THE EFFECTIVENESS OF PICTURE CROSSWORD PUZZLE GAME IN TEACHING VOCABULARY

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Article Info	Abstract
	This article is based on a study which attempted to examine the effectiveness of the Picture Crossword Puzzle Game in teaching vocabulary. The purposes of this study are to describe the difference in students' vocabulary mastery between those by using Picture Crossword Puzzle Game and conventional method (translation) and to describe the effectiveness of Picture Crossword Puzzle Game in teaching vocabulary. The research design used in this study was a Quasi-Experimental Research. The population of this research was the seventh grade students of SMPN 2 Patebon in the academic year of 2016/2017. The control group was the class of VII-G and the experimental group was the class of VII-H. The results show that from the pre-test, both control and experimental groups have the same mean scores, which is 68.44. After the treatment, there was an increase of mean score of both groups in post-test, which is 81.25 for the control group and 90.94 for the experimental group. The quantitative result shows that the t $_{value}$ is 4.182 and the t $_{table}$ is 1.999. Based on the statistic, it is concluded that there is a sifnificant difference in achievement between both groups. However, this statistic result is not that significant regarding the condition of both control and experimental groups. In other words, the Picture Crossword Puzzle Game has no significant effect on students' vocabulary mastery. Yet, the result of the questionnaire shows that teaching vocabulary using Picture Crossword Puzzle game is interesting for the students. There are 91.8% students who give positive response to Picture Crossword Puzzle Game. In conclusion, the Picture Crossword Puzzle Game can be used to teach vocabulary because this game is interesting.

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INTRODUCTION

Vocabulary is one of the very basic things in learning English. We cannot say anything without vocabulary. What can we say without vocabulary? Even a word can express our feelings. For example, when we say "Amazing!!!" it's only one word, but you can express that you feel amazed by using it. What is actually vocabulary? Schmitt (2000:112) says "Vocabulary is more than just individual words working separately in a discourse environment. Rather, once words are placed in discourse, they establish numerous links beyond the single orthographic word level". Hatch and Brown (1995:1) adds that vocabulary is a list or set of words for a particular language or a list or set of words that individual speaker might use. Similarly, Hornby (1995:1331) defines vocabulary as:

1. The total number of words in language
2. All the words known to a person or used in a particular book, subject, etc.
3. A list of words with their meaning, especially one that accompanies a textbook in a foreign language

Based on the definitions above about vocabulary, we can conclude that vocabulary is a list of words in a language that is used by the individual speaker to convey the meaning or to express what the speaker wants to say.

Students should master enough vocabularies in learning a language, including English. Vocabulary is the key to communicate. Without vocabulary, someone cannot say what he wants to say, cannot write what he wants to write, or cannot read and understand what he wants to read. Vocabulary is a powerful carrier of meaning, and it forms the basis of learning a second language. It is one of the crucial conditions for a successful communication (Vopálková, 2008). It is the basic things in a language and central to English language teaching because without many vocabularies, students are not able to understand others or express their own ideas.

Learning vocabulary is a complex process. The students' aim to be reached in learning vocabulary is primarily their ability to recall the word at will and to recognize it in spoken and written form (Shejbalová, 2006). It means that teachers have to find the right way in teaching vocabularies to make students understand and acquire them. But the problem is that sometimes students cannot follow the lesson, or they do not pay attention to the lesson, or they simply get bored. It is a big challenge to the teachers. The teachers must create a good atmosphere in the classroom, so students can follow, pay attention and do not feel bored with the lesson. A similar condition happened in SMPN 2 PATEBON, KENDAL. Students were not enjoy when the teacher taught vocabularies using conventional method.

Teaching using game is one of the many ways to make the learning process more effective and interesting. Some teachers think that language games are a waste of time and prefer not to use them in a classroom since games sometimes have been considered only for its one element, that is fun (Deesri, 2002). On the other hand, Rizki, et al (2013) suggested that using picture games in the classroom would make the students fun that they would learn better and faster. Jaramillo (2012) also states that the crossword puzzle activity may prove to be a meaningful learning experience for building, understanding, and improving the retention of terms associated with a particular knowledge area.

Two examples of games are using pictures and crossword puzzles. Pictures not only bring images of reality, but can also function as a fun element in the class. Sometimes it is surprising how the pictures may change a lesson, even if only employed in additional

exercises or just to create the atmosphere (Joklová, 2009). The Picture can help the students to imagine "the thing" of the word. Besides, students tend to remember what they see than what they think. Meanwhile, a crossword is a word puzzle that normally takes the form of a square or a rectangular grid of white and black shaded squares. The goal is to fill the white squares with letters, forming words or phrases, by solving clues which lead to the answers (*https : / / e n . w i k i p e d i a . org/wiki/Crossword*). Rokhuma (2011) demonstrated that crossword puzzles and quartet cards make the students have a lot of chances to speak out, memorize the spelling and also read and read again the words. Consequently, students get easier in recognizing and memorizing the English vocabulary given to them.

