

THE EFFECT OF USING CROSSWORD IN TEACHING VOCABULARY AT THE EIGHTH GRADE OF SMP HKBP SIDORAME MEDAN

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This study aims to know whether the use of crossword in teaching vocabulary. The researcher conducted the research at SMP HKBP Sidorame Medan. This study was carried out by Quasi-Experimental research. The object of this study was the eighth grade students at SMP HKBP Sidorame Medan. The sample of this study amounted to 20 people consisting of an experimental and a control group, with a total of 10 students for each group. To collect the data researcher used vocabulary test in pre-test and post-test. After collecting the data, the author analyzed the data. The results of this study can be seen as follows: $t\text{-count} > t\text{-table}$ ($p = 0.05$) with degree of freedom ($df = 18$). This means that $4.57388216 > 1.734$ ($p=0.05$) with $df 18$. This means that the use of crossword in vocabulary teaching has a significant effect to the student at the eighth grade of SMP HKBP Sidorame Medan. Based on the results of data analysis, the experimental class students achieved better scores (from 60 to 79.5) while the control class results only showed a slight improvement (from 54.5 to 65). It can be concluded that the use of crossword puzzles is successful in teaching vocabulary to students at the eighth grade of SMP HKBP Sidorame Medan. So, teachers in schools can use this teaching method in teaching vocabulary.

1. INTRODUCTION

Humans use language frequently in both their daily activities and as a means of communication. Human civilisation develops culture, thought, and language simultaneously with the advancement of technology. English is one of the languages that significantly affects how people interact around the world (Resmi et al., 2023). Language is the basic form of communication used by all nations. People utilize language to convey their ideas, desires, and opinions. With implications for schooling, English is currently a frequently utilized language for communication (Saragih et al., 2023). Language is used in education and instruction to facilitate communication between teachers and students and to transmit and receive knowledge (Saepuloh et al., 2022). To be able to communicate language, you must have a vocabulary.

Vocabulary is one of the important components in language. Good vocabulary mastery will improve overall language mastery, which includes speaking, listening, reading and writing skills. If you have a good vocabulary, conveying language orally will be easier and more easily understood (Sinaga, Herman and Pasaribu, 2020). Conveying language in writing will also be easier and more comprehensible. In addition, vocabulary plays an important role in communication. Students can say something even though they only read a text or vocabulary in dictionary. Anwar & Efransyah (2018) said that "The four English language abilities of hearing, speaking, reading, and writing can all be improved with vocabulary". It implies that vocabulary is one of the most crucial aspects of learning English. When they lack the language to understand, students will find it challenging to communicate their views.

For the junior high school student level, the vocabulary they need to achieve is where they can channel their ideas across several aspects of reading, listening, speaking and writing (Kusrini, 2012). They should already be able to do so even in short contexts. Not only that, for junior high school level, they should already understand the meaning of a word in simple form. In the aspect of speaking, students should be able to answer questions that are presented. In short, it can be said that students are able to convey their ideas because they have a good vocabulary.



As mentioned above, it demonstrates how crucial vocabulary is to learning a language since without it, it is difficult to grasp what is being said, people cannot express their sentiments, and there can never be communication between them. Thus, one of the key components of learning English is expanding one's vocabulary. On the other hand, based on the observations of the researcher at SMP HKBP Sidorame Medan, especially in eighth grade, there are problems in teaching and learning English was mastery of vocabulary. Students didn't get points on the test, it was even a simple word. Students often confused and can't answer because they didn't know the meaning of vocabulary.

