Journal of General Education and Humanities
Vol. 4, No. 4, November 2025, pp. 1867 – 1875, https://doi.org/10.58421/gehu.v4i4.764
ISSN 2963-7147

The Effectiveness of Interactive Games for Improving Eighth-Grade Students' Vocabulary Mastery at MTs Alkairaat Alindau

Hizra Amanda[1], Darmawan[2], Desrin Lebagi[3], Jamiluddin[4]
[1,2,3,4] Universitas Tadulako, Palu, Indonesia

Article Info

Article history:

Received 2025-09-21
Revised 2025-10-26
Accepted 2025-10-27

Keywords:

Effectiveness
Interactive Games
Improving
Vocabulary Mastery

ABSTRACT

This study was motivated by the students' limited vocabulary mastery in learning English. Therefore, the researcher applied interactive games as an instructional tool to support students in expanding their vocabulary. The purpose of this study was to investigate the effectiveness of interactive games in improving the vocabulary achievement of eighth-grade learners at MTs Alkhairaat Alindau. The study employed a quantitative approach with a pre-experimental one-group pre-test and post-test design. The participants consisted of 24 students from Class VIII A. The data, collected through pre-tests and post-tests, were examined using a normality test and a paired sample t-test in SPSS software. Findings show that the students' mean score increased significantly from 45.67 in the pre-test to 66.58 in the post-test. The statistical analysis yielded a t-value of -15.668 (with a very large effect size, Cohen's d = -3.48) and a significance value (two-tailed) of 0.000. Since this value is less than 0.05, the null hypothesis (H_0) is rejected while the alternative hypothesis (H_1) is accepted. Therefore, the use of interactive games such as word matching and crossword puzzles proved effective in significantly improving students' vocabulary mastery at MTs Alkhairaat Alindau. This finding suggests that interactive games can serve as effective alternative strategies in EFL vocabulary teaching, particularly in similar junior high school settings.

Corresponding Author:

Hizra Amanda
Faculty of Teacher Training and Education, Department of Language and Art Education, Tadulako University
Email: hizramanda04@gmail.com

1. INTRODUCTION

Vocabulary mastery represents an essential component in acquiring English, especially for junior high school students. A solid foundation in vocabulary contributes to the development of other linguistic abilities, such as reading, writing, speaking, and listening [1]. The more vocabulary a person acquires, the better their comprehension of texts and their ability to communicate effectively. Despite vocabulary's foundational role,

https://doi.org/10.58421/gehu.v4i4.764

its instruction often faces significant obstacles globally, particularly in educational systems experiencing resource constraints. Within Indonesia, persistent reports indicate that many junior high school students, especially those situated in remote areas or schools with limited access to modern learning tools, struggle significantly with acquiring sufficient English vocabulary [2]. A major contributor to this problem is the reliance on conventional pedagogical approaches that emphasise rote memorisation and direct translation. These methods are frequently criticised for being monotonous and failing to stimulate active student engagement, thereby diminishing motivation and the long-term effectiveness of learning [3]. The national scope of this issue is evident, with data indicating that a large proportion of students face difficulties in textual comprehension due to insufficient vocabulary knowledge [4].

To overcome the shortcomings of traditional teaching and boost student involvement, the integration of interactive games has emerged as a promising pedagogical strategy. Extensive research supports the distinct advantages of integrating Game-Based Learning (GBL) into language classrooms, noting its capacity to establish a dynamic, engaging, and stress-free learning atmosphere [5], [6]. Specifically, the utilisation of interactive activities, such as word-matching and crossword puzzles, significantly enhances students' vocabulary acquisition by making the process enjoyable and reinforcing the meaning-making process [7], [8]. These structured play methods demonstrably increase student motivation, aid in the retention of new words, and contribute positively to overall language achievement [9]. For instance, comparative studies confirm that students taught through interactive game-based techniques show higher test scores and superior engagement compared to their peers in traditional classrooms [10]. This engaging environment is crucial for fostering confidence and persistent practice, which are vital for successful vocabulary mastery [11], [12].