The game in teaching is one of the many ways to make the learning process more effective and interesting. Games is crucially important for English language learners and teachers, not only because they provide enjoyment and relaxation, but also as they encourage students to use their language in a creative and communicative manner (Yolageldili & Arikan : 2011). Besides, games are attention grabbing and attention holding. They are intrinsically motivated and they may be addictive. This is

The first time the writer knows about the picture crossword puzzle game was when the writer had an assignment about teaching game, and had to choose one game to be presented in front of others. The lecturer gave suggestion to read a book entitled *Vocabulary 2 Games and Activities* by Peter Watcyn-Jones (2002). There are many vocabulary games in this book. The writer chose one of the games inside the book called *Picture Crossword: Parts of the Body.* This game is about learning vocabulary by using a crossword and pictures as a media. The terminologies are focused on "Part of Body", but the writer made some adjustments in this study. The writer changed the terminologies from "Part of Body" vocabulary into "Things to Buy" Vocabulary. This adjustment was made because the topic that related to the curriculum of the seventh grade students of the junior high school at that time was "Thing to buy Vocabulary".

The purposes of this study are to describe the difference in students' vocabulary mastery between those by using Picture Crossword Puzzle Game and conventional method (translation) and to describe the effectiveness of Picture Crossword Puzzle Game in teaching vocabulary.

Based on the background above, in order to know whether the game is effective or not, the writer would like to conduct a research entitled The Effectiveness of Picture Crossword Puzzle Game in Teaching vocabulary (An Experimental Study of Seventh Grade Students of SMP N 2 PATEBON in the Academic Year of 2016/2017).

METHODOLOGY OF THE RESEARCH

In this research, the writer conducted a quasi-experimental design study as the research design. Creswell (2009:233) states that Quasi Experimental is a form of experimental research in which individuals are not randomly assigned to groups". Saleh (2012) adds that "Quasi Experimental Design is partly-but not fully-true experimental design, they control some, but not all of the sources of internal validity".

In this study, the non-equivalent control group is chosen by the writer. It has two existing groups, one is the experimental group and the other one is the control group. The classes of experimental and control groups were obtained from the teacher's decision. The reason why the writer chose this design was because first, the writer did not break the classes

to get participants randomly from many classes, but the writer obtained 2 existing classes from 8 classes. Second, the writer did not want to rearrange or reschedule the classes that the school has arranged, in order to avoid the problem of time, place, the effectiveness of research and the management of the school. There were 2 groups or classes in this study who were considered as the subject. First was the experimental group and the second was the control group. At the beginning of research, both of the 2 classes were given the same pre-test to get the first data. After that the experimental group received the picture crossword puzzle treatments four times on the other hand, the control group did not receive the treatment, but the writer taught the lesson using conventional method (translation). Then, at the end of the meeting, the same post-test was given to the experimental group and the control group to get the final data, so the data collected can be analyzed and compared with the pre-test data. To get more information about the picture crossword puzzle, the writer gave a questionnaire to the experimental group only. The questionnaire was about their opinion related to the treatment. Then, the effectiveness of using the picture crossword puzzle game in teaching vocabulary can be seen from the data.

The subject of this study was students of SMP N 2 Patebon in the academic year of 2016/2017. Tuckman (1978:227) says that "the population (or target group) used in a questionnaire or interview study is that group about which the researcher is interested in gaining information and drawing conclusions". According to Creswell (2012:142) "a population is a group of individuals who have the same characteristic".

The population in this study was the seventh grade of SMP N 2 Patebon in the academic year of 2016/2017. The total population was 256 students consisting of 130 male students and 127 female students. There were 8 classes of seventh grade: VII-A up to VII-H. Each class consisted of 32 students except VII-E which consisted of 33 students. Seventh grade students were chosen because based on the curriculum used in this school, "Things to Buy" vocabulary was one of the materials taught in this grade.

Saleh (2001:45) states that "a sample is a group of people, goods or objects from which the research data are obtained". A sample is actually a part of a population deliberately selected to represent the population. Creswell (2009) also explains "sample is a subgroup of the target population that the researcher plans to study for generalizing about the target population".

The classes chosen by the writer which were considered as the sample in this study were the class of VII-G and the class of VII-H. There were 32 students in each class. The class of VII-G was considered as the control group, while the class of VII-H was considered as the experimental group. The reason why those classes were chosen as the sample is because the teacher who was in charge of guiding the writer in the school gave permission to the writer to use only those two classes.

There are 2 variables in this studies. Independent variables and dependent variables. Saleh (2012:31) states that an "independent variable is the variable that will be studied to determine its effect (or influence) on a particular variable which is central to the subject matter". It means that an independent variable is a variable that influences the outcome. The independent variable in this study was the Picture Crossword Puzzle Game. Saleh (2012:32), "the dependent variable is the variable which is of central interest to the researcher, and whose weight or value is affected by the weight or value of some other variables". In this study, the dependent variable was students' achievement of vocabulary mastery.

