The Effect of Crossword Puzzle Game Teaching Media to the Vocabulary Mastery of Seventh Grade Students of SMP Negeri 2 Siantar

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ABSTRACT

This research investigates the impact of crossword puzzle game teaching media on the vocabulary mastery of seventh-grade students at SMP Negeri 2 Siantar. It utilizes Case's theory for crossword puzzles and Amin & Sumendap's theory for scramble games. Employing a quantitative research method with a quasi-experimental design, the study focused on seventh-grade students during the 2024/2025 academic year. The experimental group was taught using crossword puzzles, while the control group used scramble games. The results revealed that the experimental group had a higher mean score, with a pre-test score of 56.5 and a post-test score of 74.33. In comparison, the control group's pre-test mean was 51.83, which increased to 64.33 in the post-test. A t-test analysis showed a t-test value of 2.35, which is greater than the critical value of 1.67. Consequently, the alternative hypothesis (Ha) was accepted, and the null hypothesis (Ho) was rejected, indicating that the crossword puzzle game had a more significant effect on vocabulary mastery than the scramble game for seventh-grade students at SMP Negeri 2 Siantar.

Keywords: Crossword Puzzle Game, Vocabulary, Media

INTRODUCTION

In the contemporary globalized environment, mastery of the English language is becoming progressively important, giving those who can communicate effectively in the language a competitive edge across different industries (Rao, 2019). However, mastering English can be difficult for learners lacking a strong vocabulary, as vocabulary is crucial for comprehending and utilizing the language effectively. Without a broad vocabulary and effective methods for learning new words, students frequently find it challenging to read and converse in English (Rasuan, 2017).

Vocabulary refers to the collection of words that enables effective communication in various contexts. Its significance extends beyond simply using words correctly; it also encompasses the ability to understand and analyze texts, speak fluently, write proficiently, and engage with others. Enhancing one's English vocabulary can lead to improved language skills, richer self-expression, and more effective communication abilities (Fitria, 2024). Richard and Renandya (2002), as cited in Apriliah (2015), state vocabulary is a crucial component of language proficiency and significantly impacts learners' abilities to speak, listen, read, and write effectively.

Mastering vocabulary entails more than merely memorizing words; it involves comprehending their meanings, understanding how they are used in different contexts, and being able to recall and apply these words in various situations (Rosyada & Apoko, 2023). Unfortunately, many students still struggle with inadequate vocabulary and find it challenging to enhance their word knowledge. One contributing factor to this issue is the use of ineffective learning methods. According to Rahmawati et al. (2022), teachers often provide insufficient focus on vocabulary instruction and rely solely on the textbook material, which can lead to student boredom and a lack of motivation to learn.

During the researcher's internship program (Praktek Pengalaman Lapangan: PPL) at SMP Negeri 2 Siantar, it was observed that the students had a very poor mastery of vocabulary. Their motivation to learn English was low, as they perceived the language to be difficult. This lack of vocabulary hindered their ability to understand texts. Additionally, the teaching methods and materials used by the teachers were often unengaging and repetitive, leading to student boredom during English lessons. The teachers primarily focused on having students translate texts from their books and rarely introduced new vocabulary, resulting in limited word knowledge among the students.

Utilizing appropriate media for teaching a new language can significantly enhance the learning environment within classrooms (Andriani et al., 2022). The right instructional materials can improve students' understanding and retention of English lessons, while also increasing their interest in the language. One effective type of teaching media that can boost students' engagement in learning English is the use of games (Azizah & Purnamaningsih, 2023). Incorporating games into vocabulary instruction offers a creative and enjoyable approach to language learning (Andriani et al., 2024). This method keeps students cheerful and prevents boredom during English lessons. Games create opportunities for students to practice using new words in meaningful and contextually relevant ways, aiding in the enhancement of their vocabulary mastery. By integrating vocabulary learning into games, students are likely to feel more motivated and actively involved in the learning process (Samola, 2023).

One engaging game that can encourage students to learn English vocabulary is the crossword puzzle. A crossword puzzle consists of a grid where words are filled in based on clues, arranged in a pattern of numbered squares that intersect both horizontally and vertically (Rahayu et al., 2021). According to Hornby (1974) as cited in Illiyin, Z. (2023), a crossword puzzle requires players to write words in designated spaces on a checkered grid, guided by numbered clues.