Based on preliminary observation and initial interviews with the English teacher at MTs Alkhairaat Alindau, the researcher found that eighth-grade students consistently exhibit low vocabulary mastery. This issue is compounded by the fact that official textbook materials often exceed the current proficiency level, thereby necessitating that teachers frequently use simpler, supplementary vocabulary from external sources. This condition, typical of under-resourced Islamic junior high schools in rural Indonesian settings, underscores the immediate and pressing need for effective, easily implementable pedagogical strategies [13].

Despite the proven pedagogical utility of games, the current research landscape exhibits a significant gap in contextualised studies. Although numerous studies confirm the benefit of games for vocabulary learning, few have examined their effectiveness in under-resourced Islamic junior high schools (Madrasah Tsanawiyah) in Indonesia. Furthermore, few studies have investigated the use of interactive games for vocabulary mastery among junior high students in rural Indonesian contexts. This research void is critical because the success of simple, interactive interventions may be highly dependent on the unique resource limitations and educational environment found in such settings.

Based on the observed gap and the urgent local need for intervention, this study aims to determine the effectiveness of interactive games, especially word-matching and crossword

puzzles, in improving students' vocabulary mastery at MTs Alkhairaat Alindau. To empirically test the effectiveness of this intervention, the research is guided by two contrasting hypotheses: Null Hypothesis (H_0), which posits that interactive games are not effective in improving the vocabulary mastery of eighth-grade students at MTs Alkhairaat Alindau; and the Alternative Hypothesis (H_1), which posits that interactive games are effective in improving the vocabulary mastery of eighth-grade students at MTs Alkhairaat Alindau. The conclusion regarding these hypotheses will be determined at the end of the study through statistical analysis.

2. METHOD

This study employed a quantitative approach, utilising a pre-experimental one-group pre-test and post-test design (O_1-X-O_2). According to Sugiyono [14], this design is suitable for investigating the impact of a treatment by comparing performance before and after the intervention within the same group, making it particularly applicable to classroom-based studies. The framework of the design is presented in Table 1 below.

Table 1. Research Design

Pre-Experimental Group	Pre-test	Treatment	Posttest
One Group Experiment	O1	X	O2

Where:
O_1 = Pre-test (Before treatment)
X = Treatment (Use of interactive games)
O_2 = Post-test (After treatment)

The population included all eighth-grade students of MTs Alkhairaat Alindau during the 2023/2024 academic year. The experimental group consisted of 24 students from Class VIII A, selected based on the English teacher's suggestions and practical considerations, such as the class size that allowed for equitable grouping during the implementation of interactive games. This purposive sampling technique [15] was chosen intentionally based on specific criteria, including the researcher's accessibility and cooperation, which is useful when evaluating teaching methods directly within classroom contexts. The sample consisted of 10 male and 14 female students, with an average age of 13 to 15.

The research instrument consisted of a vocabulary test conducted in two sessions: a pre-test and a post-test. Each test consisted of 40 items, including 30 multiple-choice questions, five short sentence-construction tasks, and five fill-in-the-blank exercises, designed to assess students' comprehension and use of vocabulary taught during the learning sessions. Both tests had equivalent difficulty levels but covered different vocabulary items. The raw scores, ranging from 0 to 50, were converted to a 0–100 scale [16]. To ensure the quality of the instrument, the test was reviewed by two English lecturers to ensure content validity. Furthermore, all students participated voluntarily, with approval from the school administration, and were informed that their participation would not affect their academic standing, ensuring the study met ethical standards. The score

https://doi.org/10.58421/gehu.v4i4.764

range and interpretation used to classify students' performance levels into several categories after the treatment [17] are presented in Table 2.

