The Application of Scrabble with Picture Puzzle to Increase English Vocabulary
(An Experimental Study at the First Grade of SMAS Abulyatama)

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***Abstract:** This research is intended to find out the effectiveness of using scrabble with picture puzzle in increasing the students' mastery of English vocabulary. The experimental research was used in this research. The students of this research were conducted at the first grade of SMAS Abulyatama. There are two classes namely experimental class and control class. The experimental class (X-b) consisted of 25 students and the control class (X-c) consisted of 26 students. The researcher used pre-test, post-test and also questionnaire to collect the data. The result of pre-test showed the mean score in experimental class is 62,4, while the mean score of control class is 59,03. After the treatment, the mean score of pre-test in experimental class is 71,8 and the mean score of control class is 67,30. It mean that the mean score of vocabulary mastery test of experimental score is higher than the mean score of control class. So, it can be stated that the use of scrabble with picture puzzle has a good effect on students' vocabulary mastery.*

***Keywords:** Scrabble with picture puzzle, vocabulary mastery, experimental research.*

English is implemented as one of the compulsory subjects in Indonesian educational context. The existence of this policy is expected to be able in increasing the students' English competency verbally and in written forms. In addition, in English language learning stage, the students were demanded to master four English skills namely speaking, listening, reading and writing. In order to master those skills and to reach the goal of English language learning, the learners need to have sufficient vocabulary. In fact, without mastery vocabulary it is impossible to master English as well. According to Mofareh (2015), vocabulary is often viewed as a critical tool for the language learners because limited vocabulary impedes successful communication. However, most of the students in senior high school and college students tend to have difficulties in mastering vocabulary. For example, the students in SMAS Abulyatama, they were still struggle a lot when dealing with vocabulary. There were several factors became the drawbacks of vocabulary mastery such as less attractive learning strategies,

inappropriate learning methods with the topics being taught, and inappropriate selection of learning media. Consequently, the students often confused in writing vocabulary and have less participation in the lesson. In order to solve such those problems, the teacher need to apply an appropriate strategy. One of strategy that can be used in improving vocabulary is scrabble with a picture puzzle. It could be an interesting way to make the students actively participate in the learning process. It also can cooperate as they can work together with their friend in the group. So, regarding the explanation above, this study tried to apply the learning strategy by using scrabble with picture puzzle in improving students' English mastery. Indeed, this study try to answer the research question as follow:

1. To what extend the use of Scrabble with picture puzzle can improve the English vocabulary?
2. What are the students' responses toward the use of Scrabble with picture puzzle in learning vocabulary?

LITERATURE REVIEW

The Definition and Importance of Vocabulary in Learning English

Vocabulary is one of the English components that should be taught to the learners, especially foreign language learners. It is because vocabulary has primary role for all skills in language learning aspect, where it is be the element that links the four skills of speaking, listening, reading, and writing all together. Based on Mccarthy (2010), vocabulary is a compilation of words or phrases in foreign language which commonly arranged orderly a defined the meaning according to people's need. In addition, Cameron (2001) stated that vocabulary is all words that produced by human being to express their mind and convey meaning in order to make others understand the communication. Moreover, vocabulary learning is an essential part in foreign language learning as the meaning of new words are very often emphasized, whether in books or in classroom. In brief, vocabulary is the first thing that we must learn to be able in mastering a language including English. In order to communicate well in a foreign language, we should acquire a sufficient number of words and know how to use them accurately.

Mastery vocabulary helps people to speak the language well. No matter how well you learn grammar, how successful the sound of the foreign language just cannot happen in any meaningful way. There are many ways of improving vocabulary, you can improve your vocabulary such as by reading books, watching TV, or learning through internet such chatting among country and film video. The important of learning new vocabulary has encouraged language teachers of English today to move from passive learning to active learning, because students need something fun and easy to access the vocabulary quickly when is required for use. By using a suitable method, the subject matter will be more interesting and teaching learning process can be more effective and efficient, therefore the purpose can be achieved.

Vocabulary plays a big role in helping the students to master the language. Vocabulary learning includes to help students active in the class, teachers need games to involve in the teaching and learning

process. The important thing is not only how much or how less teaching and learning are done in the classroom, but also how the students are active and fun in their learning process. It has formed the philosophy of learner-centered method that is divided into two focuses on the language process and the language content.