Incorporating crossword puzzle games into vocabulary instruction can entertain students and help maintain their motivation and interest in the learning process. This game encourages students to think critically about which words fit into the blank spaces, positively influencing their psychological engagement and making the learning experience more enjoyable and interesting. As students work to find the correct words to complete the puzzle, they enhance their English skills, expand their vocabulary, and deepen their understanding of word usage in various contexts. Research indicates that crossword puzzles are effective in improving students' vocabulary mastery, suggesting that this game can significantly aid in vocabulary enhancement. Through participation in crossword puzzles, students not only acquire new vocabulary but also relish the challenge presented by the game (Manullang et al., 2024). Additionally, these puzzles foster creativity and problem-solving skills, further supporting vocabulary acquisition (Rahayu, 2020).

Based on the background above, the researcher tries to conduct a research with the title **"The Effect of Crossword Puzzle Game Teaching Media to the Vocabulary Mastery of Seventh Grade Students of SMP Negeri 2 Siantar"**

METHOD

The study utilized a quantitative approach, specifically a quasi-experimental research design. Quantitative methods involve the use of statistical techniques to gather comprehensive data. The researcher opted for a quasi-experimental design, which included two classes: one designated as the experimental group and the other as the control group. The experimental group received vocabulary instruction through crossword puzzle games, while the control group did not employ this method. The research was conducted with seventh-grade students at SMP Negeri 2 Siantar, located at Jln. H. Ulakma Sinaga No.1 Pematangsimalungun Kec. Siantar. Random sampling was utilized to select participants, ensuring that every individual in the population had an equal chance of being chosen. The sample consisted of two classes, VII-1 and VII-3, with each class comprising 30 students.

RESULT AND DISCUSSION

Data Description

The research data were collected from seventh-grade students at SMP Negeri 2 Siantar, involving two classes: class VII-1, which functioned as the experimental group, and class VII-3, which served as the control group. Each class consisted of 30 students. In the experimental group, the researcher used crossword puzzles as a tool to improve vocabulary, while the control group engaged in scramble games.

Table 1. Students scores of the Experimental Class

No	Student's Initial Name	Pre Test	Post Test
	AL	65	80
	ARS	65	70
	A	65	75
	ARH	40	60
	A	45	50
	APSS	75	90
	CSPP	40	65
	CMP	55	70
	DMR	75	85
.	DHPY	70	80
.	EMM	45	75
.	FG	40	55
.	FA	70	75
.	G	40	80
.	IAH	65	75
.	JA	70	80
.	KN	40	75
.	MA	40	75
.	MDRP	65	75
.	MFS	75	90
.	NNS	40	70
.	N	40	65
.	POS	40	70
.	RA	45	75
.	SA	40	65
.	SS	70	85
.	SAS	70	80
.	SA	65	80
.	SA	75	80

.	TS	65	80
	∑	**1695**	**2230**

The pre-test results for the experimental group indicated that the highest score was 75, while the lowest score was 40. In comparison, the post-test results for the same class indicated a highest score of 90 and a lowest score of 50. The total score for the pre-test in the experimental class was 1695, leading to a mean score of 56.5. For the post-test, the total score rose to 2230, resulting in a mean score of 74.33.

Figure 1. Improvement in Experimental and Control Class

	Experimental	Control
Pre-Test	56,5	51,83
Post-Test	74,33	64,33
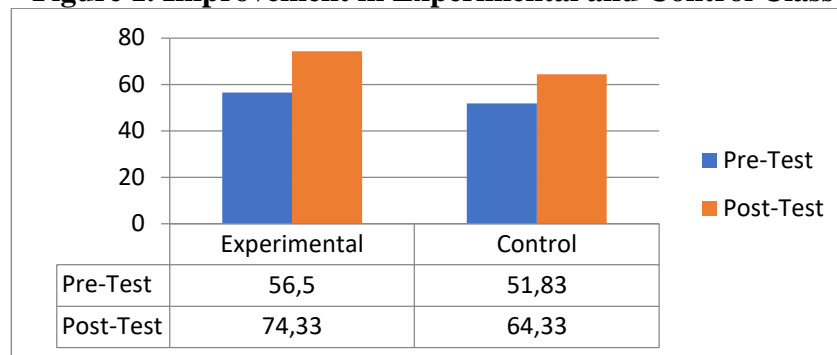
After computing the mean scores for the pre-tests and post-tests of both the experimental and control groups, the researcher presented the aggregated data in a graph. The chart clearly demonstrates an enhancement in student performance, especially following the intervention. The experimental group, which utilized crossword puzzle games as a teaching method, exhibited a significant increase in scores. Specifically, the mean score for the experimental group increased from 56.5 in the pre-test to 74.33 in the post-test. In contrast, the control group, which followed traditional teaching methods, experienced a more modest gain, with their mean score rising from 51.83 in the pre-test to 64.33 in the post-test.