Table 2. Score Range and Interpretation

Score Range	Category	Interpretation
86-100	Excellent	Mastery of vocabulary is excellent.
71-85	Very Good	Mastery of vocabulary is very good.
56-70	Average	Mastery of vocabulary is Average
41-55	Fair	Mastery of vocabulary is fair
0-40	Poor	Mastery of vocabulary is poor

Data were collected using a pre-test administered before the treatment and a post-test administered afterwards to evaluate students' improvement in vocabulary mastery. The treatment lasted for six class meetings, during which students participated in vocabulary activities using two types of interactive games: word-matching and crossword puzzles. These games were selected to promote active participation, enhance retention, and make learning more enjoyable. All procedures were carried out with permission from the school administration, and students were informed that their participation would not affect their grades or academic standing.

Data were collected using a pre-test conducted before the treatment (O_1) and a post-test given afterwards (O_2). The treatment lasted for six class meetings (approximately three weeks), during which students participated in vocabulary activities using two types of interactive games: word-matching and crossword puzzles. These games were specifically selected to promote active participation, enhance retention, and make learning more enjoyable, aligned with the syllabus.

The obtained data were processed using SPSS version 24. Both descriptive and inferential methods were applied. A normality test was first carried out to verify that the data followed a normal distribution before proceeding with further analysis. Afterwards, a paired-samples t-test was used to examine whether there was a statistically significant difference between students' pre-test and post-test results. Pallant gives the formula for the paired sample t-test [18] ($t = (M_{post} - M_{pre})/SE$). A significance level of $p < 0.05$ was used to determine the statistical hypothesis: if $p < 0.05$, the null hypothesis (H_0) is rejected, indicating that the use of interactive games had a statistically significant impact on improving vocabulary mastery.

3. RESULTS AND DISCUSSION

3.1 Results

This section presents the research findings aimed at evaluating the effectiveness of interactive games in improving the vocabulary mastery of the eighth-grade students at MTs Alkhairaat Alindau. The data obtained from the pre-test and post-test of the pre-experimental design were analysed to identify significant improvement following the intervention.

3.1.1 Descriptive Statistics

Descriptive statistics analysis was conducted to illustrate students' vocabulary mastery before and after using interactive games. The pre-test and post-test outcomes are shown in Table 3 below.

Table 3. Pre-test and Post-test Results of Pre-Experimental Class

Descriptive Statistics

	N	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
pre-test	24	22	78	45.67	2.936	14.382
posttest	24	46	92	66.58	2.699	13.220
Valid N (listwise)	24					

The results in Table 3 indicate an apparent increase in student performance, with the mean score rising from 45.67 (pre-test) to 66.58 (post-test). This represents a substantial gain of 20.91 points, or approximately a 45.8% relative improvement. This marked improvement is further supported by the increase in both minimum and maximum scores.

Table 4. Scoring Range of Post-test Pre-Experimental Class

Category		Score	Frequency	Percent
Valid	Excellent	81-100	3	12.5%
	Very good	71-85	5	20.8%
	Average	56-70	10	41.6%
	Fair	41-55	6	25%
	Poor	1-40	-	0%
Total			24	100%

The scoring range analysis (Table 4) reveals a positive shift in students' mastery level. In the posttest, no students remained in the Poor category (0%), while the Fair category (25%) and the majority of students achieved Average, Very Good, and Excellent categories (74.9%). This pattern indicates that the interactive games effectively enhanced students' vocabulary mastery.

3.1.2 Inferential Statistics

a. Normality Test

Table 5. Normality Test Results

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
pre-test	.083	24	.200*	.971	24	.684
posttest	.094	24	.200*	.957	24	.374

https://doi.org/10.58421/gehu.v4i4.764

Based on Table 5, the significance values (Sig.) for both the pre-test and post-test exceeded the 0.05 threshold. Specifically, the Kolmogorov-Smirnov significance is 0.200 for both the pre-test and post-test, while the Shapiro-Wilk significance is 0.684 and 0.374, respectively. These results indicate that the data for both sets were normally distributed, meeting the assumption necessary for a parametric statistical test, namely the Paired Sample T-Test.

b. Hypothesis Testing

The hypothesis was tested through a Paired Samples T-Test to examine whether a statistically significant difference existed between students' pre-test and post-test scores. The result is shown in Table 6 below.

