The Use of Crossword Puzzle to Improve Students' Vocabulary at 7th Grade Junior High School of Kendari

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Abstract

This study investigates the impact of Crossword Puzzle learning media on junior high school students' English vocabulary knowledge. A quasi-experimental approach was employed, involving 62 students from SMPN 10 Kendari City. The students were divided into experimental and control groups. Pretest and posttest questions were used to collect data, which were analyzed using homogeneity and normality tests, followed by paired-sample t-test. The results showed a significant influence of Crossword Puzzle learning media on improving English vocabulary mastery, concluding that it can be an effective tool for enhancing students' vocabulary skills.

Keywords: *Vocabulary, crossword puzzle,improve*

Introduction

Vocabulary plays a vital role in English language acquisition. Every day, we rely on thousands of words, and having a robust vocabulary is crucial for effective communication in English. Without sufficient vocabulary, it is difficult to participate in conversations, express thoughts, comprehend texts, or follow directions. As Amalia (2020) highlighted, language itself cannot be used without vocabulary. In the process of learning a language, building a strong vocabulary is a fundamental aspect for learners. To improve students' abilities in speaking, listening, reading, and writing, a solid vocabulary foundation is essential, as emphasized by Katemba & Parillia (2020). Teaching vocabulary poses a significant challenge for English instructors, as it forms the core of language learning, requiring teachers to be well-versed in the meanings of a broad range of words. For students, particularly in Indonesia where English is considered a foreign language, acquiring vocabulary can be a difficult task.

In addition to being essential for improving reading comprehension, vocabulary knowledge also has a big impact on students' speaking and writing skills. To put it another way, vocabulary has a big influence on how language learning progresses overall. A person with a large vocabulary is more likely to be effective in speaking, listening, reading, and writing. Students who learn vocabulary are able to process information and knowledge faster. As Song & Yang (2020) point out, vocabulary learning is central to acquiring the English language, as words are its fundamental building blocks.

According to Noprianto and Purnawarman (2019: "vocabulary learning strategies and knowledge of affixes have long been recognized as influential in helping learners take greater control of their own learning, allowing them to take more responsibility for their studies." Choosing effective vocabulary learning strategies is essential, especially when focusing on the development of students' affix knowledge through direct teaching, which is an area that has been less explored. To address this challenge, teachers should employ a variety of methods to help students improve their vocabulary. One effective approach for increasing vocabulary knowledge is using puzzles, which have been proven to boost students' vocabulary acquisition.

To enhance students' vocabulary mastery, employing techniques such as word games, like crossword puzzles, can be an effective and enjoyable alternative. Games are designed to help learners acquire skills in an engaging and fun way. Generally, students appreciate and enjoy various word games, including crossword puzzles. According to Subana et al. (2009), crossword puzzles present a challenge that promotes problem-solving in an entertaining context. Similarly, Tarigan (2011) describes crossword puzzles as word games where players fill in empty boxes based on provided clues. crossword puzzles as intellectual linguistic games, likening them to verbal debates.

He further notes that puzzles are difficult to define precisely due to their many forms and purposes. Therefore, crossword puzzles can be understood as games that integrate linguistic elements, where interrelated questions and answers prompt problem-solving by filling in letters horizontally or vertically. Soeparno (1998) outlines the steps involved in creating a crossword puzzle: first, design the grid and lightly pencil in the letters or words to allow for easy corrections. The box containing the first letter of each word should be numbered. Then, formulate clues or questions whose answers correspond to the letters in the boxes. After arranging all the clues, any unused boxes should be shaded or erased. Finally, remove all the letters from the boxes, leaving only the numbers, and transfer the puzzle to a clean sheet for duplication.

According to Hornby (2010), crossword puzzles involve placing words across and down into numbered spaces within a grid. When used for vocabulary teaching, they not only entertain students but also engage them in critical thinking about which words fit the blank spaces. This activity positively influences students

psychologically by making learning more enjoyable, interesting, and challenging. Using engaging and fun teaching methods is an effective way to enhance students' vocabulary acquisition in English.

Based on this understanding, the author has chosen to concentrate the research on utilizing crossword puzzles to enhance vocabulary learning for 7th-grade students at Kendari Junior High School 10. This method distinguishes the study from others. The implementation of crossword puzzle games can effectively aid students in improving their mastery of English vocabulary. Therefore, the author has titled the thesis "The Use of Crossword Puzzles to Improve Students' Vocabulary in the 7th Grade of Kendari Junior High School 10."

