS AND DISCUSSION

The research findings demonstrate that implementing the Wordwall-based Digital Game-Based Learning strategy was effective in enhancing students' vocabulary mastery. The analysis of the pre-test and post-test scores revealed a substantial improvement in students' performance after the treatment was administered. Overall, the results indicate that using Wordwall contributed positively to students' vocabulary achievement.

3.1. Results

The pre-test results showed that students' initial vocabulary mastery was relatively low. The pre-test mean score was 36.63, with a range of 7 to 87. The relatively large standard deviation (22.401) indicates that students' abilities were widely varied before the treatment. These findings suggest that most students still experienced difficulties in vocabulary recognition and usage prior to the instructional intervention.

Table 1. Pre-test and Post-test results

	N	Minimum	Maximum	Mean	Std. Deviation
Pre_Test	19	7	87	36.63	22.401
Post_Test	19	55	95	72.16	11.384
Valid N (listwise)	19				

After the treatment using Wordwall activities across six meetings, a post-test was administered to assess students' vocabulary mastery. The post-test results showed a clear increase in students' performance. The mean post-test score rose to 72.16, with a minimum score of 55 and a maximum of 95. In addition, the standard deviation decreased to 11.384, indicating that students' vocabulary abilities became more consistent after the intervention.

Table 2. Gain the score of both the Pre-test and the Post-test

Pre-test Mean	Post-test Mean	Gain
36.63	72.16	35.53

The comparison between pre-test and post-test mean scores shows a gain of 35.53 points, demonstrating a notable improvement in vocabulary mastery after using Wordwall.

Table 3. Paired sample t-test

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	Pre_Test - Post_Test	-35.526	14.327	3.287	-42.432	-28.621	-10.809	18	.000

The paired-samples t-test showed a mean difference of –35.526 points between students' vocabulary scores before and after the treatment, indicating a significant improvement. The standard deviation is 14.327, and the standard error is 3.287, which reflects moderate variability. The 95% confidence interval –42.432 to –28.621 does not include zero, confirming a real difference.

Table 4 Paired T-test result

t-value	df	Sig. (2-tailed)	Decision
-10.809	18	0.000	Ha accepted

To verify whether this improvement was statistically significant, a paired sample t-test was conducted. The result revealed a Sig. (2-tailed) value of 0.000, which is lower than the significance level of 0.05. The obtained t-value of -10.809 (df = 18) indicates a statistically significant difference between students' vocabulary scores before and after the treatment.

3.2. Discussion

The results of this research indicate that Digital Game-Based Learning through Wordwall led to a statistically significant improvement in students' vocabulary mastery. The increase in the post-test mean score, along with the substantial gain score and significant t-test result, provides empirical evidence that the intervention positively influenced students' vocabulary learning. The improvement can be interpreted through Wordwall's characteristics as an interactive learning platform. Wordwall offers engaging digital activities, such as matching tasks, quizzes, and word games, that promote active student participation. These activities allow students to repeatedly encounter vocabulary in meaningful contexts, which supports better retention and understanding. Kapp et al. state that the element of gameplay also creates an enjoyable learning environment that can increase motivation and reduce learning boredom. This research employed a pre-experimental design, specifically a one-group pre-test–post-test design, involving one class of 19 students. The research procedure included administering a pre-test, implementing the treatment using WordWall, and administering a post-test.

Before the treatment was applied, a pre-test was conducted to measure students' initial vocabulary mastery. The pre-test results indicated that students' vocabulary mastery was relatively low. Many students had difficulty remembering vocabulary and using words correctly in context. These difficulties suggest that students need a more engaging and interactive learning approach to support their vocabulary development.

After the pre-test, the researcher implemented the treatment using Digital Game-Based Learning through Wordwall. During treatment sessions, students learned vocabulary through interactive digital games from Wordwall, such as matching games, word searches, and quizzes. These activities encouraged students to participate in the learning process actively, increased their motivation, and created a more enjoyable classroom atmosphere. As a result, students were more engaged and willing to practice and recall new vocabulary.

Following the treatment, a post-test was administered to assess students' vocabulary mastery after WordWall implementation. The results showed a significant improvement in students' vocabulary scores. This improvement was statistically confirmed by the Paired Sample t-Test, which revealed a Sig. (2-tailed) value of 0.000, lower than the significance level of 0.05. This indicates a significant difference between the Pre-Test and Post-Test scores, demonstrating that WordWall had a significant effect on students' vocabulary mastery.