Table 6. Paired Sample Test: Pre-test and Post-test

Paired Samples Test									
		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	pre-test - post-test	-20.917	6.540	1.335	-23.678	-18.155	-15.668	23	.000

Based on Table 6, the obtained values are as follows:

$$t = \frac{(Mpost - Mpre)}{SE}$$

$$t = \frac{(66.58 \quad 45.67)}{1.335}$$

$$t = \frac{20.91}{1.335}$$

$$t = 15.668$$

The degree of freedom (df) is:

$$df = N - 1 = 24 - 1 = 23$$

With a significance level of 0.05, the Sig. (2-tailed) value obtained was 0.000, which is lower than 0.05. Since t-count (15.668) exceeds t-table (approximately 2.069), the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. This means that interactive games contributed to a statistically significant improvement in students' vocabulary mastery.

To measure the magnitude of the improvement, Cohen's d was calculated using the formula:

$$d = \frac{(Mpost - Mpre)}{SDpooled}$$

$$d = \frac{20.91}{14.14}$$

$$d = 1.48$$

Based on Cohen's guidelines, d = 1.48 falls into the very large effect size category, indicating that interactive games had a highly powerful impact on improving students' vocabulary mastery.

3.2 Discussion

The findings strongly suggest that the use of interactive games, specifically word matching and crossword puzzles, resulted in a significant improvement in students' vocabulary mastery. The mean score increased by approximately 21 points from pre-test to post-test, supported by a highly significant result in the paired samples t-test ($t(23) = 15.668$, $p < .05$). The effect size was also very large (Cohen's $d = 1.48$), suggesting a substantial learning impact and meaningful educational improvement.

This finding aligns with earlier research that reported game-based learning strategies effectively improve vocabulary mastery [19], [20]. However, going beyond simple confirmation, this study suggests that the success is attributable to the cognitive mechanisms activated by the games. Interactive word-matching and crossword puzzles provide a low-stakes, contextual, and repetitive environment. The contextual presentation helps students encode vocabulary into long-term memory more effectively than traditional rote memorisation [21], while the active puzzle-solving aspect fosters active learning and sustained attention [22], [23]. This process promotes deeper engagement and motivation, which are critical for effective language acquisition [24].

Furthermore, the significant shift of students from the 'Poor' to 'Average' and 'Excellent' categories emphasises the practical utility of these games in addressing the challenge of limited vocabulary mastery observed in the local context of MTs Alkhairaat Alindau. While the findings are robust, the study acknowledges several limitations, notably the small sample size (N = 24) and the use of a pre-experimental design without a control group. This limits the ability to isolate the effect of the treatment from other confounding factors, suggesting caution when generalising the findings.

However, the strong effect size and positive results carry broader implications for EFL curriculum and teacher training in Indonesia [25]. This study emphasizes the importance of incorporating interactive and student-centered strategies into vocabulary instruction, particularly in under-resourced or rural junior high school settings. Educational institutions and curriculum designers should consider these games as essential, easily implementable alternative strategies to foster motivation, confidence, and active participation among junior high school students.

https://doi.org/10.58421/gehu.v4i4.764

4 CONCLUSION

Based on the findings and data analysis, this study demonstrates that implementing interactive games, specifically Word Matching and Crossword Puzzles, effectively and significantly enhanced the vocabulary mastery of eighth-grade students at MTs Alkhairaat Alindau. The substantial statistical difference between the pre-test and post-test scores confirms the rejection of the null hypothesis (H0) and the acceptance of the alternative hypothesis (H_1). The success of this intervention underscores the crucial need to shift away from traditional, memorisation-heavy methods in English language teaching (EFL). From a pedagogical perspective, interactive games create an enjoyable, engaging, and learner-focused environment that encourages active involvement while minimising learning anxiety. These results suggest that interactive games offer a sustainable and scalable strategy for EFL classrooms, providing teachers with a practical tool to enhance students' motivation, vocabulary retention, and overall achievement, particularly in under-resourced junior high school settings. However, this study was limited by its small sample size (N = 24) and the use of a pre-experimental design without a control group, which limits the ability to generalise the findings and thoroughly isolate the effect of the games.

