

THE EFFECTIVENESS OF CROSSWORD LABS WEBSITE ON STUDENTS' VOCABULARY MASTERY

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Abstract

This study aims to examine the effectiveness of Crossword Labs, a digital platform, in improving the English vocabulary mastery of eighth-grade students at SMP Ma'arif Bongas. The background of this study is the need for more interactive and relevant learning methods, given the lack of studies that specifically examine the use of digital crossword puzzle platforms. This research is a new contribution by applying interactive technology to increase motivation and learning outcomes. This study used a quantitative method with a quasi-experimental design, where 60 students were divided into an experimental group using Crossword Labs and a control group learning conventionally. Data were collected through pre-tests and post-tests, then analyzed using a t-test. The results showed a significant increase in the vocabulary scores of the experimental group, with an average gain score of 0.7912, much higher than the control group, which only scored 0.3504. The significant t-value proves that the use of Crossword Labs is effective in improving students' vocabulary mastery, making it a valuable innovation in language learning.

Keyword : *Crossword Labs, Vocabulary Mastery, Interactive Learning Methods*

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INTRODUCTION

In many facets of life, English plays a significant role as an international language. This indicates that individuals all throughout the world use English not just for communication but also for interaction and information exchanging. As a result, it is considered a required subject that is taught from elementary school through university. English has four skills that must be mastered, including speaking, reading, writing and listening. To be able to master these four skills requires a basic mastery of vocabulary.

Vocabulary is the total number of words in a language, including both written and spoken terms. Vocabulary is a list or group of phrases and words that are often sorted alphabetically and explained or described known as vocabulary. It is also a collection of terms used by a group, individual, language, or in a field of expertise or at work. Vocabulary plays a crucial role in communication and language comprehension because, according to the definitions provided by the experts, it is the total number of words in a

language, both spoken and written, and includes a list of phrases and words that have been categorized and explained. Vocabulary can also be a collection of terms used by individuals, groups, or in specific fields of expertise.

A key component of communication is vocabulary. A wide range of words will impact one's comprehension of texts and communication skills during the learning process. Since words are the foundation of communication, having a large vocabulary enhances speaking, listening, writing, and reading. In this situation, having a large vocabulary makes it possible for people to communicate their thoughts and emotions more accurately and clearly. Additionally, having a solid vocabulary aids in comprehending the messages that other people are trying to convey.

Vocabulary is an essential aspect of ability to speak and serves as a large portion of the foundation for pupils' language abilities. For this reason, word is crucial in conveying meaning. Vocabulary is the quantity of words that individuals know and employ in their linguistic activities a language's ability to convey meaning to others is an important aspect. Thus, if student's vocabulary knowledge is limited, they will have difficulty conveying meaning and communicating well. Effective vocabulary teaching techniques are therefore required for achieving the best possible learning outcomes.

Some teachers' experience confusion in choosing what learning methods and media for teaching and learning activities. 76% of educators said they were unsure on how to convey the content to the students. Most of them use the same media and methods. This makes students experience boredom. To overcome this problem, more interesting learning methods and media are needed. Many strategies and resources, such as games and illustrations, can increase pupils' willingness to pay attention in class, especially when they are learning new words.

A method that teachers can use to teach vocabulary is to apply a game as a teaching and learning tool. A game is an activity that may be played with specific rules to choose the winners and the losers, generally in a non-serious setting with the goal of rejuvenating. A game is also defined as a pleasurable activity that reflects reality in the acquisition of knowledge. The inference drawn from these two definitions is that games are activities with specific rules that aim to entertain and give an enjoyable educational experience. Games not only entail competition to decide winners and losers, but they also act as a representation of reality, assisting participants in gaining knowledge. As a result, games become an efficient way to have fun while learning, fostering a dynamic and engaging environment for players.

Although games are generally enjoyed for amusement, they could additionally be used to teach, simulate, and discuss topics like relationships, health, and education. Games in education are interactive activities with the aim of making learning successful and fun. The findings show that games can be a useful tool for assisting students in understanding the subject matter.

