

**The Use of Crossword Puzzle to Increase Students' Vocabulary. A Quasi  
Experimental Research at 7th grade Students of SMP N 13 Mataram**

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**APPROVAL**

An Article entitled **"The Use Of Crossword Puzzle To Increase Students Vocabulary. A Quasi Experimental Research at 7th Grade Students of SMPN 13 Mataram Academic Year 2017-2018"** by Suryan Arya Wiratama has been approved to be examined on Oktober 2018 by:

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**THE USE OF CROSSWORD PUZZLE TO INCREASE STUDENTS' VOCABULARY. A QUASI  
EXPERIMENTAL RESEARCH AT 7<sup>th</sup> GRADE STUDENTS OF SMPN 13 MATARAM  
ACADEMIC YEAR 2017-2018**

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#### ABSTRAK

Tujuan dari penelitian ini adalah untuk mengetahui efektivitas Crossword Puzzle dalam meningkatkan penguasaan kosakata siswa. Penelitian ini dilakukan pada siswa kelas VII SMPN 13 Mataram tahun akademik 2017-2018. Desain penelitian adalah Quasi experimental research dimana kelas VII C sebagai kelas eksperimen dan VII I sebagai kelas kontrol. Teknik pengumpulan data dalam penelitian ini adalah pengujian dan dokumentasi. Data dianalisis dengan menghitung skor rata-rata siswa dari pre-test dan post-test. Data dikumpulkan melalui pre-test, treatment dan post-test. Hasil analisis data menunjukkan bahwa nilai rata-rata siswa di kelas eksperimen meningkat dari 59,16 menjadi 79,33 setelah mereka ditreatment dengan Crossword Puzzle dan lulus Kriteria Ketuntasan Minimal (KKM) yaitu 75. Sedangkan pada kelas kontrol, nilai rata-rata siswa meningkat dari 59,5 menjadi 67,33 tetapi tidak lulus Kriteria Ketuntasan Minimal (KKM). Sebagai kesimpulan, dapat dikatakan bahwa Crossword Puzzle dapat meningkatkan penguasaan Kosakata siswa pada siswa kelas VII SMPN13 Mataram tahun akademik2017-2018.

*Kata Kunci: Kosakata, Teka Teki Silang, Penelitian Eksperimental*

#### ABSTRACT

The aim of this study was to find out the effectiveness of Crossword Puzzle in increasing students' Vocabulary. The research was conducted at VII grade students of SMPN 13 Mataram academic year 2017-2018. The research design was Quasi experimental research where class VII C as the experimental class and VII I as the control class. The technique of data collecting in this research was testing and documentation. Data was analyzed by calculating the student's mean score from pre-test and post-test. The data were collected through pre-test, treatment and post-test. The findings showed that student's mean score in experimental class improved from 59.16 to 79.33 after they were treated with Crossword Puzzle and passed the Minimum Achievement Standard (KKM) that is 75. While in the control class students mean score improved from 59.5 to 67.33 but did not pass the Minimum Standard Achievement (KKM). As a result, it was found that Crossword Puzzle can increase student's Vocabulary mastery at VII grade students of SMPN 13 Mataram academic year 2017-2018.

*Keywords : Vocabulary, Crossword Puzzle, Experimental Research*

#### A. INTRODUCTION

English is one of the most important languages in the world. It has been learned in almost every country in this world. In Indonesia, English is considered as a foreign language that students must learn in their school because the government put it into the school curriculum. Mastering English as a foreign language can be very difficult for the students because they do not use it in their daily activity. In this case, the role of teachers as a facilitator in teaching and learning process is very important. It has very important role to help the students mastering the language. One of the solution is by improving the students' vocabulary. Learning vocabulary is very important or essential in the English learning process because it is one of parts of languages which we have to master.

Gogoi (2015) divides vocabulary into two. Those are active and passive vocabulary. First, active vocabulary. Active vocabulary refers to language production which consist of the words which one uses confidently because he/she understands the meaning and usage. Vocabulary will be considered as active vocabulary when the learners can use the words in speaking and writing confidently because they understand the meaning and usage of the words. Second, is passive vocabulary. The passive vocabulary consists of words which can be understood when they appear in speech or writing of others but could not be used in our own speech and writing because we are not fully familiar with them. In passive vocabulary, the learners usually do not know the precise meaning of a particular word and they tend to avoid using the word in writing or in communication, while active vocabulary is vocabulary that you can recall or use when the situation requires it.