Table 1. Students' Vocabulary Scores

No	Score	Number of Students	Percentage
1.	30	2	10%
2.	40	8	40%
3.	50	5	25%
4.	60	2	10%
5.	70	3	15%

Table 1 shows the ability of the student vocabulary at Eight Grade of SMP HKBP Sidorame. The researcher found that out of 20 students, only 9 students could answer 5 questions out of 10 and scored 50 and above. Of the 20 students with a score of 30 as many as 2 people so that the percentage is 10%, a score of 40 as many as 8 people so that the percentage is 40%, students with a score of 50 as many as 5 people with a percentage of 25%, a score of 60 as many as 2 people with a percentage of 10% and a score of 70 as many as 3 people with a percentage of 15%. So that researcher can saw that the vocabulary of students was still low. It can be seen from the percentage. In addition, only 15% of the total number of students got a score of 70. The student did not understand the meaning of the word that the questioner said. Therefore, they could not answer properly. So, the researcher concluded that the vocabulary of students in this school is very poor.

The researcher saw that the teacher taught the students about vocabulary used simple methods or conventional method. The teacher did not use interested learning methods or media in vocabulary learning. The teacher asked the student to focused on lecturing in front of the class. Teachers used a more lecture-centered approach. After teacher have done taught the material to the student, teacher asked the student to memorized the vocabulary. They taught only according to the instructions in the textbook and students did not make direct observations of the real situation around them. In addition, learning continues used the memorization method. So that students can feel bored so that they were not interested in learning because it seems monotonous so that the vocabulary that students have becomes small.

In accordance with the curriculum set by each school, various efforts was made to improve vocabulary mastery as a supporting component of language skills. One of the goals of these efforts was to make students more motivated and interested in learning English by using innovative and non-monotonous learning approaches (Nasution et al., 2023). Better measures needed to motivate students to achieve vocabulary teaching goals. The game method in learning has the ability to foster passion and enthusiasm for learning so that students was not bored and even happy with the lesson even though the material was difficult. Games can help change learning from bored to happy, from rigid to moving, and from passive to active.

Crossword are one such game that can help expand your vocabulary. The crossword offers a challenges that motivated students to try to solve the puzzle. it gave a lot opportunities for students to practice and repeat sentence patterns and vocabulary. Of course, crossword was the kind of games that make the learning process more interesting than before. The students go found it fun, relaxing and enjoyable, and they memorized the vocabulary in it in a different way, namely by rewriting them. Njoroge, Ndung'u and Ganthigia in (Puspita & Sabiqoh, 2017) define that the crossword puzzle was a game that makes the teaching learning process attractive and funny, and also gave much opportunity for students to practice and repeat the sentence pattern and vocabulary.

2. METHODS



Research Design

The study's design was in line with its purpose. Research is a methodical activity that aims to investigate a certain issue in order to identify the relationships between variables. With the use of a quasi-experimental design, this investigation was completed. As the name suggests, nonexperimental (or non-researcher-induced) variation in the main independent variable of interest is used in quasi-experimental research designs to simulate experimental conditions in which some people are randomly exposed to treatment while others are not (Gopalan et al., 2020).

During this investigation, which had one of the criteria of a quasi-experiment, the researcher used cluster sampling in selective the sample. The student divided as the experimental group in this study, received the treatment in that group, while another was designing as the control group, serving as the comparison group. For each condition, pre-test and post-test observations were provided. It was based on the evaluation provided by their teacher. Next, a crossword game was used to treat the experimental class, while the control group received no such treatment.

Table 2. Research design table

group	pre-test	teaching	post-test
control	O1	X1	O2
experimental	O1	X2	O2

O1 : Pre-Test

X1 : Treatment of Experimental group (using conventional method)

X2 : Treatment of Control group (using Crossword as a treatment)

O2 : Post-Test

Source Data

The source of data in research is the subject from which data is obtained. If the researcher used a test in collecting the data, then the data source is called the student, where the student is the VIII grade student of SMP HKBP Sidorame who is the respondent or has answered the test given by the researcher. Therefore, it can be concluded that the data source of this research is the vocabulary test that has been answered by students.

Population and Sample

A population is a considerable number of people who share some common traits. As reported by Sugiyono in Hafizhah & Pratolo (2022) said that a group of things or people having certain traits and qualities chosen by the researcher to be studied and from which inferences will be drawn make up the population, which is an area for generalization. Therefore, it may be said that a population is a subject matter that is the focus of attention, contains information that is known, has some traits in common, and has been decided to draw conclusions. The SMP HKBP Sidorame Medan grade 8 students served as the study's population. It's consists of 20 students.

