



## Enhancing Vocabulary Acquisition: A Study on the Impact of Crossword Puzzle Learning Media in an EFL Context

Rusmiati<sup>1</sup>, Annisa Miftahul Jannah<sup>2</sup>, Sungkawati Kardi Wahyuningsih<sup>3</sup>

<sup>1</sup> English Education Department, Faculty of Tarbiyah and Teacher Training, UIN Ar-Raniry, Indonesia

<sup>2,3</sup> English Education Department, Tarbiyah Faculty, IAIN Takengon, Indonesia  
Email: [rusmiati.rus@ar-raniry.ac.id](mailto:rusmiati.rus@ar-raniry.ac.id)

### Submission Track:

Received: 12-01-2025, Final Revision: 03-02-2025, Available Online: 25-02-2025



This work is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).

### Abstract

*Vocabulary mastery is essential in English language learning. The lack of English words in students' memory will hinder them in communication. This research aims to determine the effect of crossword puzzle media on improving the vocabulary skills to the eighth-grade students of a junior high school in Aceh Tengah. The study was conducted by using experimental research, and carried out on two groups: the experimental and the control. A population of 120 eight-grade students were selected, and the sample were class VIII-1 and class VIII-2 consisting 32 students in each functioning as the control group and experimental group respectively. The results indicated that the average score of the experimental class exceeded that of the control class. This showed that the experimental class performed better than the control class. The results of the t-test revealed that the calculated t-value was greater than the table t-value ( $2.13 > 1.99$ ). With a significance level of 5% and 38 degrees of freedom, this means that the null hypothesis ( $H_0$ ) is rejected and the alternative hypothesis ( $H_a$ ) is accepted. In other words, this learning media has a positive effect during English language learning.*

**Keywords:** Vocabulary, crossword puzzle, language learning, gamed-based learning, retention

## **INTRODUCTION (Cambria 12pt, Capital, Bold)**

Mastering English as a foreign language is essential for students, as it is one of the most widely spoken languages worldwide. According to Huda, et al (2017), English serves as the primary language of communication in international settings, making it crucial for education, business, tourism, and other sectors. Particularly in education, a vast amount of academic literature is published in English, which necessitates strong language skills for students to access and comprehend these resources effectively.

In Indonesia, English is taught as a foreign language from secondary school through university. As stated in the Law of National Education System No. 20 of 2003, which encourages the use of foreign languages in the curriculum to improve students' linguistic competencies, the Indonesian government acknowledges the significance of English proficiency. Nevertheless, despite this emphasis, many students face significant challenges in mastering English due to limited vocabulary knowledge (Aswad et al., 2022; Fhona & Rusmiati, 2015; Jon et al., 2021; Rusmiati et al., 2022).

Teachers play a crucial role in ensuring students develop an interest in learning English. However, many educators still rely on conventional teaching methods that may not engage students effectively. Vocabulary acquisition is one of the most fundamental aspects of language learning. Patel and Jain (2008) emphasize that vocabulary is a core component that influences all four language skills: reading, writing, speaking, and listening. Without sufficient vocabulary knowledge, students struggle to communicate effectively in English.

Vocabulary acquisition is a critical factor in mastering a foreign language. Thornbury (2002) highlights that grammar alone is insufficient for effective communication, and a strong vocabulary base is essential for expressing thoughts clearly. Students who possess extensive vocabulary knowledge can better comprehend texts, engage in conversations, and articulate their ideas more effectively in both written and spoken English.

Learning new words is an ongoing process that requires exposure, practice, and reinforcement. Schmitt (2000) states that vocabulary knowledge directly impacts reading comprehension, as students with a rich vocabulary can decode texts more easily. Rivers (1986) also argues that learning a language without mastering vocabulary is extremely difficult, as words are the building blocks of communication. However, students often

struggle with vocabulary retention due to challenges such as difficulty in understanding word meanings, distinguishing similar words, and recalling previously learned words. To address these challenges, teachers must implement engaging and interactive methods to help students expand their vocabulary effectively.