Asserts that games are one way to help students understand the importance and need of particular word. There are many kinds of games that

can be used to improve vocabulary, one of which is crossword. Students may expand their vocabulary and learn new words by doing crossword puzzles. In addition to having pupils retain new words, crossword puzzles boost their passion and interest in learning. Playing crossword puzzle games may make vocabulary study easier and more enjoyable while giving pupils additional opportunities to retain words and construct sentences. Additionally, students are going to acquire the context of each word in beside the words themselves by completing crossword puzzles.

Even though there are clear advantages to teach vocabulary through games like crossword puzzles, many teachers find it difficult to successfully incorporate these strategies into their lesson plans. Implementing such interactive tactics might be hampered by elements including a lack of resources, insufficient training in the use of educational technology, and differing levels of student participation. Consequently, it is necessary to investigate how resources like the Crossword Labs website might improve the efficiency of crossword puzzles in vocabulary training.

Crossword puzzles are one form of game that teachers can use to spark students' enthusiasm in learning English, particularly in terms of vocabulary. This game not only introduces students to new vocabulary, but also encourages them to think critically and imaginatively in pursuit of answers. The process of searching for words and understanding the clues in the crossword puzzle allows students to actively expand their vocabulary.

In a study on the connections among crossword games and vocabulary acquisition, Children do not only get knowledge from their surroundings, but they also create that knowledge through active engagement with their environment and social surroundings . This suggests that a study approach that involves interaction and exploration is particularly crucial in enhancing language understanding. In other words, learning that motivates students to actively look for information and connect with the topic will be more in-depth and relevant.

Using games to teach vocabulary learning is more successful. Crossword puzzles, as a type of game, additionally make studying more enjoyable, but also inspire students to actively participate in the educational process. Crossword puzzles can encourage students to actively look for knowledge from the words presented. Because crossword puzzles include completing words depending on clues or questions offered, student can recall and identify a word that is significant to vocabulary proficiency. Thus, combining social connection, engaging learning methods, and active inquiry through crossword puzzles may significantly enhance students' vocabulary comprehension and mastery.

Technology utilization in the classroom is crucial. particularly for acquiring vocabulary. Crossword Labs is a website or digital platform. To make courses more engaging and dynamic, educators can design crossword puzzles on the platform that are customized to the needs of their pupils. Using online learning resources can help students learn more effectively . Furthermore, solving

crossword puzzles aids pupils in both recalling new vocabulary and comprehending their context, both of which are critical for language learning.

Even if there are numerous benefits to employ a crossword game in the classroom, there will still be difficulties. Some educators can lack enough access to technology or feel less comfortable utilizing it. Thus, it's critical to investigate how using websites like Crossword Labs might enhance vocabulary acquisition efficiency. The purpose of this study is to evaluate how crossword puzzles help eighth grade students at Ma'arif Bongas Junior High School improve their vocabulary acquisition and to offer suggestions for teachers on how to use this strategy successfully.

After the writer visited SMP Ma'arif Bongas, the writer found that most students have difficulty in memorizing English vocabulary. This challenge may be influenced by teaching methods that are less interactive, so students feel less motivated to learn. In the school, interesting and innovative learning media have not been applied, so students do not get a learning experience that can trigger their interest and involvement. The use of more interactive media can be a solution to improve vocabulary acquisition and make the learning process more interesting for students.

Therefore, the purpose of this study is to examine the effectiveness of crosswords puzzle learning in teaching vocabulary in the classroom and motivate students to be more engaged and excited about language acquisition. It is anticipated that the findings of this study will also give educators fresh perspectives on how to incorporate educational games and technology into the classroom to enhance students' learning outcomes and enthusiasm for English.

According to the background of the study above, there are several problems that can be identified in this research, students have difficulty understanding the material and answering questions because the words in the materials are difficult for them to understand, students struggle to commit English vocabulary to memory, students are occasionally less motivated and interested in learning English, students' general lack of vocabulary makes it difficult for them to understand and use English effectively, teachers rarely use interesting media in their lessons.