For future research, it is recommended to utilise a larger and more diverse sample and employ a more rigorous design (e.g., quasi-experimental with a control group) to strengthen the causal relationship. Investigate the long-term effects of interactive games on vocabulary retention and other language skills. Examine the effectiveness of various game modalities, including digital games and cooperative game formats, in enhancing vocabulary acquisition in similar contexts.

ACKNOWLEDGEMENTS

I want to express my sincere gratitude to Dr. Darmawan, S.Pd., M.Phil., and Desrin Lebagi, S.Pd., M.Pd. for their guidance, support, and valuable advice throughout the completion of this study, as well as Dr. H. Jamiluddin, M.Hum, for his insightful feedback as a reviewer. I am also deeply grateful to my beloved family for their unwavering love, patience, and encouragement, which kept me motivated during my academic journey. My appreciation extends to the Principal of MTs Alkhairaat Alindau, the English teacher, and all staff members for their cooperation and permission to carry out this research. I also thank the students who participated with sincerity and enthusiasm. Finally, I am thankful to my friends who consistently provided support, encouragement, and companionship throughout this process. This achievement is the result of dedication, perseverance, and continuous effort that I have invested to reach this milestone.

REFERENCES

[1] I. S. P. Nation, *Learning Vocabulary in Another Language*, 2nd Editio. Cambridge, United Kingdom: Cambridge University Press, 2020. doi: 10.1016/s0889-4906(02)00014-5.

[2] W. A. Renandya and H. P. Widodo, *English Language Teaching Today: Linking Theory and Practice*, 1st Edition. Singapore: Springer International Publishing, 2020.

[3] S. Munawaroh, "Peningkatan Penguasaan Kosakata Bahasa Inggris Anak Melalui Permainan Tradisional Engklek," LPPM Universitas Nahdatul Ulama Surabaya. Accessed: Apr. 01, 2025. [Online]. Available: https://lppm.unusa.ac.id/meningkatkan-penguasaan-kosakata-bahasa-inggris-anak-melalui-permainan-tradisional-engklek

[4] J. S. Sitorus, "Improving Students' Vocabulary Mastery Through the Utilisation of Quizlet at the Tenth Grade of MAS Ibadurrahman in 2020/2021 Academic Year," *Bright Vis. J. Lang. Educ.*, vol. 3, no. 2, pp. 302–312, 2023, [Online]. Available: https://jurnaltarbiyah.uinsu.ac.id/index.php/brightvision/article/view/2887

[5] T. Prabha and A. Abdul Aziz, "Effectiveness of Using Poly Category Mind Map for Vocabulary Development," *Arab World English J.*, vol. 11, no. 2, pp. 214–231, 2020, doi: 10.24093/awej/vol11no2.15.

[6] S. Safura and C. M. Helmanda, "Using Games in Improving Students' Vocabulary Mastery," *J. Dedik. Pendidik.*, vol. 6, no. 1, pp. 75–84, 2022, doi: 10.30601/dedikasi.v6i1.2324.

[7] G. Alavi and A. P. Gilakjani, "The Effectiveness of Games in Enhancing Vocabulary Learning among Iranian Third Grade High School Students," *J. Lang. Teach. Res.*, vol. 9, no. 8, pp. 629–639, 2019, doi: 10.17507/jltr.0903.24.

[8] T. M. Hoa and T. T. T. Trang, "The Effects of Using Games on Teaching Vocabulary in Reading Comprehension: A Case of Gifted Students," *J. Educ. Gift. Young Sci.*, vol. 8, no. 1, pp. 715–726, 2020, doi: 10.17478/jegys.866480.

[9] B. D. Muhimmah, "Penerapan Teknik Word Matching Game Untuk Meningkatkan Penguasaan Vocabulary Peserta Didik pada Materi Narrative Text Kelas IXD SMP Negeri 3 Praya," *Teach. J. Inov. Kegur. dan Ilmu Pendidik.*, vol. 3, no. 1, pp. 24–30, 2023.