Sharma (2017) said In order to systematically select a smaller number of representative objects or persons (a subset) from a predefined population to act as subjects (data sources) for observation or experimentation in accordance with the goals of his or her study, a researcher employed sampling as a technique (process or instrument). For instance, if you select a group of 100 undergraduates for physical fitness testing from a total of 1500 on a college's rolls using some methodical process, you have successfully selected an acceptable sample from that population. Cluster sampling is the process of categorizing the complete population into clusters or groups, after which a random sample is chosen from each cluster and included in the final sample based on Wilson (2010) in (Taherdoost, 2018). The cluster sample was chosen at random from pre-existing groupings or clusters. With this approach, everyone in the population has an equal chance of being chosen to be a sample member. The researcher intends to use class VIIIA, which has a total of 20 students, as a sample. The 20 students have been split into two groups: 10 students was in the experimental group and 10 students was in the control group.



The Instrument for Collecting Data

In this study, the researcher used a multiple-choice vocabulary test as an instrument to collect data. The data in this study were taken from the vocabulary test (multiple choice). Researcher was given pre-test and post-test to students and researcher collect students' answer sheets as data which are then analyzed by researcher. The tests were given to both groups, the experimental group and the control group.

The Technique of Collecting the Data

To collect data for this study, there were several steps to take. The researcher used pretest, treatment, and post test to collect data to measure the students' ability to achieve their goals. The techniques in conducting pretest treatment and post test to collect data are:

1. Pre- test

The purpose was to determine the average value of children's vocabulary mastery before treatment. Each student receives a vocabulary test with 20 questions from the teacher. The answer sheets will be collected and will be scored after the students have finished working. Both the control group and the experimental group will receive a pre-test. The teacher gave the pre-test before starting the English lesson topic. So after correction the score of pre-test both of control and experimental group, the researcher get the data of score vocabulary pre-test.

2. Treatment

Crossword puzzles were used as a teaching tool to impart knowledge to the students. Several meetings have been conducted. Students were introduced to the crossword game by the teacher. The rules of playing crossword puzzles were explained by the teacher. The teacher divided the class into groups, each with two students. Each group received one crossword game sheet from the teacher. The accompanying crossword game sheet is filled in by each group. The answer sheets are then collected. The teacher and students then discussed the answers. Only the experimental group received the treatment; no crossword puzzles were used during instruction for the control group.

3. Post test

After the treatment, a post-test was given to see if there was a difference in the mean scores between the pre-test and post-test. Each student took a vocabulary quiz consisting of 20 questions given by the teacher. The answer sheets were collected and graded after the students completed their work.

Table 3. Technique of Collecting the Data

no.	step	control class	experimental class
1.	Pre-test	Pre-test given by the teacher	Pre-test given by the teacher
		1. Teacher greeted the student and noticed the attendance of the student.	1. Teacher greeted the student and noticed the attendance of the student.
		2. Teacher notified the students of their learning plan.	2. Teacher notified the students of their learning plan.
		3. Teacher gave a pre-test.	3. Teacher gave a pre-test.
2.	Treatment	1. Vocabulary was discussed in the class and asked them to memorize the vocabulary.	1. Teacher used crossword puzzles to teach vocabulary.
		2. Student learned the vocabulary by asking them with the question.	2. The students form groups.
			3. Students complete the crossword puzzle with the teacher's guidance.
3.	Post test	The teacher gave a post-test.	The teacher gave a post-test.
		1. First, teacher asked the students about the material after thy have finished the material.	1. First, teacher asked the students about the material after thy have finished the material.
		2. Student received the post-test and	2. Student received the post-test and



must solved the test.

must solved the test.