Learning vocabulary for Indonesian students is not an easy task because Indonesian and English are two different languages. Therefore, students may find many difficulties in learning English and bring tediousness in learning process. Based on my

observation at SMPN 13 Mataram, I found some problems students faced in learning vocabulary. First, they lacked vocabularies. They tended to be confused in using appropriate vocabulary in sentences. Second, students often forgot vocabularies which had been taught to them. The teacher used conventional method in which the students were usually asked to memorize the vocabulary from the dictionary or textbook. This method made students bored.

In this case, the teacher should find a good method or technique to avoid the students' tediousness. The researcher is interested in Allen and Vallete (1977:57) in Tambun (2014:2) statement that teaching vocabulary can be meaningful if the teacher conducts the teaching process by combining the available techniques of teaching. One of the techniques which can make the students interested in teaching and learning process is using game. In this case, the writer used Crossword Puzzle game as a media to solve the problem

## **B. METHODOLOGY**

This is an experimental research which expects to find out the significant effect of using crossword puzzle on student's vocabulary mastery at SMPN 13 Mataram in academic year 2017/2018. This research used quantitative method with mix-group design. It means that the researcher used two groups – Experimental group and Control group – and they was given both pre-test and post-test. Yet, they had been contrasted in terms of different treatment. The experimental group was taught by using the crossword puzzle techniques while the control group taught by using conventional method (TPR and Direct Translation Method)

### **A. Population and sampling**

#### **1. Population**

The population of the research is all of grade VII students in SMPN 13 Mataram, consisting of 315 students.

## 2. Sample

In getting the samples, the researcher used Cluster sampling technique to avoid subjectivity. In using this sampling technique, at first, the researcher took 9 pieces of paper, then, writes the name of every class of the seventh grade on each of them. After that, all of the pieces rolled by the researcher. After that the researcher choosed two of the rolled-papers as the samples of this research by shaking them. The first rolled-paper which came out first as the experimental group, and the second rolled-paper as the control group.

## B. Technique of Collecting Data

### a. Kinds of Data

Kinds of data which collected by the researcher is quantitative data. The data was collected from students' pre-test and post-test score.

### b. Sources of Data

The researcher gave students test and collected the result. The source of data in this research was from students' score in pre-test and post-test from both groups.

### c. Data Collection Procedure

#### 1. Documentation

Students' test, and learning material was prepared as the documentation.

#### 2. Testing

The researcher tested the students by giving them a set of questions and they were asked to answer those questions. The test was in form of pre-

test and post-test, so the researcher could know the students' ability before and after the treatment.

d. Instruments

There are two kinds of instruments that used in this research. Those were pre-test and post-test. The instruments of this research were:

1. Pre – Test

The pre-test is the test which is given at the beginning of the research to the control and experimental groups. The aim is to measure the sample's ability before giving the treatment. The researcher gave pre-test in a form of answering multiple choice questions.

2. Treatment

After the pre-test, the experimental group was treated with Crossword puzzle. In this phase, the researcher introduced the crossword puzzle to the students and treated them in four meetings. On the other hand, the control group was treated by using conventional method or without crossword puzzle.

3. Post – Test

The post-test is the test that was given after the treatment or the experiment. It aimed to know whether the treatment given makes any difference to the subject. The form of post-test was answering questions which are in form of multiple choices. This post-test was given after the researcher applied crossword puzzle. After post-test was administered, the researcher compared the scores of the student's from both groups in the pre-test and post-test.

### C. Data Analysis Technique

In analyzing the data, the researcher applied some steps below

#### 1. Tabulating the student's score

After having the student's worksheet as a result from pre-test, the researcher calculated the student's score from both groups. In pre-test, the students answered 25 items and got 4 points for one correct answer. This formula also applied for post-test. The researcher used this formula to calculate student's score:

$$\text{Student's score} = \frac{\# \text{ correct answer}}{\text{total question}} \times 100$$

#### 2. After having the data the researcher inserted the data into the data table

#### 3. Then, finding mean deviation score for pre-test and post-test for each group by using formula :

$$M_x = \frac{\sum dx}{N} \qquad M_y = \frac{\sum dy}{N}$$

Where :

$M_x$  : Mean score of experimental group

$M_y$  : Mean score of control group

$dx$  : Deviation score of pre-test and post-test of experimental group

$dy$  : Deviation score of pre-test and post-test of control group

$N$  : Number of score

$\sum$  : Sum up

#### 4. The next step is calculating the square deviation score by using the following formula:

$$\sum x^2 = \sum (dx)^2 - \frac{(\sum dx)^2}{N_x} \qquad \sum y^2 = \sum (dy)^2 - \frac{(\sum dy)^2}{N_y}$$



5. T-test for the data :

$$T\text{-test} = \frac{m_x - m_y}{\sqrt{\left(\frac{\sum x^2 + \sum y^2}{N_x + N_y - 2}\right) \left(\frac{1}{N_x} + \frac{1}{N_y}\right)}}$$

Where

T-test : the degree of differences

M<sub>x</sub> : mean score of experimental group

M<sub>y</sub> : mean score of control group

dx/dy : deviation x<sub>1</sub>/x<sub>2</sub> and y<sub>1</sub>/y<sub>2</sub>

N<sub>x</sub> : number of sample of experimental group

N<sub>y</sub> : number of sample of control group

∑ : sum up...