One effective method to enhance students' vocabulary is through game-based learning strategies, such as crossword puzzles. Crossword puzzles provide an enjoyable and interactive way for students to learn and reinforce vocabulary. Dobson (2006) suggests that games help break the routine of traditional classroom drills, making learning more engaging and enjoyable for students. Crossword puzzles encourage critical thinking, problem-solving, and vocabulary recall, which are essential for language acquisition.

Wright, Betteridge, and Buckby (2006) describe crossword puzzles as an effective tool for making vocabulary learning enjoyable while reinforcing students' memory of words. Gairns and Redman (1986) argue that games like crossword puzzles can increase students' motivation, improve retention, and create meaningful learning experiences. Studies have shown that crossword puzzles are beneficial in vocabulary acquisition. Mustika (2022) found that using crossword puzzles significantly improved students' vocabulary mastery, with post-test scores showing a marked improvement compared to pre-test scores. Similarly, Fikiah (2021) reported that crossword puzzles were effective in enhancing students' engagement and motivation in learning English.

Based on observations conducted at MTsN 2 Aceh Tengah, many eighth-grade students struggle with vocabulary retention, leading to difficulties in understanding English lessons. This study aims to investigate the effectiveness of crossword puzzle learning media in improving students' vocabulary at the eighth grade of MTsN 2 Aceh Tengah. The study will evaluate whether the use of crossword puzzles significantly enhances students' vocabulary acquisition and retention.

This research is expected to contribute both theoretically and practically. Theoretically, this study adds to the existing body of knowledge on vocabulary acquisition and game-based learning, particularly the use of crossword puzzles in language teaching. Practically, teachers can use crossword puzzles as an alternative instructional strategy to make vocabulary learning more engaging and effective. Students will benefit from an enjoyable learning experience that enhances their vocabulary retention.

This study formulates the following hypothesis: The null hypothesis (H<sub>0</sub>) states that the application of crossword puzzle learning media does not improve students' vocabulary mastery at MTsN 2 Aceh Tengah. The alternative hypothesis (H<sub>a</sub>) posits that the application of crossword puzzle learning media improves students' vocabulary mastery at MTsN 2 Aceh Tengah. By integrating crossword puzzles into vocabulary instruction, this study aims to provide insights into the potential benefits of game-based learning in English language education.

## **RESEARCH METHOD**

### **Research Design**

This study employed a quantitative research design, utilizing an experimental approach to investigate the effectiveness of crossword puzzle-based learning on students' vocabulary acquisition. The experimental design involved two groups: a control group and an experimental group. This approach was chosen to establish a cause-and-effect relationship between the independent variable (crossword puzzle-based learning) and the dependent variable (students' vocabulary improvement). By implementing a pre-test and post-test, the study aimed to measure the impact of the intervention on students' vocabulary proficiency.

### **Population and Sample**

The population of this study comprised 120 eighth-grade students at MTsN 2 Aceh Tengah. From this population, a sample of 64 students was selected. The selected sample was divided into two groups, with 32 students assigned to the control group and 32 students to the experimental group. The control group received conventional vocabulary instruction, whereas the experimental group was taught using crossword puzzle-based learning activities.

### **Data Collection Procedures**

Data were collected through a pre-test and post-test to assess students' vocabulary acquisition before and after the intervention. Initially, a pre-test was administered to both groups to establish a baseline of their vocabulary knowledge. Following this, the experimental group participated in a series of crossword puzzle-based vocabulary learning

sessions, while the control group continued with traditional vocabulary instruction. After the intervention period, a post-test was conducted to evaluate the progress and effectiveness of the crossword puzzle learning method.

### **Data Analysis**

The collected data were analyzed using statistical methods to determine the significance of differences between the control and experimental groups. A t-test was employed to compare the mean scores of the pre-tests and post-tests for both groups. This statistical test was chosen to assess whether the crossword puzzle-based learning media had a significant impact on students' vocabulary improvement. The results of the hypothesis testing helped determine whether the experimental method was more effective than conventional vocabulary instruction in enhancing students' vocabulary skills

### **FINDINGS**

The results indicated that the experimental group, which used crossword puzzles, outperformed the control group in vocabulary retention and application. Post-test scores showed a higher mean for the experimental group (91.87) compared to the control group (89.69). Also, hypothesis testing revealed a calculated t-value of 2.13, exceeding the t-table value of 1.99 at a 5% significance level, confirming that crossword puzzles had a statistically significant effect on vocabulary improvement.