Method
  A.   Research Design.
   1) The Population and Sampling Technique of the Research

This research focuses on a population of 144 seventh-grade students enrolled in five classes (VII-1, VII-2, VII-3, VII-4, and VII-5) at Kendari Junior High School 10.

The researcher utilized purposive sampling for this study. This method selects a sample that best represents the population based on specific criteria relevant to the research. To identify appropriate classes, the researcher consulted with the English instructor to ensure that the classes were academically similar, had comparable English proficiency levels, and shared resources. Additionally, a pre-test was administered to each class to evaluate their initial scores and confirm their similarity. Ultimately, two groups were determined: VII-1 was designated as the experimental group, while VII-2 served as the control group.

   2) Technique of Collecting

To collect data, the researcher employed a multiple-choice test as the main tool. Two types of assessments were conducted: a pre-test and a post-test. Both the experimental and control groups took the pre-test before any treatment to assess the students' initial vocabulary levels. After the treatment, the post-test was administered to evaluate their vocabulary comprehension. Before the pre-test was given, the researcher examined the test instrument to confirm its validity and reliability, ensuring it was suitable for data collection.

   3) Technique of Analysis Data

Data analysis is the most crucial aspect of research. A good and complete set of data without proper analysis would be futile. Data analysis is the process of simplifying data into a more readable and interpretable form. To analyze the effectiveness of using crossword puzzles in improving vocabulary mastery at Kendari Junior High School 10., the author uses the following data analysis methods:

1. Normality Test

The normality test is a prerequisite before conducting hypothesis testing or t-tests. The normality test aims to determine whether the data used in the research is normally distributed or not. The basis for decision-making is the Shapiro-Wilk normality test, which is conducted with the help of SPSS. The results obtained from the normality test using this formula are:

- If the significance value (P) > 0.05, the data is declared to be normally distributed.
- If the significance value (P) < 0.05, the data is declared to be not normally distributed.

2. Paired Sample T-Test

The paired sample t-test is used to determine whether there is a significant influence between the independent variable and the dependent variable. The t-test used is the paired sample t-test. The paired sample t-test is a hypothesis testing method where the data used is not independent but paired. The most common characteristics are two different treatments. Although using the same sample, the researcher obtains two types of sample data, namely sample data before treatment and sample data after treatment (Nuryadi, 2017).

Decision-Making Criteria
The decision-making criteria for T-count with T-table are:

- If T-count < T-table, then H0 is accepted and Ha is rejected, which means the use of crossword puzzles cannot improve vocabulary mastery of students in class X IPA 2 at MAN 2 Sinjai.
- If T-count > T-table, then H0 is rejected and Ha is accepted, which means the use of crossword puzzles can improve vocabulary mastery of students at Kendari Junior High School 10.

Result
   1. Descriptive Statistics

Descriptive statistics is statistical analysis that provides a general description of the characteristics of each research variable which can be seen from the average value (mean), smallest value (minimum), largest value (maximum), and standard deviation.

Table 1
Experimental class pre-test descriptive statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pre-Test	31	40,00	95,00	67,7419	16,72517
Valid N (listwise)	31				

Source: Data processed from SPSS version 25.0

Based on table 1 above, it is known that the assessment results from the pre-test for the experimental class obtained a mean of 67.7419, a maximum value of 95.00, a minimum value of 40.00 and a standard deviation of 16.195.

Table 2
Control class pre-test descriptive statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pre-Test	31	15,00	95,00	64,5161	19,20741
Valid N (listwise)	31				

Source: Data processed from SPSS version 25.0

Based on table 2 above, it is known that the assessment results from the pre-test for the control class obtained a mean 64.5161 maximum value 95.00, minimum value 15.00 and standard deviation 19.20741

Table 3
Experimental Class Post-Test Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Post-Test	31	70,00	100,00	95,4839	9,25156
Valid N (listwise)	31				

Source: Data processed from SPSS version 25.

Based on table 3 above, it is known that the results of the post-test assessment for the experimental class obtained a mean of 95.4839, a maximum value of 100.00, a minimum value of 70.00 and a standard deviation of 9.25156.

Table 4
Control Class Post-Test Descriptive Statistics
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Post-Test Valid N (listwise)	31 31	10,00	100,00	63,3871	23,88818

Source: Data processed from SPSS version 25.0

Based on table 4 above, it is known that the results of the post-test assessment for the control class obtained a mean of 63.3871, a maximum value of 100.00, a minimum value of 10.00 and a standard deviation of 23.88818.

