

## Improving Students' Vocabulary Through Crossword Puzzles for 11th Grade MIPA 3 Students at SMAN 9 Samarinda

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### Abstract

The research was prompted by the researcher's teaching internship experience, where they observed that some students had complications mastering English vocabulary. The researcher decided to use crosswords in English learning to enhance students' vocabulary knowledge, as they have a strategic purpose of improving and developing skills. The study aims to describe how crosswords improve students' vocabulary. This study was located at SMA Negeri 9 Samarinda in Class XI – MIPA 3 with 29 students. This research used a two-cycle classroom action research (CAR) method, and the average vocabulary ability of students before class is 49.38. The criteria for success in this research are 75% of students in the class passing the standard minimum criteria (KKM). Cycle I was carried out in two meetings, including a pre-post-test. Started on Monday, March 27, 2023. From cycle I, the results found by researchers were the number of students who passed The Standard Minimum Criteria (KKM) was 20 or 69% of students with an average score of 84.48. The results of the presentation of an improvement in score from the pre-test to the post-test were 0.61%. The increase still did not meet the success target, so the researcher decided to continue the cycle. Cycle II was carried out in two meetings, including a pre-post-test. The cycle started on Monday, April 3, 2023. From cycle II, the results found by the researcher were 27 students with a percentage of 96.3% passing the KKM, and the average post-test results found by the researcher were 94.64. The improvement from the overall mean score in the pre-test to the post-test in cycle II was 10.88%. The classroom action research (CAR) of cycle II was successful and met the requirements of the predetermined criteria. The average score in this study was 75, and 75% of the students in the class completed the KKM. Due to the adjustable of teachers in adapting to classroom conditions and students, crossword puzzles can be a valuable learning tool that enhances their vocabulary skills. Using crosswords in learning can attract students' attention and help them learn more new vocabulary.

**Keywords:** Crossword Puzzle, Improving, Vocabulary

### Introduction

Vocabulary is an important part of the language that belongs to a person or other entity, especially when communicating. Mastering a large vocabulary will develop communication skills. Widya Arwandi et al., (2020) said, acquiring a rich vocabulary is not easy for many Indonesian students and causes them difficulty understanding sentences, speaking English, and having trouble in writing. Lacking vocabulary skills makes students feel unconfident when learning a foreign language. There are still many students who asked the teachers to translate the questions into their native language because they did not understand the English vocabulary (Widya Arwandi et al., 2020). Therefore, Teachers should understand the situation of their students and have interesting learning methods to make the learning environment more enjoyable. Rasuan, (2017) Argues that to encourage language learning, students can use independent word-learning strategies, word

recognition, and word-play activities. Using appropriate methods and techniques is key to a successful teaching and learning process (Safura & Helmanda, 2022).

According to Mitrailia et al., (2015), The game is a method that teachers can use to make learning more fun, where students can learn new vocabulary through games. Learning through games keeps students happy, interested, and less bored. Games let on teachers directly encourage students to actively participate. Significant attention is gained to learning vocabulary through games to help other learners understand the target language quickly (Putra Perkasa & Rahman Nur, 2020).

In this research, the researcher uses crossword puzzle games as one of the learning media. This game offers a sequence of questions using phrases or letters as keys to fill in a series of blank squares arranged in such a way. The purpose of the crossword puzzle learning strategy is to improve and develop thinking skills, especially in the cognitive domain.

According to Lakoro et al., (2020) The use of crossword puzzle media as a visual medium can improve students' memory, encourage a sense of creativity, increase enthusiasm for learning, and make the learning process more delightful. The function of the crossword puzzle itself is to let the brain get used to continuous learning in a relaxed way (Bheke et al., 2021).

This research applies the classroom action method. The researcher directly teaches and uses crossword puzzles as a teaching and learning medium. based on the explanations above and the researcher's experience during the teaching internship. The researcher sees the phenomenon and is interested in researching this problem. The researcher decided to use crossword puzzles to help students improve their vocabulary knowledge because crossword puzzles have the strategic purpose of improving and developing thinking skills.

### Method

This research is about improving students' vocabulary through crossword puzzles in the eleventh grade of MIPA 3 at SMAN 9 Samarinda. The objective of the research is to describe how crossword puzzles improve students' vocabulary. The population is eleventh-grade students MIPA 3 of SMAN 9 Samarinda with the total number of the population being 32 students.