Scoring System

The teacher was given the student a vocabulary test with multiple-choice questions. This multiple-choice test were given with total 20 questions. After that, the scores of treated and untreated students were identified. The cumulative score range for this test is 0 to 100. The following formula will be used to determine the test score:

$$S = \frac{R}{N} \times 100$$

Where:

S: score;

R: The correct answer;

N : Number of test items

100 : Cumulative Range, 0-100

Table 4. Classification Score

num.	classification	score
1.	Excellent	81-100
2.	Good	61-80
3.	Fair	41-60
4.	Poor	21-40
5.	Bad	10-20

The technique of Analyzing the Data

The two groups were compared used a test to find out how much effect the crossword in teaching vocabulary. After the data in the form of student test scores were obtained, the following steps were taken:

1. Comparing group mean scores;
2. Finding out which one is higher;
3. Explaining the meaning of the difference in average scores;
4. Checking significance using t-test;
5. Explaining the implications of the findings for the effect of using crossword.

This study will have a data analysis technique to determine the difference in the scores of the two groups using the t-test. This study was used SPSS 25 for Windows to help with statistical calculations. The t-test formula was used the formula:

$$t = \frac{X1 - X2}{\sqrt{\frac{(n1 - 1)s_1^2 + (n2 - 1)s_2^2}{n1 + n2 - 2}}}$$

Where:

t = The effect;

x1 = Group 1 average (experimental group);

x2 = Group 2 average (control group);

s1 = Standard deviation of group 1 (experimental group);

s2 = Standard deviation of group 2 (control group);

n1 = Number of samples of group 1 (experimental group);

n2 = Number of samples of group 2 (control group)

6. Drawing the conclusion and answer the hypothesis based on t-test.

3. RESULTS AND DISCUSSION



Results

After conducting the research, the learning outcomes of students in both the experimental and control classes were calculated based on the above calculations. The alternative hypothesis says that, compared to students taught with conventional methods, students who learn with crossword puzzles have an influence on their vocabulary. This will simplify the statistical analysis of the research results and after the test.

		Paired Samples Test					t	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	PREEKS – POSEKS	-19.500	7.619	2.409	-24.951	-14.049	-8.093	9	.000
Pair 2	PREKNTRL – POSKNTRL	-10.500	6.433	2.034	-15.102	-5.898	-5.161	9	.001

1. Based on pair 1 output obtained sign value. (2 tailed) of 0.000 <0.05, It can be said that there is a difference between the typical student learning outcomes for the experimental class's pre-test and post-test (with crossword).
2. Based on pair 2 output obtained sign value. (2 tailed) of 0.001 <0.05, It can be inferred that there is a difference in the typical student learning outcomes for the experimental class's pre-test and post-test (without crossword).

Discussion

The purpose of this research project was evaluated the effectiveness of using crossword puzzles to teach vocabulary to eight-grade at SMP HKBP Sidorame Medan. This research evaluated the effectiveness of crossword to make more fun and interesting learning. During the observation, it was found that many students still did not having enough English vocabulary. It can be seen from their observation score. They could not answer well because the vocabulary teaching that was usually received was the lecture model. Students are invited to listen to the teacher's explanation, then memorize the vocabulary given by the teacher. The teaching and learning atmosphere feels monotonous or seems one-way. Students feel uninterested or bored to learn due to rigid teaching. Therefore, they only absorb a little of the vocabulary taught.

The purpose of this study was to evaluate the efficacy of using crossword puzzles to teach vocabulary. This study focuses on the enhancement of vocabulary through the use of crossword puzzles, particularly with nouns with the topic of job and profession. Participants in this study completed a vocabulary exam consisting of 20 multiple-choice questions. The way the researcher gathered the data was through a test, or more precisely an oral test. The vocabulary test was taken by both the experimental class and the control class. A pre-test and post-test were given to the experimental class by the researcher in order to evaluate the effectiveness of the crossword medium in teaching vocabulary that had been acquired before and after the treatment (Crossword). To teach the subject to the control group, the researcher merely employed conventional method. They scored low on the post-test with an average of 65 when the control students were taught using the lecture method. Students still felt bored with teaching with the lecture method.