These findings suggest that the incorporation of crossword puzzles as a learning tool fosters better engagement and motivation among students, leading to enhanced retention of vocabulary items. Unlike traditional rote memorization techniques, crossword puzzles encourage active learning by requiring students to recall and apply words in a meaningful context (Rusmawan, 2018). This aligns with cognitive theories of language acquisition, which emphasize the importance of interaction and mental association in vocabulary development (Li, 2024; Rohmah, 2024).

Furthermore, the results highlight the role of game-based learning in language education. The process of solving crossword puzzles likely stimulated students' problem-solving skills and critical thinking, reinforcing their ability to recognize and use new words effectively. The competitive and interactive nature of puzzles may have also contributed to

a more enjoyable learning environment, reducing anxiety and increasing students' willingness to engage with the material.

## **DISCUSSION**

The findings of this study provide strong evidence supporting the effectiveness of crossword puzzle-based learning in enhancing vocabulary acquisition among EFL students at MTsN 2 Aceh Tengah. The results demonstrate that the experimental group, which engaged in crossword puzzle activities, exhibited significantly higher vocabulary retention and application compared to the control group, which received traditional vocabulary instruction. The statistical analysis further confirms this improvement, as indicated by the t-test results. The calculated t-value of 2.13 surpassing the t-table value of 1.99 at a 5% significance level suggests that the alternative hypothesis ( $H_a$ ) is accepted, meaning that crossword puzzle learning significantly improves students' vocabulary mastery.

One of the primary reasons for the observed improvement in the experimental group is the engaging and interactive nature of crossword puzzles. Game-based learning strategies, such as crossword puzzles, encourage active participation, making the learning process more enjoyable and less monotonous. The puzzle format requires students to recall, spell, and associate words with meanings, reinforcing vocabulary retention. This aligns with previous research indicating that interactive and meaningful learning activities enhance language acquisition by fostering deeper cognitive engagement (Mshayisa, 2019; Setyawati, 2024).

Additionally, crossword puzzles promote collaborative learning, which may have contributed to the experimental group's superior performance. Many students in the experimental group engaged in peer discussions to solve puzzles, facilitating social learning and exposure to diverse vocabulary usage. This cooperative approach aligns with Vygotsky's sociocultural theory, which emphasizes the role of social interaction in cognitive development (Remorosa, et al, 2024). In contrast, the control group, which relied on conventional methods, may have lacked the same level of engagement and motivation, potentially leading to lower vocabulary retention.

Furthermore, the structured yet flexible nature of crossword puzzles allows for repeated exposure to vocabulary items in varied contexts. Repetition is a key factor in language learning, as frequent exposure strengthens word recognition and recall. By

incorporating crossword puzzles into instruction, students had the opportunity to reinforce their learning in a meaningful and enjoyable way. This supports the argument that incorporating elements of play in education can significantly enhance students' motivation and retention levels (Alsawaier, R.S. (2018).

The statistical findings provide empirical support for the effectiveness of crossword puzzles in vocabulary instruction. The significant difference in post-test scores between the experimental and control groups indicates that the intervention had a positive impact. The higher mean score of the experimental group further validates the usefulness of crossword puzzles as a vocabulary enhancement tool. These results suggest that traditional vocabulary instruction methods alone may not be as effective in fostering long-term retention as game-based learning strategies.

These results align with previous studies that emphasize the effectiveness of game-based learning in language education. Research has shown that incorporating educational games into language instruction leads to higher levels of student engagement, improved retention rates, and a more positive attitude toward learning (Ebrahimzadeh & Alavi, 2016; Mohamed, 2021; Patra et al., 2022).