The Strategy in Teaching and Learning Vocabulary

There were many kinds of strategies that can be used in teaching learning vocabulary such as Guess Word, Semantic Mapping, and Scrabble with Picture Puzzle. However, this study only focuses on the strategy using Scrabble with Picture Puzzle because it is an interesting strategy for students to actively participate in the learning process.

The Definition of Scrabble with Picture Puzzle

Scrabble with picture puzzle is one strategy that is most helpful in the approach of the ability to remember vocabulary. Shoimin (2014; 166-167) states that Scrabble is a type of game that trains and develops vocabulary thinking insights. This model takes the form of random games of words, sentences, or paragraphs that are done in groups. The model is then combined with a picture puzzle to support the creation of more interesting learning.

According to Michael (2015), Scrabble is a board game played by two to four players. In this game, each player takes turns drawing lettered tiles randomly out of an opaque bag and then attempting to place those tile son a 15 × 15 board, forming words.

The Steps of Scrabble with Picture Puzzle Application in Teaching Vocabulary

The researcher tries to combine steps of Scrabble with Picture Puzzle as follow:

1. Presenting clearly how to application scrabble with picture puzzle or writing them on the board.
2. Make sure that students sees when presenting.
3. Make the group consist of 4 or 5 members.
4. Prepare some scrabble and picture puzzles.
5. Students in the groups consecutively arrange pictures and guess the meaning of that picture.
6. After knowing the meaning of that picture students arrange letters on the scrabble board.
7. The group that finished first is the winner.

The Advantages of Using Scrabble with Picture Puzzle in Teaching Vocabulary

According to Wulanjani (2016), there are some advantages of Scrabble with Picture Puzzle as follow:

1. The entire game is based around spelling. Not only are you required to spell words yourself, but you view words that other players spell as well.
2. Scrabble Game which is easy to play and interesting media can be used in teaching and learning vocabulary.
3. It helps student creativity. When playing each word, the player must be able to creatively think of a word that will play off of a previously spelled word.
4. It helps students become active participants in the class because they can share their

ideas represented.

5. Playing Scrabble also requires basic math skills. Each letter in the game has a point value, and spaces on the board will often require the player to multiply that point value; so players use math after playing each word.

The Disadvantages of Using Scrabble with Picture Puzzle in Teaching Vocabulary

The learning process of vocabulary using Scrabble with Picture Puzzle strategy also have some disadvantages such as:

1. It wasting a lot of time.
2. Some students may have not the task of completing the scrabble with picture puzzle seriously, as they were perceived to be unimportant.

In line with the research questions, the hypotheses of this study are stated as follow: Ha= The application of Scrabble with Picture Puzzle can increase the students' English vocabulary and Ho= The Application Scrabble with Picture Puzzle can not increase the students' English vocabulary.

RESEARCH METHODOLOGY

This research is a quantitative research by implementing experimental design. This research was conducted on January 22 to February 12, 2020 at SMAS Abulyatama, Aceh Besar. The population of this research was the students at the first grade of SMAS Abulyatama, in 2019/2020 Academic Year with the total 51 students in the class X. While the sample of this study were the student of class X-b as

an experimental class and the students of class X-c as a control class. Each class consists of 25-26 students. In this research, the researcher taught vocabulary by applying scrabble with picture puzzle game in two meetings as the treatment in experimental class while the researcher only taught recount text in two meetings as the material lesson without any treatments in control class.

The data were gathered by using tests (pre-test, post-test) and questionnaire as the research instrument. The tests were used to collect the data derived from the students' vocabulary knowledge and achievement before and after the application of scrabble with picture puzzle. Meanwhile, close-ended Likert Scale questionnaire was distributed in order to obtain the information of student' responses toward the application of scrabble with picture puzzle.

Furthermore, the data collected in this research were analyzed using statistical procedures in order to find out the mean, T-score and standard deviation. Mean is the average result that is received from the student. It was analyzed by using following formula:

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

Remarks:

X = Mean

fx = total of the students

n = number of students

Moreover, standard deviation is the general renditions of deviation of one group the mean score of the group. The formula:

$$SD = \sqrt{\frac{\sum fx^2}{n} - [\frac{\sum fx}{n}]^2}$$

Remarks:

SD   = Standard deviation

$\sum fx^2$ = The total of frequency and midpoints quadrate

$\sum fx$ = The total of frequency and midpoint

n = The number of students

In addition, T-score was used to indicate significant or different score of two groups (experimental and control class). The formula which was used as follow:

$$t = \frac{Xe - Xc}{\sqrt{\frac{(se)^2}{n} + \frac{(sc)^2}{n}}}$$

Remarks:

Xe = mean score of experimental class

Xc = mean score of control class

Se = standard deviation of experimental class

Sc = standart deviasion of control class

n = number of student

Meanwhile, data from the questionnaire were analyzed by using the percentage system, the formula is:

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

Remarks:

P = percentage

f = frequency of respondent

n = number of sample

100% = constant value

RESEARCH FINDINGS AND DISCUSSION

In this part, the data from the tests and questionnaire is presented.