2. Inferential Statistics
a) Normality Test

In data analysis techniques, it is necessary to carry out a normality test. The normality test is a prerequisite before carrying out a hypothesis test or t-test. Normality aims to determine whether the data used in research is normally distributed or not. Normality test results can be seen in the following table:

Table 5
Tests of Normality class experimental

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre-Test	,123	31	,200*	,940	31	,085
Post-Test	,461	31	,000	,548	31	,000

Source: Data processed from SPSS version 21.0

Table 6
Tests of Normality class control

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre-Test	,149	31	,078	,946	31	,121
Post-Test	,186	31	,008	,928	31	,039

Source: Data processed from SPSS version 21.0

Based on the results of the tests of normality, the Shapiro-Wilk above obtained a sig value. 0.085 for the pre-experimental class and 0.000 for the post-experimental class. Because the sig value. 0.085 > 0.05 in the pre-test experimental class and sig. 0.000 < 0.05 in the post-test experimental class, so you can

It was concluded that the research data for the experimental pre-test class was stated to be normally distributed and the experimental post-test class had an abnormal distribution. Meanwhile in the control class a sig value was obtained. 0.121 for the pre-test class and 0.039 for the control post-test class. Because the sig value. 0.121 > 0.05 in the control pre-test and sig value. 0.039 < 0.05 post-test, it can be concluded that the data in the control class pre-test was declared to be normally distributed and the post-test in the control class was not normally distributed.

b) t-test

The t-test was carried out to determine whether or not there was a significant influence between the independent variable and the dependent variable. The t-test used in this research is the paired sample T-test. The results of the paired sample T-test can be seen in the following table:

Table 7
Paired Samples Test

		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		T	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Pre-test Eksperimen - Post-test Eksperimen	-27,74194	14,13263	2,53829	-32,92583	-22,55805	-10,929	30	,000

Pair 2	*Pre-test* Kontrol - *Post-test* Kontrol	1,12903	14,589 36	2,62033	-4,22239	7,431	,431	30	,000

Source: Data processed from SPSS version 21.0

Based on the results of the paired sample t-test in the experimental class, the Sig value was obtained. 0.000 < 0.05, and the Tcount value is -10.929 < Ttable 2.002, which means Ha is accepted and H0 is rejected so it can be concluded that the use of crossword puzzles is effective in increasing vocabulary mastery in class X Science at MAN 2 Sinjai. there is a control class (conventional), a sig value is obtained. 0.000 < 0.05, and the Tcount value is 0.431 < Ttable 2.002, it can be concluded that the use of crossword puzzles is effective in increasing vocabulary mastery in 7th Grade of Kendari Junior High School 10.

Discussion

Based on this research data, it can be concluded that the assessment of vocabulary mastery test results has shown a significant increase and all indicators of research achievement have been fulfilled. This shows that the use of learning methods using crosswords has succeeded in increasing mastery of student English vocabulary, and increasing their learning motivation. The positive response given by students when participating in learning with this method is also an important point that adds to the success of this method.

This research was supported by previous studies conducted by Yuana (2021) which stated that the use of the Crossword Puzzle method managed to increase the mastery of English vocabulary class VIII A1 in Singaraja State Middle School 6. The research conducted by Cabana (2020) also supports these findings by stating that the application of the Crossword Puzzle method is effective in increasing mastery of student vocabulary. The data shows an increase in the number of students who achieve learning completeness with the results of the paired sample test in the experimental class, the value of the GIS is obtained. 0,000 <0.05, and the value of the tCount is -10,929 <ttable 2.002, which means Ha is accepted and H0 is rejected.

Thus, the results of this study confirm that the application of crossword puzzles in the learning process has a significant positive impact on increasing student vocabulary understanding. The use of this method is not only effective in increasing learning outcomes but also able to make students more vibrant and motivated in learning English.

Conclusion

Based on the results of the paired sample t-test in the experimental class, the Sig value was obtained. 0.000 < 0.05, and the Tcount value is -10.929 < Ttable 2.002, which means that Ha is accepted and H0 is rejected, so it can be concluded that the use of crossword puzzles is effectively used in improving mathematics mastery in7th Grade of Kendari Junior High School 10. And in the control class (conventional), a sig value was obtained. 0.670 > 0.05, and the Tcount value is 0.431 < Ttable 2.002, it can be concluded that students' vocabulary mastery has increased and that the use of crossword puzzles has been effectively used in increasing vocabulary mastery 7th Grade of Kendari Junior High School 10

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