Moreover, the mean difference between the Pre-Test and Post-Test was -35.526, indicating that the Post-Test score was higher than the Pre-Test score. The 95% confidence interval, ranging from -42.432 to -28.621, was entirely negative, further confirming that students' vocabulary mastery improved consistently after the treatment. The obtained t-value of -10.809 with 18 degrees of freedom also indicates a very large statistical difference in students' vocabulary mastery before and after using WordWall.

The significant improvement in vocabulary mastery can be attributed to the nature of Digital Game-Based Learning using Wordwall, which emphasises interaction, repetition, and immediate feedback. Wordwall helps students learn vocabulary in a fun and meaningful way, reducing boredom and anxiety during English learning. Through game-based activities, students are more motivated to engage with vocabulary learning, which enhances retention and understanding.

4. CONCLUSION

The findings of this research demonstrated that implementing Digital Game-Based Learning using Wordwall effectively improves vocabulary mastery among eighth-grade students at SMPN 2 Labobo. The pre-test and post-test results indicated a significant improvement in students' vocabulary mastery following the implementation of wordwall-based learning activities. The use of interactive and gamified activities creates meaningful learning experiences that support active participation and repeated vocabulary practice. The findings imply that integrating digital game-based platforms into English instruction can be an effective pedagogical strategy, particularly for supporting vocabulary mastery and increasing student involvement. This research also contributes to the growing body of research on technology-enhanced language learning by demonstrating the practical value of gamified digital tools in classroom settings, especially in rural schools.

However, this research was limited to a single class of eighth-grade students at a single school and conducted within a limited time frame. Technical issues, such as internet connectivity problems during one meeting, also affected the learning process. Therefore, the findings may not be generalised to broader contexts without further investigation. For future research, it is recommended to conduct studies with larger samples, control groups, and longer implementation periods to obtain more comprehensive results. Further studies may also explore the application of Wordwall in improving other English skills or examine its long-term impact on language learning. Overall, this research contributes to educators and the general public by providing evidence that digital game-based learning can be a practical, accessible solution for improving vocabulary mastery in secondary education.

ACKNOWLEDGEMENTS

The researcher extends heartfelt thanks to all individuals who contributed to the successful completion of this study. Special thanks go to the principal of SMPN 2 Labobo, Pislan A. Busia, S.Pd., for approving the research, and to the English teacher, Ms Muraisah, S.Pd., for her collaboration and assistance during data collection. Finally, Deep gratitude is also expressed to the students of class eight for their enthusiastic involvement.

REFERENCES

[1] J. W. Richards, and W. A Renandya, *Methodology in language teaching: An anthology of current practice*. United States of America, New York: Cambridge University Press, 2002.

[2] S. Manda., A. Talib, and N. Aeni, "has opinion that vocabulary divided into four. Oral vocabulary, writing vocabulary, listening vocabulary, and reading vocabulary are the four types of vocabulary. First, oral vocabulary refers to the words that people use to express thought in an active a," *J. Excell. English Lang. Educ.*, vol. 1, no. 4, pp. 310–316, 2022.

[3] I. S. P. Nation, *Learning Vocabulary in Another Language*. Cambridge: Cambridge University Press., 2001.

[4] S. E. NP. Maili, D. M. I. Ayu, and E. Sondari., "Student Perceptions on Parts of Speech After Taking Integrated English," *J. Basis*, vol. 9, no. 2, pp. 339–344, 2022, doi: 10.33884/basisupb.v9i2.6349.

[5] N. Nordquist, "The 9 Parts of Speech: Definitions and Examples.," Thought.Co, 2024. [Online]. Available: https://www.thoughtco.com/part-of-speech-english-grammar-1691590

[6] R. Holidazia and R. S. Rodliyah, "Strategi Siswa dalam Pembelajaran Kosa Kata Bahasa Inggris," *J. Penelit. Pendidik.*, vol. 20, no. 1, pp. 111–120, 2020, doi: 10.17509/jpp.v20i1.24562.

[7] D. Goodman., N. L. Bradley., B. Paras., I. J. Williamson, and J. Bizzochi, "Video gaming promotes concussion knowledge acquisition in youth hockey players," *J. Adolesc.*, vol. 29, no. 3, pp. 351–360, 2006, doi: 10.1016/j.adolescence.2005.07.004.

[8] J. N. Aini and U. Marif'ah, "ISSN 2303 – 3037 (Print) ISSN 2503 – 2291 (Online) Virtual Implementation of Mobile-Game Based Learning : Enhancing Students ' Vocabulary Mastery and Self -Motivation ISSN 2303 – 3037 (Print) ISSN 2503 – 2291 (Online)," vol. 8, no. 2, pp. 343–351.