The Test Result of Experimental Class

Tabel 1 . The Score of Pre-test and Post-test of Experimental Class

No	Name	Pre-test		Post-test	
		X_1	$\overline{X_1^2}$	X_2	$\overline{X_2^2}$
1.	ARS	50	2500	65	4225
2.	AK	55	3025	70	4900
3.	AM	70	4900	80	6400
4.	BBA	60	3600	70	4900
5.	FG	65	4225	70	4900
6.	HR	70	4900	75	5625
7.	HS	60	3600	65	4225
8.	IY	60	3600	80	6400
9.	KM	60	3600	70	4900
10.	MH	60	3600	75	5625
11.	MRH	55	3025	60	3600
12.	MR	80	6400	90	8100
13.	M	65	4225	70	4900
14.	MF	70	4900	80	6400
15.	MR	65	4225	75	5625
16.	MS	70	4900	75	5625
17.	MU	55	3025	60	3600
18.	NSF	60	3600	70	4900
19.	NS	70	4900	75	5625
20.	PA	65	4225	70	4900
21.	RI	70	4900	90	8100
22.	RF	70	4900	75	5625
23.	SA	50	2500	65	4225
24.	YM	50	2500	60	3600
25.	ZA	55	3025	60	3600
$\sum$		1560	98800	1795	130525

The first step, the mean score of pre-test and post-test the experimental class were calculated using the following formula :

$$\overline{X_1} = \frac{\sum X_1}{N}$$

$$\overline{X_1} = \frac{1560}{25}$$

$$\overline{X_1} = 62,4$$

So, the mean score of the pre-test is 62,4.

Then, the standard deviation was calculated as follow:

$$SD_1 = \sqrt{\left[\frac{\sum x_1^2}{N}\right] - \left[\frac{\sum X_1}{N}\right]^2}$$

$$SD_1 = \sqrt{\left[\frac{98800}{25}\right] - \left[\frac{1560}{25}\right]^2}$$

$$SD_1 = \sqrt{3952 - 3893,76}$$

$$SD_1 = \sqrt{58.24}$$

$$SD_1 = 7,63$$

So, the standard deviation of pre-test is 7,63.

$$\overline{X_2} = \frac{\sum X_2}{N}$$

$$\overline{X_2} = \frac{1795}{25}$$

$$\overline{X_2} = 71,8$$

So, the mean score of post-test is 71,8.

After calculating data the mean score, then the standard deviation was calculated as follow:

$$SD_2 = \sqrt{\left[\frac{\sum x_2^2}{N}\right] - \left[\frac{\sum X_2}{N}\right]^2}$$

$$SD_2 = \sqrt{\left[\frac{\sum 130525}{25}\right] - \left[\frac{1795}{25}\right]^2}$$

$$SD_2 = \sqrt{5221 - 5155,24}$$

$$SD_2 = \sqrt{65,76}$$

$$SD_2 = 8,1$$

So, the standard deviation of post-test is 8,1.

After determaining the standard deviation, then the t-score was calculated as follow:

$$\text{t-score} = \frac{\overline{x_1} - \overline{x_2}}{\sqrt{\left(\frac{SD_1}{N}\right)2 + \left(\frac{SD_2}{N}\right)2}}$$

$$\text{t-score} = \frac{62.4 - 71,8}{\sqrt{\left(\frac{7,63}{25}\right)2 + \left(\frac{8,1}{25}\right)2}}$$