This study has a wide reach, and the researcher will not be able to handle every issue. Consequently, the researcher in this study focused on "The Effectiveness of Using Crossword Labs Website Towards Students' Vocabulary Mastery at The Eighth Grade of SMP Ma'arif Bongas". The following are some of the research's limits for this project: The study's main focus is on students' mastery of vocabulary, the researcher uses Crossword Labs website as learning media in mastering vocabulary, researcher selects four word classes namely adjective, noun, verb and adverb to assess mastery of vocabulary.

Based on the identification and the limitation of the problems, the researcher formulates the problem as follows: "Does Crossword Labs website affect vocabulary mastery at the eighth grade in SMP Ma'arif Bongas?"

The objective of this research was to To examine whether the Crossword Labs website affect vocabulary mastery at the eighth grade in SMP Ma'arif Bongas. This

study aims to provide a deeper understanding of the effectiveness of using technology-based crossword puzzles in vocabulary learning. The researcher hopes to identify methods that can improve student engagement and learning outcomes, as well as contribute to the existing educational literature. The purpose of this study is to assist students in improving their vocabulary acquisition through an interactive and fun learning method. By using crossword puzzles, it is expected that students can be more motivated and engaged in the English learning process, thus improving their learning outcomes. This study aims to provide recommendations for teachers on the use of innovative and interesting learning media, such as crossword puzzles. It is hoped that the results of this study can help teachers in designing more effective and interesting teaching strategies, so as to increase students' motivation and interest in learning.

Research by Muhammad Danial, Azka Riyadi (2023) Entitled “ The Effectiveness of Crossword Puzzle Towards Students' Vocabulary Mastery at Seventh Grade in MTS Ma'arif NU 1 Sumbang “. The research concludes that crossword puzzles are an effective tool for improving vocabulary mastery among seventh-grade students, providing a viable alternative to conventional teaching methods. This approach not only enhances learning outcomes but also makes the learning process more engaging for students. Research by Eka Fitriyani (2016) Entitled “ The Effectiveness of Crossword Puzzle by Learning Vocabulary “. The research successfully demonstrated that crossword puzzles are an effective media for enhancing vocabulary learning among students, as evidenced by the significant improvement in test scores and statistical analysis. Research by Ayu Salimah (2022) Entitled “ The Effectiveness of Crossword Puzzle in Teaching Vocabulary at the Second Semester of Seventh Grade At MTS Mathlul Anwar Cintamulya South Lampung in the Academic Year of 2021/2022 “. The research conducted by Ayu Salimah aimed to determine the effectiveness of using crossword puzzles in enhancing vocabulary mastery among seventh-grade students at MTs Mathlul Anwar Cintamulya in South Lampung during the academic year of 2021/2022. the research demonstrated that crossword puzzles are a valuable tool in teaching vocabulary, leading to improved learning outcomes for students.

All three of the researches demonstrate that crossword puzzles are a useful tool for enhancing pupils' vocabulary development. According to each study, students' learning results improved, and this approach might be a compelling substitute for traditional teaching techniques.

The main difference between my research and these three studies lies in the use of a digital platform, namely the “crossword labs website,” as a tool to implement crossword puzzles. While the three previous studies focus on the general use of crossword puzzles in vocabulary teaching, this study emphasizes on the effectiveness of using technology and online resources in the learning process. This suggests a more modern and relevant approach to the current development of educational technology, which may yield different results in terms of student engagement and learning effectiveness compared to the conventional methods used in the previous studies.

The purpose of this study is to investigate the efficiency of a crossword puzzle in increasing eighth-grade students' vocabulary knowledge at SMP Ma'arif Bongas.

It will investigate whether there is a substantial difference in pupils' vocabulary acquisition ability when taught through crossword media versus traditional teaching techniques. To accomplish this, the author will employ a quasi-experimental approach, comparing the performance of two groups: one taught via crossword media and one taught using traditional means. The author will analyze students' comprehension using pre and post examinations that are specifically developed to measure their grasp of vocabulary acquisition.