[9] N. H. Kahar and S. Baa, "Using Word Wall Medium to Improve Students' Junior Secondary School Vocabulary Mastery," *Proc. Int. Conf. English Lang. Teach.*, vol. 5, no. 1, pp. 109–115, 2021, [Online]. Available: https://e-proceedings.iain-palangkaraya.ac.id/index.php/INACELT/article/view/709

[10] O. D. Aryani., D. A. Linggar, and P. Astuti, "Teachersâ€™ Practices in Using Educational Mobile Applications to Teach English," *English Educ. J.*, vol. 11, no. 1, pp. 37–55, 2021, doi: 10.15294/eej.v11i1.40710.

[11] D. Ratnasari., H. R. Dhiya, and A. Susanti, "Pemanfaatan Aplikasi Wordwall Sebagai Media Pembelajaran Bahasa Inggris yang Menyenangkan," *... Semin. Nas. Has. ...*, pp. 1244–1249, 2022, [Online]. Available: http://seminar.uad.ac.id/index.php/semhasmengajar/article/view/10848

[12] N. Faradila., Y. Lapita, and M. Fadhli, "Improving Junior High School Students' Vocabulary Mastery through Wordwall.net Media," *Triadik*, vol. 22, no. 2, pp. 181–196, 2023, doi: 10.33369/triadik.v22i2.33582.

[13] R. S. Anjani., S. Lestari, and Kusnadi, "Students' Perceptions Toward the Use of Wordwall As a Formative Assessment in Elt," *Didakt. J. Ilm. PGSD STKIP Subang*, vol. 9, no. 04, pp. 2243–2256, 2023, doi: 10.36989/didaktik.v9i04.1764.

[14] M. Z. Ma'rifah and M. Mawardi, "Peningkatan Kemampuan Berpikir Kritis Siswa Menggunakan Hyflex Learning Berbantuan Wordwall," *Sch. J. Pendidik. dan Kebud.*, vol. 12, no. 3, pp. 225–235, 2022, doi: 10.24246/j.js.2022.v12.i3.p225-235.

[15] D. Hartatiningsih, "Meningkatkan Penguasaan Vocabulary Bahasa inggrisdengan Menggunakan Media Wordwall Siswa Kelas VII MTs. Guppi Kresnomulyo," *ACTION J. Inov. Penelit. Tindakan Kelas dan Sekol.*, vol. 2, no. 3, pp. 303–312, 2022, doi: 10.51878/action.v2i3.1443.

[16] H. A. Almuafa and H. S. Alqurashi, "The Impact of Using Wordwall Interactive Games on English Vocabulary Acquisition: Evidence From Saudi Arabia," *Int. J. Linguist.*, vol. 17, no. 2, p. 64, 2025, doi: 10.5296/ijl.v17i2.22685.

[17] N. Dwiningrum., E. Bunau, and E. F. Rahmani, "the Use of Wordwall To Enrich Students' Vocabulary," *Jpbii*, vol. 12, no. 1, pp. 2615–4404, 2024, doi: 10.23887/jpbi.v12i1.3308.

[18] D. M. Sitompul, B. Sinurat, and D. B. Manalu, "The Effect of Wordwall Game on English Vocabulary Mastery of Grade Eight Students at SMP Tamansiswa Pematangsiantar," *Innov. J. Soc. Sci. Res.*, vol. 4, pp. 1421–1429, 2024.

[19] Umar., R. A. Rahman., P. Mandarsari., Mawarwati, and S. Amir, "Using Word Wall Website As A Strategy To Improve Students' Vocabulary Mastery," *J. Educ.*, vol. 5, no. 3, pp. 9654–9661, 2023.

[20] L. H. Napitupulu., Salsabila, and E. S. Taringan, "the Implementation of Wordwall As a Digital Learning Tool To," *Prima J.*, vol. 6, no. 2, pp. 1–21, 2024.

[21] K. M. Kapp., L. Blair, R. Mesch., *The Gamification of Learning and Instruction Fieldbook ideas into practices*. San Francisco: Wiley, 2012.

[22] L. O. Rebecca, *Language Learning Strategies: What every teacher should know*. Boston: Heinle and Heinle, 1990.

[23] R. E. Mayer, *MULTIMEDIA LEARNING*, Seccond. New York: Cambridge University Press, 2009.

[24] J. W. Creswell, *Research design: Qualitative, quantitative, and mixed methods approaches*, 3 edition. los engeles: SAGE Publications Ltd., 2009.
[25] H. D. Brown,, *Language Assesment:Priciple and Classroom Practices*. united state america: Longman web, 2004.

turnitin Page 15 of 15 - Integrity Submission Submission ID trn:oid:::1:3494362768