6. The last step was calculating the degree of freedom (df)

$$df = N_x + N_y - 2$$

D. Testing hypothesis

In this study, there were two kinds of formula to test the hypothesis

1. If  $t\text{-test} \geq t\text{-table}$  at the confidence level of .05(95%), the alternate hypothesis (H<sub>a</sub>) : “there is significant effect in the improvement of student’s vocabulary mastery by using Crossword Puzzle is accepted.
2. If  $t\text{-test} \leq t\text{-table}$  at the confidence level of .05(95%), the null hypothesis (H<sub>o</sub>) : “there is no significant effect in the improvement of student’s vocabulary mastery by using Crossword Puzzle is rejected.
- 3.

### **C. FINDING AND DISCUSSION**

After giving the pre-test for both classes, the students in the experimental group were taught by applying Crossword Puzzle. However, before applying the Crossword Puzzle, it was necessary to explain to the students about the rule in playing Crossword puzzle. They were surprised when the researcher gave them a Paper of Crossword Puzzle. They did not believe that by using that Crossword they could increase their Vocabulary. For the first time, they were confused and had difficulties in putting the right word in the column. However, after providing enough time to do Crossword, they found it fun and more interesting in learning vocabulary than just read and remember the word from dictionary. As a brainstorming activity in the first treatment, the students were given some example how to answer the crossword based on the subject. The aim was to remind the students' memory so that they could use it in the learning process. For controlled class, the learning was conducted in common teaching. The students in control group were taught to find the words from dictionary and asked to memorize them. Then, they were asked to answer the questions. In the beginning, the control group also faced the difficulties in mapping their ideas. However, they were only asked to read and memorize the words. There were several of them could make it but some of them could not make it.

After that, t-test was used to know whether there was a significant effect of Crossword Puzzle on students' vocabulary mastery. It was found that the lowest score of pre-test for the experimental group was 35 and the highest score was 90, while the lowest score of pre-test for the control group was 35 and the highest score was 85. In the other side, the lowest score of post-test for the experimental group was 50 and the highest score was 95, while the lowest score of the post-test for the control group was

45 and the highest score was 90. Those can be seen in table 4.1.1 of pre-test and post-test raw scores of experimental and control group below:

**a. Table 4.1.1 The Scores of Pre-Test and Post-Test of Experimental Group and Control Group.**

EXPERIMENTAL GROUP				CONTROL GROUP			
NO	Sample	Pre-Test (X1)	Post-Test (X2)	NO	Sample	Pre-Test (Y1)	Post-Test (Y2)
1	ABUG	70	75	1	AS	45	55
2	AR	45	90	2	AZ	60	75
3	AP	50	90	3	AT	65	75
4	AEP	65	80	4	A	35	60
5	BAR	75	90	5	AY	70	75
6	BMTC	50	90	6	ARF	70	90
7	CF	45	75	7	BADN	80	50
8	DS	70	90	8	BSLB	85	90
9	DC	55	85	9	DH	35	70
10	DAI	50	85	10	ES	75	85
11	EP	55	75	11	EA	80	85
12	EYP	60	90	12	HK	50	70
13	GSH	55	85	13	IMD	65	45
14	GI	55	85	14	IBTA	35	50
15	HYP	55	80	15	KDCP	50	75
16	IGA	50	55	16	KTA	55	75
17	IGKSA	75	90	17	LMNA	65	55
18	IGWS	60	80	18	LAAH	55	85
19	GALA	90	90	19	LA	75	75
20	IGBSD	50	80	20	MS	50	50
21	IRMA	70	75	21	MAAP	70	50
22	IASP	60	80	22	MEM	40	60
23	IS	40	75	23	MR	45	50
24	IPW	70	55	24	MRH	75	75
25	IA	65	75	25	MA	75	80
26	IR	45	55	26	MAW	85	80
27	KG	35	50	27	NWLK	65	65
28	MKPA	55	70	28	NW	45	60
29	MAB	65	90	29	NLJS	45	45
30	NMSR	90	95	30	RGP	40	65
	Total	1775	2380		Total	1785	2020
	Max	90	95		Max	85	90
	Min	35	50		Min	35	45