The procedure involves testing the instrument and administering a pre-test to measure students' ability in adjective, verb, noun, and adverb vocabulary. The next phase is often called as treatment. The experimental group received a treatment in the form of crossword puzzle media to teach the four vocabulary words. Meanwhile, the control class will be taught using conventional methods. In this step, the researcher will hold the fourth meeting for the experimental group and the control class. The final stage is to conduct a post-test. This stage involves administering a test to students to determine the effectiveness of the treatment provided. This test identifies changes related to the treatment.

METHOD

This research uses a quasi-experimental method with a quantitative approach to class VIII students at Ma'arif Bongas Junior High School. Researcher will employ both experimental and control classes to implement it. This quasi-experimental study is intended to observe the effects of an intervention without group randomization, allow researcher to compare learning results across two groups. In this scenario, the experimental class will learn using crossword puzzles, but the control class will study conventionally. The purpose of this study is to acquire a better understanding of how crossword puzzles affect students' vocabulary mastery. This quasi-experimental study will be carried out utilizing quantitative methodologies.

The design employed in this study is the Pretest-Posttest Control Group Design. Pretest-Posttest Control Group Design is a quasi-experimental research strategy for assessing the effects of an intervention or treatment by comparing two distinct groups. In this design, two groups are selected at random and then given a pretest to identify the initial circumstances and differences between the experimental and control groups.

Table 1 Research Design : Pretest-Posttest Control Group Design

<i>Group</i>	<i>Pre-test</i>	<i>Treatment</i>	<i>Post-test</i>
Experimental Group	<i>T1</i>	<i>x (learning using crossword Puzzle)</i>	<i>T2</i>
Control Group	<i>T3</i>	<i>Y (konventional learning)</i>	<i>T4</i>

RESULT AND DISCUSSION

After providing materials to both the experimental and control classes, the researcher assessed students' vocabulary mastery through a test. The test was administered in two classes: class VIII-A as the experimental group and class VIII-B as the control group. Data were collected from objective tests in the form of multiple-choice questions given to both classes. The test consisted of 10 items, with the total number of correct answers multiplied by 10, allowing for a maximum score of 100.

The purpose of this test is to measure how effective the material given to the experimental group is compared to the control group. The scores obtained from this test will become quantitative data that will be further analyzed to see whether there is a significant difference in vocabulary mastery between the two groups. The results of this analysis will help researchers conclude whether the methods or materials given to the experimental group have a greater positive impact on improving students' vocabulary mastery..

Tabel 1. Data Description

<i>No.</i>	<i>Class</i>	<i>Maximum</i>	<i>Minimum</i>	<i>Std. Deviation</i>
1	Pretest Eksperiment	80	10	18.864
2	Posttest Ekperiment	100	70	10.662
3	Pretest Control	80	20	18.286
4	Posttest Control	100	30	19.888

Initial descriptive analysis revealed that both groups had similar baseline characteristics before the intervention. The pre-test scores for the experimental group ranged from 10 to 80, with a standard deviation of 18.864, while the control group's pre-test scores ranged from 20 to 80, with a standard deviation of 18.286. This similarity in initial scores and score variability confirmed that both groups were comparable at the beginning of the study, ensuring that any subsequent changes could be attributed to the intervention.

Following the intervention, a marked difference was observed between the two groups. The experimental group showed a dramatic improvement in post-test scores, with the minimum score increasing from 10 to 70 and the maximum score reaching 100. This improvement was accompanied by a significant decrease in score variability, as evidenced by the standard deviation dropping to 10.662. This indicates that the students' scores became more homogeneous and clustered in a higher range. In contrast, the control group showed only a slight improvement, with the minimum score rising to 30, and their score variability slightly increased to 19.888. The substantial increase in both minimum and maximum scores, coupled with the reduced variability in the experimental group, provides strong evidence for the effectiveness of using crossword puzzles as a learning tool for vocabulary acquisition.