Despite the positive findings, some limitations of this study should be acknowledged. The study was conducted within a single institution with a limited sample size, which may affect the generalizability of the results. Future research should explore the impact of crossword puzzles on vocabulary acquisition across different educational settings and proficiency levels. Future study also can further explore the long-term impact of crossword puzzles on vocabulary retention and overall language development. Longitudinal studies could examine how frequent exposure to educational games influences students' ability to recall and apply vocabulary over extended periods. Additionally, research could investigate the effectiveness of crossword puzzles in enhancing other language skills, such as reading comprehension, writing fluency, and listening proficiency.

In conclusion, the results of this study highlight the potential of crossword puzzles as an effective learning tool in EFL vocabulary instruction. The significant improvement observed in the experimental group supports the idea that integrating engaging and

interactive learning strategies can enhance students' vocabulary acquisition. Given these findings, educators are encouraged to incorporate crossword puzzles into their teaching methods to create a more dynamic and effective learning environment for language learners.

## **CONCLUSION**

This study concludes that crossword puzzles are an effective learning tool for enhancing students' vocabulary. The results support the integration of crossword puzzles into English language instruction as an alternative to traditional teaching methods. Teachers are encouraged to incorporate this technique to create a more interactive and student-centered learning environment. Future research could explore long-term retention effects and adaptability for different proficiency levels.

The findings highlight those students who engaged with crossword puzzles demonstrated a significant improvement in their vocabulary acquisition compared to those who followed conventional learning approaches. The use of crossword puzzles facilitated better word retention, encouraged problem-solving skills, and made the learning process more enjoyable. By engaging in an active learning environment, students were able to associate words with meaningful contexts, thereby reinforcing their understanding and recall abilities.

Additionally, the study underscores the importance of incorporating engaging and interactive teaching strategies in the English language classroom. Traditional vocabulary instruction often relies on rote memorization, which may lead to passive learning and limited retention. However, the use of crossword puzzles transforms the learning experience by promoting cognitive engagement and collaborative learning. This suggests that educational games, when carefully designed and implemented, can serve as powerful pedagogical tools to enhance language proficiency.

Moreover, the findings suggest that crossword puzzles can be adapted to suit various proficiency levels and learning objectives. Teachers can modify the complexity of the puzzles by adjusting word difficulty, incorporating thematic vocabulary, or integrating multimedia elements. This flexibility allows educators to tailor activities to meet the needs



of diverse learners, making crossword puzzles a versatile addition to English language instruction.

In conclusion, this study provides compelling evidence that crossword puzzles are a valuable instructional tool for vocabulary enhancement. Their ability to foster engagement, encourage active participation, and improve word retention makes them a beneficial strategy for language teachers. By integrating crossword puzzles into the curriculum, educators can create a more dynamic and effective learning environment, ultimately supporting students in developing stronger English language skills.

## REFERENCES

- Almusharraf, Norah. (2021). Incorporation of a game-based approach into the EFL online classrooms: students' perceptions. *Interactive Learning Environment*. 31(7). 4440-4453
- Alsawaier, R.S. (2018), "The effect of gamification on motivation and engagement", *International Journal of Information and Learning Technology*, Vol. 35 No. 1, pp. 56-79. <https://doi.org/10.1108/IJILT-02-2017-0009>
- Aswad, M., Yassi, A. H., Pammu, A., Nasmilah, N., & Rezaei Gashti, Z. (2022). An Account of Teaching Vocabulary to Indonesian EFL Learners through Web-Based Language Instruction (WLI): Attitude in Focus. *Education Research International*, 2022. <https://doi.org/10.1155/2022/1660055>
- Dobson, Julio. *Try One of My Games*. Washington, D.C. p.295.
- Fikiah, Hilda Nuriatul. (2021). *Implementing Crossword Puzzle Game to Improve Vocabulary Mastery at The First Grade Student of Alma'muroh Dormitory in Academic Year 2021/2022*
- Ebrahimzadeh, M., & Alavi, S. (2016). Motivating EFL students: E-learning enjoyment as a predictor of vocabulary learning through digital video games. *Cogent Education*, 3(1). <https://doi.org/10.1080/2331186X.2016.1255400>
- Fhona, R., & Rusmiati. (2015). Analisa karangan bebas Mahasiswa (Sebuah penelitian pada Prodi Pendidikan Bahasa Inggris Fakultas Tarbiyah dan Keguruan UIN Ar-Raniry). *Visipena*, 6(2), 12-25.
- Huda, H., Dewi, N. M., Widyaningrum, L., Nu, M., & Ma'arif Boja, A. (2017). Mengemas Kelas Bahasa Inggris (EFL) melalui Joyful Learning Based Social Constructivism Pedagogy. In *DIMAS* (Vol. 17, Issue 2)