$$= \frac{9,4}{\sqrt{2.32 + 2.62}}$$

$$= \frac{9,4}{\sqrt{4,94}}$$

$$= \frac{9,4}{2.22}$$

$$= 4,23$$

The Test Result of Control Class

Tabel 2 . The Score of Pre-test and Post-test of Control Class

No.	Name	Pre-test		Post-test	
		X_1	$\overline{X_1^2}$	X_2	$\overline{X_2^2}$
1.	AM	55	3025	60	3600
2.	DK	55	3025	60	3600
3.	DY	65	4225	70	4900
4.	EM	60	3600	65	4225
5.	IMB	65	4225	70	4900
6.	L	55	3025	60	3600
7.	MDI	50	2500	65	4225
8.	M	60	3600	65	4225
9.	MR	70	4900	75	5625
10.	MAM	55	3025	60	3600
11.	N	65	4225	60	3600
12.	S	65	4225	70	4900
13.	S	70	4900	80	6400
14.	ARM	60	3600	80	6400
15.	ATS	65	4225	75	5625
16.	MK	70	4900	80	6400
17.	RM	55	3025	80	6400
18.	MRN	60	3600	65	4225
19.	AA	50	2500	60	3600
20.	EO	50	2500	55	3025
21.	DF	55	3025	70	4900
22.	KS	70	4900	75	5625
23.	BI	50	2500	65	4225
24.	MF	50	2500	65	4225
25.	M	55	3025	60	3600
26.	MR	55	3025	60	3600
	$\sum$	1535	91825	1750	119250

The calculation of the mean score of pre-test and post-test of the control class were calculated using the

following formula :

$$\overline{X_1} = \frac{\sum X_1}{N}$$

$$\overline{X_1} = \frac{1535}{26}$$

$$\overline{s\,X_1} = 59,03$$

So, the mean score of the pre-test is 59,03.

Then, the standard deviation was calculated as follow:

$$SD_1 = \sqrt{\left[\frac{\sum x_1^2}{N}\right] - \left[\frac{\sum X_1}{N}\right]^2}$$

$$SD_1 = \sqrt{\left[\frac{91825}{26}\right] - \left[\frac{1535}{26}\right]^2}$$

$$SD_1 = \sqrt{3531,73 - 3484,54}$$

$$SD_1 = \sqrt{47.19}$$

$$SD_1 = 6,86$$

So, the standard deviation of pre-test is 6,86.

$$\overline{X_2} = \frac{\sum X_2}{N}$$

$$\overline{X_2} = \frac{1750}{26}$$

$$\overline{X_2} = 67,30$$

So, the mean score of post-test is 67,30

After calculating data the mean score, then the standard deviation was calculated as follow:

$$SD_2 = \sqrt{\left[\frac{\sum x_2^2}{N}\right] - \left[\frac{\sum X_2}{N}\right]^2}$$

$$SD_2 = \sqrt{\left[\frac{\sum 119250}{26}\right] - \left[\frac{1750}{26}\right]^2}$$

$$SD_2 = \sqrt{4586,54 - 4529,29}$$

$$SD_2 = \sqrt{57,25}$$

$$SD_2 = 7,56$$

So, the standard deviation of post-test is 7,56.

After determaining the standard deviation, then the t-score was calculated as follow:

$$\text{t-score} = \frac{\overline{x_1} - \overline{x_2}}{\sqrt{\left(\frac{SD_1}{N}\right)2 + \left(\frac{SD_2}{N}\right)2}}$$

$$\text{t-score} = \frac{59.03 - 67,30}{\sqrt{\left(\frac{6,86}{26}\right)2 + \left(\frac{7,56}{26}\right)2}}$$

$$= \frac{8,27}{\sqrt{1.80 + 2.19}}$$

$$= \frac{8,27}{\sqrt{3,99}}$$

$$= \frac{8,37}{2.33}$$

$$= 3,59$$

Based on the data above, the t-value of the experimental class was 4.23 and the control class was 3.59. This result shows that there is a significant difference between pre-test and post-test in both classes. The critical value of the t-score for freedom of 26-25 samples was 0.64 at a significance level of 6% (0.06). So, t-score = 4.23 is higher than t-table = 3.59.

The Result of Questionnaire

In this research, the questionnaire was used to know the students' responses after improving vocabulary mastery by using scrabble with picture puzzle. There are 10 questions about using scrabble with picture puzzle in improving vocabulary mastery. The percentage of constant value is 100% and there are 25 students' as the sample of this research.

The result of questionnaire revealed that most of students showed a greater percentage change after the experiment than before treatment only mastered a few words of vocabulary after treatment that students could improve their vocabulary. It is evident from the results of the questionnaire which shows that scrabble with picture puzzle is effective in increasing students'

vocabulary.