Before conducting inferential statistical tests, a normality test was performed to ensure the data for all variables were normally distributed,

which is a key assumption for many statistical analyses. The decision criteria for the normality test were based on the p-value (Sig.): a p-value > 0.05 indicates a normal distribution, while a p-value < 0.05 indicates a non-normal distribution.

The results of the normality tests confirmed that the data for most variables were normally distributed. The Experimental Pre-Test data had a p-value of 0.080 (Kolmogorov-Smirnov) and 0.084 (Shapiro-Wilk), both greater than 0.05. The Experimental Post-Test data also showed normal distribution with p-values of 0.200* (Kolmogorov-Smirnov) and 0.671 (Shapiro-Wilk). Similarly, the Control Pre-Test data had p-values of 0.200* (Kolmogorov-Smirnov) and 0.153 (Shapiro-Wilk). While the Control Post-Test data's Kolmogorov-Smirnov test yielded a p-value of 0.018 ($p < 0.05$), the more sensitive Shapiro-Wilk test, which is more appropriate for the small sample size ($n=30$) of this study, showed a p-value of 0.055 ($p > 0.05$). Based on the Shapiro-Wilk result, the data for the Control Post-Test was also considered normally distributed. Consequently, all data sets met the assumption of normality, allowing for further inferential statistical analysis to determine the significance of the observed differences. The findings from this descriptive analysis, particularly the superior performance of the experimental group, strongly suggest that the use of crossword puzzles is an effective method for improving students' vocabulary mastery.

Before comparing the vocabulary acquisition scores between the experimental and control groups, a Variance Homogeneity Test (Levene's Test) was conducted. This test is a crucial prerequisite for using parametric tests like the independent samples t-test. The purpose is to ensure that the variances of the scores in both groups are equal or homogeneous. The decision rule for this test is based on the significance value (Sig. or p-value): if Sig. > 0.05, the variances are homogeneous; if Sig. $\leq$ 0.05, they are heterogeneous.

Based on Levene's Test for "Student Learning Outcomes", the significance values consistently ranged from 0.001 to 0.003. Since all these p-values are less than 0.05, the null hypothesis of equal variances is rejected. This indicates that the variances of the students' learning outcomes between the experimental and control groups are heterogeneous or unequal. As a result, for the subsequent mean comparison analysis, a procedure that does not assume equal variances, such as the independent samples t-test with a Welch's correction, will be used to ensure the validity and reliability of the results. This finding is important as it dictates the appropriate statistical method to be used for the final analysis, ensuring that the conclusion regarding the effectiveness of the intervention is statistically sound.

CONCLUSION

This study was designed to test the effectiveness of using the Crossword Labs website in improving the vocabulary mastery of eighth-grade students at SMP Ma'arif Bongas. The findings of the study indicate that the implementation of the Crossword Labs website substantially improved the overall vocabulary skills of students.

According to the data analysis, there was a significant increase in the post-test scores of students who used Crossword Labs. The average pre-test score for the experimental group was 55.00, which then increased to 85.67 in the post-test. This change indicates that the crossword-based learning approach through the website was able to facilitate students in achieving better and more consistent vocabulary mastery. Additionally, the standard deviation in the post-test also decreased, indicating that the improvement in students' capabilities became more homogeneous and stable.

On the other hand, the control group that used conventional methods showed a more minimal increase, from an average pre-test score of 53.33 to 66.50 in the post-test. Statistical testing using a t-test confirmed that the disparity in score increases between the two groups was significant (Sig. 2-tailed = 0.000, $t = 8.994$, $df = 58$). The average score gain in the experimental group of 0.7912 far exceeded that of the control group, which only reached 0.3504, thereby strengthening the hypothesis that the use of Crossword Labs is more effective in improving vocabulary mastery.

Although both groups, the experimental group and the control group, showed improvement in their post-test scores, the comparison of their improvement was very different. The experimental group experienced a jump in average scores of 30.67 points, far exceeding the improvement of only 13.17 points in the control group. This striking difference is reinforced by the average gain score, which shows that the progress in vocabulary mastery of students taught with Crossword Labs was almost twice as high as that of students using conventional methods. This data clearly proves that although traditional methods still produce progress, Crossword Labs is far more effective in accelerating and maximizing vocabulary mastery.