[10] L. T. Tuan and N. T. Doan, "Teaching English Grammar Through Games," *Stud. Lit. Lang.*, vol. 1, no. 7, pp. 61–75, 2021, [Online]. Available: https://www.researchgate.net/publication/50934170_Teaching_English_Grammar_Through_Games

[11] M. A. H. Musa, W. H. Osman, A. L. Abu Bakar, and B. Tobi, "An Interview About Using Online Games in Vocabulary Acquisition Among the Second Year Students of University College Sabah Foundation," *Int. J. Educ. Psychol. Couns.*, vol. 6, no. 41, pp. 199–215, 2021, doi: 10.35631/ijepc.641015.

[12] S. Nuraeni and C. Intan Lube, "Improving English Vocabulary Mastery Through Word Game," *Proj. (Professional J. English Educ.*, vol. 3, no. 1, pp. 109–113, 2020, doi: 10.22460/project.v3i1.p109-113.

[13] N. Mansur, Fatima, and Zulkifli, "Improving Vocabulary Mastery Through Crossword Puzzle," *Datokarama English Educ. J.*, vol. 4, no. 1, pp. 51–60, 2023.

[14] Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta, 2019. [Online]. Available: https://www.scribd.com/document/703487690/Sugiyono-2019

[15] A. C. Tabuena, "A Pre-Experimental Research on the Implementation of Selected Classroom Assessment Techniques for Music, Arts, Physical Education, and Health," *Int. J. Multidiscip. Appl. Bus. Educ. Res.*, vol. 2, no. 2, pp. 99–107, Feb. 2021, doi: 10.11594/ijmaber.02.02.03.

[16] R. Schmidmaier, J. Eberhard, and M. Holzer, "Scoring Single-Response Multiple-Choice Items: Scoping Review and Implications for Assessment," *JMIR Med. Educ.*, vol. 9, no. 1, p. e44084, 2023, doi: https://doi.org/10.2196/44084.

[17] D. P. Harris, *Testing English as A Second Language*. New York: McGraw-Hill, 1969.

[18] J. Pallant, *SPSS Survival Manual: A step-by-step guide to data analysis using IBM SPSS*, 6th edition. London, United Kingdom: McGraw-Hill Education, 2016.

[19] B. Pratolo and R. Hafizhah, "The effectiveness of using crossword puzzle games to improve vocabulary mastery of the 7th grade students of SMP Muhammadiyah 2 Kalasan," *Teach. English as a Foreign Lang. J.*, vol. 1, no. 1, pp. 1–12, Nov. 2022, doi: 10.12928/tefl.v1i1.161.

[20] S. Raudah, A. Suriansyah, and C. Cinantya, "Efektivitas Penggunaan Media Pembelajaran Interaktif dalam Meningkatkan Keaktifan dan Minat Belajar Pada Siswa Sekolah Dasar," *MARAS J. Penelit. Multidisiplin*, vol. 2, no. 4, pp. 2092–2097, Dec. 2024, doi: 10.60126/maras.v2i4.559.

[21] M. Hasbi, A. Munawir, Satriani, G. Ahmad, and U. Khair, "Teaching Vocabulary Using Games: Empowering Students' Interest in ELT Classrooms," *J. Pengabdi. Kpd. Masy. Patikala*, vol. 1, no. 3, pp. 155–160, 2022, doi: 10.51574/patikala.v1i3.290.

[22] A. Wright, D. Betteridge, and M. Buckby, *Games for Language Learning*, 3rd Editio. Cambridge: Cambridge University Press, 2006.

[23] M. Huda, *Model-model Pengajaran dan Pembelajaran: Isu-isu Metodis dan Paradigmatis*, 2nd Editio. Yogyakarta: Pustaka Pelajar, 2013.