The researcher observed that students scores improved in the experimental group after receiving vocabulary instruction. It demonstrates that students are motivated to learn, that they are not bored, and that they do not find the vocabulary being taught or learned to be rigid. Previously, students were only instructed to memorize, but in the experimental class, they are encouraged to think in order to compete to retain the vocabulary taught. When the experimental group class used the treatment (crossword) to teach vocabulary, student scores increased. The experimental class's students



received an overall average of 79.5. Thus, it is evident that both the control and experimental classes have improved.

Researcher analyzed the results of students' post-test scores in the experimental group and control group to see whether crossword has an effect in vocabulary teaching. To answer the research question, whether there is a significant effect of crossword in teaching vocabulary in the eighth grade of SMP HKBP Sidorame Medan, the researcher proved it with the result of $t_{count} > t_{table}$. According to the score of post-test in both experimental and control, in experimental group the mean score increased dramatically to 79,5 while the mean score in the control class remained at 65. The t-test ($t_{observed}$) showed higher findings, with $t_{count} (4,57388216) > t_{table} (1.734)$ at a significance level of 0.05. There is this indicates that the crossword has a considerable impact on vocabulary instruction. Hypothesis results show that there is a significant effect of tts in teaching vocabulary in grade 8 of SMP HKBP Sidorame Medan.

Crossword is a very effective alternate method of teaching vocabulary, as evidenced by the data from the preceding chapter. As a result, the alternative hypothesis (H_a) is accepted and the null hypothesis (H_o) is rejected, as stated in the hypothesis testing. Thus, crossword puzzles help students learn more words while also making the learning process more enjoyable. The findings of this study were corroborated by earlier research. Nurul Alda & Wati (2021) came to the conclusion that crossword puzzles have a significant impact on learning, particularly in the learning process because they encourage students to participate actively in class and prevent learning boredom. They also found that students who can remember information more readily will be more engaged in learning. Additionally, the terms taught to the students are easier for them to retain and pronounce correctly. A favorable atmosphere for language learning was created through the installation of crossword puzzles. All of the activities and the learning process were actively engaged in by students. According to Anwar & Efransyah (2018), showed that the crossword puzzle game improved the students' vocabulary, improved their score, and got positive responses from students when teaching vocabulary. It is good to use in teaching, particularly when it comes to improving vocabulary mastery. It can help teachers and students reach their study activity goal.

The results of this study concluded that there was a significant effect on vocabulary teaching from before using crosswords and after using crosswords. Crossword is able to make the class in teaching vocabulary more interesting as seen from the students' scores. Students were able to improve their test scores. Therefore, the use of crossword in teaching vocabulary in the 8th grade of SMP HKBP Sidorame Medan is declared as having an effect.

4. CONCLUSIONS

The purpose of the research is to ascertain whether the crossword has a substantial impact on vocabulary instruction for eighth-grade students in SMP HKBP Sidorame Medan. The research's conclusion is presented based on the data that were examined in the previous chapter. The experimental group taught using the crossword had an average score of 79.5. This is better than the control group's average score, which was 65 when the crossword wasn't used in the lesson. The observed t-value, which is $4,57388216 > 1,734$ at a significance level of 0.05 alpha and degrees of freedom (df)-18, is demonstrated to be greater than the t-table, supporting the hypothesis. This demonstrates that the null hypothesis (H_o) is rejected and the alternative hypothesis (H_a) is accepted. Crossword puzzles are an effective vocabulary-building tool. Crossword has a significant impact on vocabulary instruction since children who receive this type of instruction do better on tests than those who receive traditional instruction. The crossword helps the students enjoy class more. Students are engaged in learning when this strategy (crossword) is used to teach vocabulary. Students demonstrated daily enthusiasm for their English studies in particular. Thus, the students' vocabulary can be improved more readily. Therefore, the use of using crossword in teaching vocabulary.



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