These results are reinforced by the positive responses from students, who feel that using this website is interesting, exciting, and motivates them to learn vocabulary. The interactive and visual features offered by Crossword Labs help students digest and remember new vocabulary better, making the learning process more productive and enjoyable. Therefore, it can be concluded that the use of the Crossword Labs website significantly enhances the vocabulary mastery of eighth-grade students at SMP Ma'arif Bongas.

The suggestion for students are encouraged to actively use technology-based learning media such as Crossword Labs to improve their vocabulary. By practicing regularly and utilizing the interactive features of this website, students can more easily remember and understand new vocabulary in a fun and effective way. For teachers are encouraged to integrate the use of the Crossword Labs website into the vocabulary learning process to make it more interesting and innovative. The use of this digital media can increase student

motivation and participation, as well as help create a more interactive and enjoyable learning environment. For future researchers are advised to explore the influence of other similar digital platforms on student learning outcomes, as well as to examine aspects of student motivation and engagement in greater depth. Additionally, research can be developed by involving various grade levels and other subjects to obtain a broader picture of the effectiveness of technology-based learning media. Given that this study only focused on four word classes (nouns, verbs, pronouns, and adjectives), it is recommended that researchers expand the scope by studying other fields or different word classes to make the results more comprehensive and generalizable. This is important to ensure that the use of digital media can be optimized across various learning contexts.

To measure the intervention's impact more profoundly, gain scores were calculated for each participant, representing the difference between their post-test and pre-test scores. To get a more accurate picture of the teaching method's effectiveness, especially by accounting for a student's maximum potential for improvement, the Normalized Gain (N-Gain) formula was used. The application of N-Gain is crucial because it allows researchers to evaluate how effective a teaching approach is at improving material mastery, considering each student's initial ability.

Based on the calculations, the average N-Gain score for the experimental group was 0.7912, which was significantly higher than the control group's 0.3504. This descriptively indicates that using the Crosswordlabs method was more successful at improving vocabulary mastery. The N-Gain value of 0.7912 for the experimental group falls into the "high" category, showing a very effective improvement. In contrast, the control group's N-Gain of 0.3504 falls into the "medium" category, indicating that their improvement was not as optimal. This provides strong evidence that the treatment—using crossword puzzles—had a significant and positive impact on students' vocabulary mastery. These findings reinforce the conclusions from the earlier descriptive statistical analysis and support the research hypothesis that the Crosswordlabs method is more effective than conventional learning.

To test the significance of the difference in mean gain scores between the experimental and control groups, an inferential statistical analysis was conducted using the Independent Samples t-test. This test is used to compare the means of two independent groups. A preliminary Levene's Test was first performed to check for the assumption of homogeneity of variance.

The results of the Levene's Test showed a significance value (p-value) of 0.001 to 0.003, which is less than the significance level (α) of 0.05. This finding indicated that the variances of the two groups were heterogeneous (unequal). As a result, the standard Student's t-test was not used. Instead, the more robust Welch's t-test—a version of the t-test for unequal variances—was employed. The null hypothesis (H_0) for this test stated that there was no significant difference in the mean gain scores between the two groups, while the alternative hypothesis (H_a) stated that a significant difference existed. The

decision to reject or accept the null hypothesis was based on the p-value: if the p-value was less than the specified significance level (0.05), the difference would be considered statistically significant.

The Welch's t-test results confirmed the findings from the descriptive analysis. The test yielded a t-value of 8.994 with degrees of freedom (df) of 51.500. The two-sided significance value (p-value) obtained was 0.000, which is substantially less than the α value of 0.05. Therefore, the null hypothesis was rejected, leading to the conclusion that there is a statistically significant difference in mean gain scores between the experimental and control groups. The mean difference of 0.44081 indicates that the vocabulary gain in the experimental group was significantly greater than in the control group. The 95% confidence interval (CI) for this mean difference, which ranged from 0.34244 to 0.53918, further confirms that the observed difference is not due to chance and represents a genuine effect of the intervention. These findings provide definitive evidence that using crossword puzzles is a highly effective method for improving students' vocabulary mastery.