This results in an increase of 17.83 points for the experimental class, while the control class experienced a gain of only 12.5 points. The findings of this study suggest that the use of crossword puzzle games significantly improved students' vocabulary mastery, particularly among seventh-grade students at SMP Negeri 2 Siantar. The more substantial improvement observed in the experimental class compared to the control class indicates that engaging teaching methods can effectively enhance vocabulary skills. This highlights the importance of innovative teaching methods in fostering student engagement and enhancing educational outcomes in vocabulary mastery.

Testing Hypothesis

After analyzing the data, the researcher determined that the t-test value was 2.358. The distribution table and t-test values were calculated for different degrees of freedom (df), which were found to be 58 for this study. At a significance level of 0.05, the t-table value was 1.672. Given these calculations, the alternative hypothesis (Ha) was accepted, and the null hypothesis (Ho) was rejected, as the t-test value exceeded the t-table value at the 0.05 significance level, specifically 2.358 > 1.672.

Research Findings

Based on the data analysis, the researcher determined that the use of crossword puzzle games significantly affected students' vocabulary mastery.

Experimental Class

a. The highest pre-test score recorded in the experimental class was 75, while the lowest score was 40.
b. After implementing crossword puzzle games as a teaching medium, the post-test results showed a significant improvement, with the highest score reaching 90 and the lowest score at 50.

c. The total score for the pre-test in this class was 1695 points, resulting in an average pre-test score of 56.5.

d. Following the instructional intervention, the experimental class achieved a total of 2230 points in the post-test, leading to an improved average score of 74.33.

Control Class

a. In the pre-test, the lowest score for the control class was 30, while the highest score was 75.

b. In the post-test, the control class scored as low as 35 and as high as 85. The total score for the pre-test in this class was 1555 points, resulting in an average pre-test score of 51.83. Following the instructional intervention, the control class achieved a total of 1930 points in the post-test, leading to an improved average score of 64.33.

Statistical Analysis

The t-test value calculated was 2.358>1.672 at a significance level of 0.05. This indicates that the alternative hypothesis (Ha) was accepted, while the null hypothesis (Ho) was rejected. This data highlights the positive impact of using engaging media on student engagement and educational outcomes in vocabulary mastery.

Discussion

To assess the impact of crossword puzzle game media on students' vocabulary achievement in the experimental class, the researcher administered written pre-tests and post-tests. After conducting these tests, the researcher collected data in the form of scores and analyzed it using a t-test.

The research findings indicated a notable difference in vocabulary mastery between students who were taught using crossword puzzles and those who were not. The analysis revealed that the mean score for the experimental class rose from 56.5 in the pre-test to 74.33 in the post-test, resulting in an increase of 17.83 points. In comparison, the control class had a mean pre-test score of 51.83 and a post-test score of 64.33, which reflected a smaller increase of just 12.5 points. Importantly, the experimental class outperformed the control class. The calculated t-test value was 2.358, which exceeded the t-table value of 1.672 at a significance level of 0.05.

The application of crossword puzzles helped students recognize, remember, and understand new vocabulary, while also fostering critical and creative thinking skills as they sought the correct answers. Following the treatment with crossword puzzles, students demonstrated improved vocabulary mastery, achieving higher scores than before. This indicates that crossword puzzle media effectively enhances student performance. Conversely, students in the control class struggled to engage with the material, leading to boredom and difficulty in retaining new vocabulary, which explains the lower scores in that group.

The research identified several advantages of using crossword puzzles. First, they effectively enhance students' vocabulary mastery, as evidenced by the test results. Second, crossword puzzles increased student engagement, motivation, and enthusiasm, as they had not previously experienced this teaching method. Third, working in groups to solve crossword puzzles improved students' social skills and critical thinking abilities. In conclusion, the effect of crossword puzzle games was found to be more significant than that of scramble games in improving the vocabulary mastery of seventh-grade students at SMP Negeri 2 Siantar.

CONCLUSION

Based on the research findings and discussions, the researcher concluded that the mean score for the experimental group in the pre-test was 56.5, while the control group had a mean pre-test score of 51.83. Following the treatment, the mean score for the post-test in the experimental group increased to 74.33, whereas the control group achieved a post-test mean

score of 64.33. The hypothesis testing revealed that the t-count of 2.358>1.672. Consequently, the Alternative Hypothesis (Ha) was accepted, and the Null Hypothesis (Ho) was rejected. Therefore, the researcher concluded that the use of crossword puzzle games had a more significant effect on the vocabulary mastery of seventh-grade students at SMP Negeri 2 Siantar compared to the scramble games.

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