- Jon, R. B., Embong, R., Purnama, B., & Wadi, A. S. (2021). THE CHALLENGES OF ENGLISH LANGUAGE TEACHING IN INDONESIA. *International Journal of English and Applied Linguistics*.
- Li, Q. (2024). Cognitive Linguistics and Vocabulary Acquisition: Enhancing English Learners' Mental Lexicon. *Education Insights*, 1(2), 1–9.  
<https://soapubs.com/index.php/EI>
- Mshayisa, Vusi Vincent. (2019). Students' perceptions of Plickers and crossword puzzles in undergraduate studies. *Journal of Food Science Education*. DOI: 10.1111/1541-4329.12179
- Mohamed, A. M. A. (2021). The Impact of Educational Games on Enhancing Elementary Stage Students' Acquisition and retention of English Vocabulary. *Journal of World Englishes and Educational Practices*, 3(2), 67–76. <https://doi.org/10.32996/jweep>
- Mustika, Fina. (2022). *The Use of Crossword Puzzle Game to Improve Students' Vocabulary Mastery (At SMPN 3 Natar in Academic Year 2021/2022)*
- Ndrew Wright, David Betteridge and Michael Buckby (2006). *Games for Language Learning Go to Setting*. Cambridge University Press. p. 1
- Patel, M. F., & Jain, Praveen M. (2008). *English Language Teaching Method (Method, Tool, Technique)*. Jaipur: Sunrise Publisher and Distributor.
- Patra, I., Shanmugam, N., Ismail, S. M., & Mandal, G. (2022). An Investigation of EFL Learners' Vocabulary Retention and Recall in a Technology-Based Instructional Environment: Focusing on Digital Games. *Education Research International*, 2022. <https://doi.org/10.1155/2022/7435477>
- Remorosa, M.M.R., Capili, S.R., Decir, E.G.B., Delacruz, J.B., Balase, M.M.H., Escarlos, G.S. (2024). Vygotsky's Social Development Theory: The Role of Social Interaction and Language in Cognitive Development. *International Journal of All Research Writings*. 6(6), 10-13
- Rivers, Wilga M. (1986). *Teaching Foreign-Language Skills*. Chicago and London: The University of Chicago Press.
- Rohmah, N. Au. (2024). English as a Second Language Acquisition from School Activities and Online Video Games. *Modality Journal: International Journal of Linguistics and Literature*, 4(1), 73–85. <https://doi.org/https://doi.org/10.30983/mj.v4i1.8373>
- Rusmawan, P. N. (2018). Using Crossword Puzzle to increase Students' Vocabularies for Writing Skill in Descriptive Text. *Academic Journal of English Language and Education*, 2(1).

Rusmiati, R., Regina Maharani, P., & Susidamaiyanti, S. (2022). THE USE OF SQ6R METHOD IN INCREASING EFL STUDENTS' READING COMPREHENSION 1\*. *Accentia: Journal of English Language and Education* JUNE, 2(1), 31–39.

Schmitt, Norbert. (2000). *Vocabulary in Language Teaching*. Cambridge: Cambridge University Press.

Setyawati, Anis. (2024). The Effectiveness of Crossword Puzzle and Word Chain Game in Teaching Vocabulary at MTs Al-Islam Joresan, Ponorogo. Undergraduate (S1) thesis, IAIN Ponorogo.

Thornbury, Scott. (2002). *How to Teach Vocabulary*. Edinburgh: Pearson Education Limited.