[24] M. L. Silberman, *Active Learning: 101 Cara Belajar Siswa Aktif*. Bandung: Nuansa Cendekia, 2016.

[25] S. Sarwat, A. Hamza, and A. Wazeer, Muhammad, "Investigating the Impact of Role play games on Vocabulary Building of ESL Learners at Intermediate Level," *Pakistan Lang. Humanit. Rev.*, vol. 7, no. 1, pp. 20–33, 2023, doi: 10.47205/plhr.2023(7-i)03.

Amanda_Final_Turnitin

ORIGINALITY REPORT

25%	21%	16%	8%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	www.jurnal.umbarru.ac.id Internet Source	2%
2	repository.iainpalopo.ac.id Internet Source	2%
3	acopen.umsida.ac.id Internet Source	2%
4	journal.adityarifqisam.org Internet Source	1%
5	journal-gehu.com Internet Source	1%
6	Landry Dwiyoga Daniswara. "The Influence of AI-Generated Feedback on Students' Debate Skills in University", JEES (Journal of English Educators Society), 2025 Publication	1%
7	Submitted to Capella University Student Paper	1%
8	ajarcde-safe-network.org Internet Source	1%
9	edulearn.intelektual.org Internet Source	1%
10	www.frontiersin.org Internet Source	1%
11	jurnal.kdi.or.id Internet Source	1%

12	Submitted to University of Mauritius Student Paper	1%
13	jurnalpaedagogia.com Internet Source	1%
14	jurnal.baik.or.id Internet Source	1%
15	mail.mjltm.org Internet Source	1%
16	Arita Marini, Desy Safitri, Alma Niladini, Musril Zahari, Leola Dewiyani, Uyu Muawanah. "Developing a website integrated with project-based learning: Evidence of stimulating creativity among elementary school students in Indonesia", Social Sciences & Humanities Open, 2025 Publication	<1%
17	ejournal.1001tutorial.com Internet Source	<1%
18	rsisinternational.org Internet Source	<1%
19	www.researchgate.net Internet Source	<1%
20	Yuli Rahmawati, Peter Charles Taylor. "Empowering Science and Mathematics for Global Competitiveness", CRC Press, 2019 Publication	<1%
21	ejournal.lppmunidayan.ac.id Internet Source	<1%
22	jim.teknokrat.ac.id Internet Source	<1%
23	ejournal.unisbablitar.ac.id Internet Source	<1%

24	eprints.unm.ac.id Internet Source	<1%
25	files.eric.ed.gov Internet Source	<1%
26	so06.tci-thaijo.org Internet Source	<1%
27	Tarimantan Sanberto Saragih, Ratminto, Achmad Djunaedi, Hakimul Ikhwan et al. "Innovative models to enhance user experience in JMO mobile: A case study of migrant workers in East Java, Indonesia", Social Sciences & Humanities Open, 2025 Publication	<1%
28	journal-nusantara.com Internet Source	<1%
29	www.scribd.com Internet Source	<1%
30	hrmars.com Internet Source	<1%
31	jele.or.id Internet Source	<1%
32	repository.kln.ac.lk Internet Source	<1%
33	repository.unsri.ac.id Internet Source	<1%
34	risetpress.com Internet Source	<1%
35	scholar.archive.org Internet Source	<1%
36	www.itc.polyu.edu.hk Internet Source	<1%

37	competitor.idjournal.eu Internet Source	<1%
38	journal.lembagakita.org Internet Source	<1%
39	jurnal.fkip.unila.ac.id Internet Source	<1%
40	jurnal.stkippgritulungagung.ac.id Internet Source	<1%
41	pdfs.semanticscholar.org Internet Source	<1%
42	rayyanjurnal.com Internet Source	<1%
43	www.srmuniv.ac.in Internet Source	<1%
44	Thashwinny a/p Prabha, Azlina Abdul Aziz. "Effectiveness of Using Poly Category Mind Map for Vocabulary Development", Arab World English Journal, 2020 Publication	<1%

Exclude quotes	Off	Exclude matches	Off
Exclude bibliography	On		