In this research, the researcher used the classroom action research (CAR) method. In the classroom action research method, the teacher is the main key instrument. Kurt Lewin, 1946 cited in Kemmis et al., (2014) describes action research as a series of steps to plan a change, execute the plan, observe what happened, and reconstruct the plan in light of what happened. The Classroom Action Research (CAR) model used in this research is adapted from Kemmis and McTaggart's model. Each cycle has four stages: planning, action, observation, and reflection. It is made up of two cycles.

The researcher used the classroom action research method because the researcher directly teaches in the classroom as a teacher. The researcher also observed the condition of the class, moreover, the researcher also plans activities, conducts activities, observes teaching and learning processes, and pre-CAR (pre-test) and CAR (post-test) assessments in every cycle.

The data is collected with the pretest and posttest as an instrument. The purpose of using pretest and posttest is to know the student's responses during activities and to see the improvement of their vocabulary skills.

To calculate student results, the researcher used average scores formula.

$$X = \frac{\sum x}{n}$$

X : Mean

$\sum x$ : The sum of all score

n: Number of students

To find students percentages, researchers use the following formula:

$$P = \frac{F}{n} \times 100\%$$

P: the students' percentage

F: respondent frequently

n: number of students

To see the percentages student's score improvement from pre-test and post-test, the researcher used formula:

$$P = \frac{X_2 - X_1}{X_1} \times 100\%$$

P: Percentage of student improvement

X1: Pre-test result

X2: Post-test result

Classroom Action Research (CAR) is successful if it completes the criteria standards and fails if it is less than the criteria standards. In this research, is considered of successful criteria by Djamarah dan Zain (2010: 108) in Herminastiti et al., (2019) if 75% of the students from the cycle pre-test to the post-test achieve some improvement or evenly reach the minimum learning mastery standard/KKM target score. The KKM that should be reached considering the English subject which is adjusted from the school agreement based on minimum learning mastery standard/KKM score of all subject at SMA Negeri 9 Samarinda is seventy-five (75).

Table 1. Category of range score pre-test and post-test

No	Range score	Category
1	$\geq 75$	Very good
2	75	Satisfactory
3	$\leq 75$	Sufficient

### Findings

After researching to improve students' vocabulary through crossword puzzles, the researcher wants to present the results obtained during classroom action research. The researcher found that there was still no significant improvement in students' knowledge of vocabulary after using crossword

puzzles on the test in cycle 1 To improve students' vocabulary, this research was conducted in two cycles.

**Cycle 1**

**Table 1. Students' scores of pre-tests and post-tests in cycle 1**

NO	NAME	PRE-TEST SCORE	POST-TEST SCORE
1	S1	100	90
2	S2	75	70
3	S3	100	70
4	S4	70	60
5	S5	95	95
6	S6	65	95
7	S7	65	70
8	S8	95	85
9	S9	80	55
10	S10	100	100
11	S11	85	95
12	S12	90	70
13	S13	100	95
14	S14	70	60
15	S15	90	100
16	S16	95	100
17	S17	90	100
18	S18	90	85
19	S19	95	100
20	S20	85	95
21	S21	70	70
22	S22	70	90
23	S23	65	85
24	S24	100	85
25	S25	100	100
26	S26	65	90
27	S27	70	55
28	S28	90	100
29	S29	70	85
<b>TOTAL</b>		<b>2435</b>	<b>2450</b>

The mean value of the scores of students in the pre-test is derived in the formula below:

$$X = \frac{\sum x}{n}$$

$$X = \frac{2435}{29}$$

$$X = 83,96$$

The percentage of student achievement pre-test cycle 1 is derived in the formula below:

$$P = \frac{F}{n} \times 100\%$$

**Table 2. The calculation of the passing score of pre-tests in cycle 1**

Criteria	Number of Students	Presentation
>75	18	62%
75	1	3.4%
<75	10	34,5%
<b>Total</b>	<b>29</b>	<b>100%</b>

The mean value of the scores of students in the post-test cycle 1 is derived in the formula below:

$$X = \frac{\sum x}{n}$$

$$X = \frac{2450}{29}$$

$$X = 84,48$$

The percentage of student achievement post-test cycle 1 is derived below:

**Table 3. The calculation of the passing score of post-tests in cycle 1**

Criteria	Number of Students	Presentation
>75	20	69%
75	0	0
<75	9	31%
<b>Total</b>	<b>29</b>	<b>100%</b>

The student's score improvement from the pre-test to the post-test in cycle I is derived in formula below:

$$P = \frac{X_2 - X_1}{X_1} \times 100\%$$

$$P = \frac{84.48 - 83.96}{83.96} \times 100\%$$

$$P = 0.61 \%$$

The number of students who passed The Standard Minimum Criteria (KKM) is 20 or 69% of students. The presentation results of students who passed the KKM based on success criteria were still less than 75% of students in the class. The Researcher still needs at Least 22 Students (75%) or more to pass the Minimum Criteria Standard (KKM). Therefore, the researcher decided to continue the research to conduct cycle II.