REFERENCE

- Ahyar, H., Andriani, H., Sukmana, D. J., Hardani, S. P., MS, N. H. A., GC, B., ... & Istiqomah, R. R. (2020). *Buku metode penelitian kualitatif & kuantitatif*. Yogyakarta: CV. Pustaka Ilmu
- Akdogan, E. (2017). Developing Vocabulary in Game Activities and Game Materials. *Online Submission*, 7(1), 31-66.
- Bhuana, G. P., & Apriliyanti, D. L. (2021). Teachers' encounter of online learning: Challenges and support system. *Journal of English Education and Teaching*, 5(1), 110-122.
- Merriam Webster Dictionary as cited in Syauki, A. Y., Suhendra, S., & Fathonah, F. (2022). Study Literature The Correlation Between Student's Vocabulary Matery And Speaking Skill. *Tulisan Ilmiah Pendidikan*, 11(1), 35-42.
- Muin, A. (2023). *Buku ajar metode penelitian kuantitatif*.
- Munirah, M., & Hardian, H. (2016). Pengaruh kemampuan kosakata dan struktur kalimat terhadap kemampuan menulis paragraf deskripsi siswa SMA. *Jurnal Pendidikan Bahasa dan Sastra*, 16(1), 78-87.
- Murtado, Dodo, et al. "Optimalisasi pemanfaatan media pembelajaran online sebagai upaya meningkatkan hasil belajar siswa di sekolah menengah atas." *Journal on Education* 6.1 (2023): 35-47.
- Nurdiana, D., & Suryadi, A. (2017). Perancangan Game Budayaku Indonesiaku Menggunakan Metode Mdmc. *Jurnal Petik*, 3(2), 39-44.
- Nurhayati, D. A. W. (2015). Improving Students' English Pronunciation Ability through Go Fish Game and Maze Game. *Dinamika ilmu*, 15(2), 215-233..
- Puspita, N., & Sabiqoh, N. (2017). Teaching vocabulary by using crossword puzzle. *English Education: Jurnal Tadris Bahasa Inggris*, 10(2), 308-325.
- Richards, J. C., & Renandya, W. A. (2002), as cited in Tegu, Y., & Hadiwijaya, M. (2022). The Effectiveness of Crossword Puzzle Games toward the

- Students Vocabulary Achievement at VII Grade in SMPN 1 Nangaroro. *Verba: Journal of Applied Linguistics*, 1(1), 11-15.
- Rochmadhoni, N. (2022). The Effectiveness Of Crossword Puzzle Games In Teaching Vocabulary To The Seventh Graders At Smpn 2 Bojonegoro. *EDUTAMA*.
- Saputri, D. Y., Rukayah, R., & Indriayu, M. (2018). Need assessment of interactive multimedia based on game in elementary school: A challenge into learning in 21st century. *International Journal of Educational Research Review*, 3(3), 1-8.
- Semmar, Y., & Al-Thani, T. (2015). Piagetian and Vygotskian approaches to cognitive development in the kindergarten classroom. *Journal of Educational and Developmental Psychology*, 5(2), 1.
- Sistiarini, R. D. (2021). Pengembangan Permainan Sirkuit Animate Untuk Menstimulasi Kemampuan Motorik Kasar Anak Usia 5-6 Tahun. *AWLADY: Jurnal Pendidikan Anak*, 7(1), 46-61.
- Syafrizal, S., & Haerudin, H. (2018). The implementation of vocabulary building strategy in teaching English vocabulary to young learners. *Jo-ELT (Journal of English Language Teaching) Fakultas Pendidikan Bahasa & Seni Prodi Pendidikan Bahasa Inggris IKIP*, 5(1), 40-48..