	Mean	59,16	79,33		Mean	59,5	67,33
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**Table 4.1.4 Result of t-test and t-table.**

t-test	t-table		
	Df	0.05	0.01
4.0779	58	2.0017	2.3923

Table 4.1.4 shows that there is significant effect of using Crossword Puzzle in the confidence level of .05 because the t-test result is higher than the t-table. The t-test result is 4.0779 and the t-table is 2.0017. Moreover, in the confidence level of .01 the t-test result is also higher than the t-table. The result of t-test is 4.0779 while the t-table is 2.3923. Therefore, based on the testing hypothesis criteria which was provided in chapter 3 that: if the  $t\text{-test} < t\text{-table}$  at the confidence level of .05 (95%) and .01 (99%), it means that  $H_0$  is failed to be rejected. The significant effect showed either in the confidence level of .05 or in the confidence level of .01. In other words, the null hypothesis ( $H_0$ ) which stated that there is no effect of Crossword Puzzle on Students' vocabulary mastery is rejected. Thus, it was indicated that the alternative hypothesis ( $H_a$ ) which stated that there is a significant effect of Crossword Puzzle on students' ability in writing descriptive text is accepted. From the result which was found, it can be concluded that Crossword Puzzle gave significant effect in increasing students' vocabulary mastery at grade VII of SMPN 13 Mataram. It was because the result of t-test was 4.0779, it meant that the t-test in the degree of freedom (58) was higher than the confidence level of .05 (2.0017) and .01 (2.3923), in two tails.

On the other hand, Crossword Puzzle gave positive effect on Students' vocabulary mastery. It could be seen from the different results of the pre-test and the post-test in the experimental class. In addition, Crossword Puzzle was also enjoyable. The Crossword Puzzle

was easy to implement and created an easy and fun way to help students memorize the vocabularies.

#### **D. CONCLUSION AND SUGGESTION**

##### **Conclusion**

1. Based on the data analysis in chapter IV of this research, it shows that Crossword Puzzle is effective to increase students' vocabulary mastery in SMPN 13 Mataram in academic year 2017/2018. The use of Crossword Puzzle gave significant effect on the students' vocabulary mastery. This statement was stated because of the result that the mean score of students of the experimental group who was taught by using Crossword Puzzle was 79.33 was higher than the mean score of students who were not taught by using Crossword Puzzle in the control group which was only 67.33. Besides, from the data analysis it was found that the t-test value was 4.0779. It was higher than the t-table at the confidence level of .05 (95%) equals to 2.0017, in degree of freedom (Df) 58. Therefore, based on the testing hypothesis criteria: if the  $t\text{-test} < t\text{-table}$  at the confidence level of .05 (95%) and .01 (99%), it means that  $H_0$  is failed to be rejected. However, if  $t\text{-test} \geq t\text{-table}$  at the confidence level .05 (95%) and .01 (99%),  $H_0$  is rejected. In other words, the null hypothesis ( $H_0$ ) which stated that crossword puzzle game cannot increase students' vocabulary mastery is rejected.

2. It also can be concluded that there was a significant effect of the crossword puzzle in increasing the students' vocabulary mastery in SMPN 13 Mataram in academic year 2017/2018 by using Crossword Puzzle. It can be seen from the data analysis. It was found that the t-test value was 4.0779. It was higher than the t-table at the confidence level of .01 (99%), equals to 2.3923, in degree of freedom (Df) 58. The factor which makes the strategy gives significant effect in increasing students'

vocabulary mastery is the way crossword puzzle represent alternate way to help students' mastered their vocabulary in fun and more enjoyable way.

### **SUGGESTION**

1. For Teacher
  - a. The teacher should create a good atmosphere in teaching learning process
  - b. The teacher should be more creative and innovative in designing and modifying their teaching strategy and media to make students more comfortable and love the teaching and learning materials.
  - c. The teacher also should motivate each other in order to find and share about new information of the teaching and learning development.
  
2. For Students
  - a. The students are expected to be able to improve their motivation in learning English, especially in increasing their vocabulary mastery.
  - b. The students are expected to be able to use this strategy in order to help in brainstorming and memorizing the words.
  
3. For Future Researcher
  - a. The future researcher is expected to use this strategy on different types of subject material and different sample.
  
4. For The Institution (School)
  - a. The teachers should improve their creativity in creating new strategy, productivity and professionalism.

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