**Cycle II**

**Table 4. Students' scores of pre-tests and post-tests in cycle II**

NO	NAME	PRE-TEST SCORE	POST-TEST SCORE
1	S1	95	100
2	S2	70	75
3	S3	95	100
4	S4	75	100
5	S5	100	100
6	S6	90	95
7	S7	70	95
8	S8	95	95
9	S9	90	95
10	S10	60	100
11	S11	100	100
12	S12	100	95
13	S13	100	100
14	S14	60	75
15	S15	95	100
16	S16	95	95

17	S17	95	90
18	S18	70	100
19	S19	100	100
20	S20	95	95
21	S21	70	95
22	S22	75	95
23	S23	100	100
24	S24	100	100
25	S25	70	70
26	S26	60	100
27	S27	95	90
28	S28	70	95
<b>TOTAL</b>		<b>2390</b>	<b>2650</b>

The mean value of the scores of students in the pre-test cycle II is derived in the formula below:

$$X = \frac{\sum x}{n}$$

$$X = \frac{2390}{28}$$

$$X = 85.35$$

Then, the percentage of student achievement is derived below:

**Table 5. The calculation of passing score of pre-tests in cycle II**

Criteria	Number of Students	Presentation
>75	17	60.7%
75	2	7.1%
<75	9	32.1%
<b>Total</b>	<b>28</b>	<b>100%</b>

The mean value of the scores of students in the post-test cycle II is derived in the formula below:

$$X = \frac{\sum x}{n}$$

$$X = \frac{2650}{28}$$

$$X = 94.64$$

Then, the percentage of student achievement is derived below:

**Table 6. The calculation of passing score of post-tests in cycle II**

Criteria	Number of Students	Presentation
>75	25	89.2%
75	2	7.1%
<75	1	3.5%
<b>Total</b>	<b>28</b>	<b>100%</b>

The student's score improvement from the pre-test to the post-test in cycle II, the researcher used the formula:

$$P = \frac{X_2 - X_1}{X_1} \times 100\%$$

$$P = \frac{94.64 - 85.35}{85.35} \times 100\%$$

$$P = 10.88 \%$$

The post-test results of the last cycle showed that 27 students (96.3%) were able to pass the (KKM) target score. And from all the data obtained, the improvement in students' vocabulary from cycle II was 10.88%. the classroom action research (CAR) in cycle II was successful and met the requirements of the predetermined criteria. This research was successful in getting an average student score of 75, and 75% of the students in the class passed KKM.

### Discussion

In this research, the researcher used the classroom action research method, who directly teaches in class. This research conducts 2 cycles and consists of 4 meetings, where in every cycle has 2 meetings. The researcher used pretest and posttest scores to look for improvements in students' vocabulary knowledge.

In the first cycle, the researcher still managed to solve the problem. The problems that appear are that students in the class pay less attention to learning, the condition is not conducive, and students work carelessly because they do not understand English words. In this cycle, the results of student scores had not yet reached the success criteria. So, the researcher decided to move to the second cycle. Before starting the second cycle, the researcher planned to control the first-cycle problems from recurring in the second cycle. After observing all the students' scores in the second cycle it showed several satisfactory improvements, the researcher decides to stop the cycle.

From the two cycles carried out by the researcher in this research, the results of the improvement in cycle I was 0.61%. In the first cycle, the researcher faced problems such as students being less focused and not understanding the lesson but after the researcher reflected on the problems in the first cycle and then developed a new lesson plan, the improvement in the results of the cycle II was 10.88%.

### Conclusion

The improvement in students' vocabulary in class XI MIPA 3 has improved by using crossword puzzles. This improvement can be seen from the results of observations obtained in each cycle. The average vocabulary ability of the students before the class action was 49.38. After the implementation of class

action, in the first cycle students' vocabulary skills improved by 0.61%, and in the second cycle students' vocabulary skills increased by 10.88%. Learning to improve student vocabulary is said to be successful if an average student score of 75, and successfully got 75% of students have a score of 75. the results of 28 students who achieved good criteria as many as 27 students (96.3%) while one student (3.5%) had not reached the criteria. It can conclude that crossword puzzles as a learning medium can help improve student vocabulary by how teachers can adjust to the conditions of the class and the students.

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