Then the questionnaire result also showed that students felt more active and more communicative in having fun things in the learning process, especially in learning English vocabulary. The students had positive responses toward the statements given. Therefore, it can be concluded that the application of scrabble with picture puzzle can increase the students' vocabulary mastery at the first grade students of SMAS Abulyatama.

RQ1: To what extend that the use of Scrabble with picture puzzle can improve the English vocabulary?

Based on the findings of study, the implementation of scrabble with picture puzzle was effective to improve the students' English vocabulary in the experimental class by Scrabble with picture puzzle. It was proven by data analysis that has been shown before. Whereas, in the control class that were not taught scrabble with picture puzzle there not increase students' vocabulary. The result shows that the value of t-score (4,23) was higher than t-table (3,59) at the significant level 6%. It means that the Alternative Hypothesis (Ha) was accepted. Scrabble with picture puzzle technique is able to improve students' vocabulary mastery at the first grade of SMAS Abulyatama, Aceh Besar. So, Scrabble with picture puzzle was effective in improving students' vocabulary mastery.

RQ2: What are the students' responses toward the use of Scrabble with picture puzzle in leaning vocabulary?

Based on the questionnaire result, it was found that most of the students chose strongly agree and agree for each statement. It can be proven from the students in the class who feel more active, scrabble with picture puzzle can help students in answering the questions, there are able to interact between students and teacher students and other students. Scrabble with picture puzzle also can make students actively and communicatively in learning vocabulary process, not feeling bored and more confident. For example, in the first meeting they were difficult to find meaning of the word in the pre-test after they used scrabble with picture puzzle they students can find the meaning of that word and they also got new vocabulary they do not understand before. It means that Scrabble with picture puzzle is effective in improving their vocabulary mastery.

By using scrabble with picture puzzle, the students are able to generate ideas and also provide motivation and attention in teaching learning process. In addition, using Scrabble with picture puzzle can be considered successful and the result of the study also showed that the average score of students test after the application of the game increased. Finally, Scrabble with picture puzzle can be used as an alternative media that can be applied in teaching and learning English vocabulary. Students can easily accept material delivered by the teacher in class and the students are more enthusiastic.

CONCLUSION AND SUGGESTION
Conclusion

After doing the research at SMAS Abulyatama, there are three conclusions that can be drawn from this research they are:

1. Scrabble with picture puzzle can improve students' vocabulary mastery. The result of t-score indicates that there was a difference between score of pre-test and post-test of experimental class and control class. The t-score of experimental class was 4,23 and control class was 3,59.

2. The application of scrabble with picture puzzle could be an effective way in teaching and learning vocabulary. It showed by responses of the students in the classroom that they feel more active, communicative and confident.

3. The result of the questionnaire shows that most of the students had a positive response toward the effective of scrabble with picture puzzle in improving students' vocabulary mastery. The application of scrabble with picture puzzle made the students more active, communicative and challenging during learning process.

Suggestions

The result and to complete this research, some suggestions are presented in an effort to improve the students' vocabulary mastery as follow :

a. Scrabble with picture puzzle would be helpful to improve students' ability in vocabulary mastery, so the teacher needs to maintain using action learning strategy as an alternative technique of the teaching process in the first grade of senior high school.

b. By using scrabble with picture puzzle the students can generate their ideas as many they can. The students can be more active and communicative in learning process, and also

the can develop and improve their vocabulary.

c. The teacher should apply Scrabble with picture puzzle in teaching English because it can make students more active and makes students to be a critical thinking.

d. It is suggested for futher researchers to use Scrabble with picture puzzle to enhance the students' vocabulary mastery in improving vocabulary. This technique is very helpful for students who are difficult in mastery vocabulary.

REFERENCES

Mccarthy, M, et, al. (2010).*Vocabulary Matrix Understanding, Learning, Teaching.* United kingdom: Heinle cengage learning EMEA

Mofareh, A (2015). *The Important of Vocabulary in Language Learning and How to Be Taught,* [*https://www.iises.net/international-journal-of-teaching-education/publication-detail-213?download=2*](https://www.iises.net/international-journal-of-teaching-education/publication-detail-213?download=2)

Shoimin, A. (2014*). Model Pembelajaran Inovatif Dalam Kurikulum 2013*. Yogyakarta: Ar-ruz Media, 2014

Wulanjani, A. N. (2016). The Use of Vocabulary-Games in Improving Children's Vocabulary in English Language Learning. *Transformatika, 12, (1)*