There are 2 kinds of instruments used in this study. The test instruments and the questionnaire instruments. Those instruments were used for analyzing the data obtained. Below was the procedure of analyzing the data:

1. The analysis of the try-out test
2. The analysis of the pre-test and post-test
3. The analysis of the questionnaire

The test used was a multiple-choice test. Before conducting the pre-test and post-test. The writer conducted a try-out test to make sure that the instruments for pre-test and post-test were good. There were the analyses that have been done to analyze the try-out test. They are:

1. Validity of the Test
2. Reliability of the Test
3. Item Facility of the Test
4. Discriminating Power of the Test

After the try-out, a pre-test was conducted by the writer. Then the writer gave treatments to the groups. The control group was taught using the conventional method (translations) and the experimental group was taught using the picture crossword puzzle game. After the treatment, the post-test was also conducted by the writer for the both groups. While the questionnaire was only given to the experimental group. There were the analysis that has been done in order to get the results of the pre-test and the post-test. Those were:

1. Mean Score
2. Standard Deviation
3. Normality
4. Homogeneity
5. T-test

In order to analyze the pre-test and post-test scores. The writer used the SPSS as a calculation tool. All those analyses were calculated using SPSS. The significant difference between both groups is accepted if the value of *Sig.(2-tailed)* on the t-test is less than 0.05. Then, the effectiveness of the treatments is accepted if the t_{value} is higher than the t_{table}. ($t_{value} \geq t_{table}$). If those statements are accepted, it means that there is a significant difference between students who were taught by using picture crossword puzzle game and the students who were taught using conventional method (translations)

The questionnaire was given to the students after they have done the post-test in the last meeting. The questionnaire was only given to the experimental group which consists of 32 students. There were five questions which related to the treatments they have experienced in the questionnaire.

RESULT AND DISCUSSION

Result of the Test

Based on the try-out analysis, the test is reliable with the value of reliability is 0.838. The try-out instrument is also valid. There are 20 valid items. They are item number 1, 3, 4, 5, 7, 8, 9, 11, 14 ,17 ,18, 21, 22, 23, 24, 26, 27, 28 , 29, 30. While 10 items are invalid. They are number 2, 6, 10, 12, 13, 15, 16, 19, 20, 25. In the item facility analysis, the result shows that there are 0 items are very difficult, 13 items are appropriate and 17 items are very easy. In discriminating power analysis, there are 0 items are very poor, 15 items are poor, 8 items are

satisfactory, 6 items are good and 1 item is excellent. So there are 20 items for the pre-test and post-test instruments.

Before giving the treatments to the students. A pre-test is conducted by the writer. The purpose is to know the basic knowledge of the students of "Things to Buy" vocabulary. From calculation, the mean scores of both groups surprisingly the same. It is 68.44. Independent Sample T-Test is used to calculate the t-test of the pre-test of both groups. Null Hypothesis (Ho) is accepted if there is no significant difference between the experimental group and the control group. The result is both groups have equal ability in "Things to Buy Vocabulary". It is proven by the value of *Sig.(2-tailed)* is 1.000. In addition, Ho is accepted if t_{value} is less than t_{table}. The t_{value} is 0. For α=5%, df =32+32-2 = 62, the t_{table} is 1.999. Because t_{value} is less than the t_{table}, it means that Ho is accepted. Based on the result, the students of the control and the experimental group have the equal level of ability in "Things to Buy" vocabulary.

The post-test is conducted in both groups in order to know the improvement of the control group and the experimental group after treatments. The mean score of the post-test of the control group is 81.25 and for the experimental group is 90.94. It shows that the achievements of both groups have improved.

After that, the writer compares the significant difference in the post-test scores using Independent Sample T-test. Working hypothesis (Ha) is accepted if there is a significant difference in students who are taught by using the picture crossword puzzle game compares to those who are taught using conventional method (translation). Based on the calculation, Ha is accepted if the value of *Sig.(2-tailed)* is less than 0.05. The result shows that the value of *Sig.(2-tailed)* is 0.000. It means that 0.000 < 0.05. In addition, Ha is accepted if the t_{value} is more than the t_{table}. The t_{value} is 4.182. For α=5%, df =32+32-2 = 62, the t_{table} is 1.999. Because the t_{value} is more than the t_{table} (4.182 > 1.999). It means that the Ha is accepted and there is a significant difference in both groups. It proves that there is a significant difference in the experimental group who has been taught using the picture crossword puzzle game.

The writer also analyzes the Paired-Sample T-test to compare the score between the pre-test and post-test each group. The result of this comparison shows which group improves higher than the other after the treatments. The hypotheses are Ho = Post-test score is lower than pre-test scores (*Sig.(2-tailed)* > 0.05) and Ha = Post-test score is higher than pre-test scores (*Sig.(2-tailed)* < 0.05). The result is both of the group's *Sig.(2-tailed)* is 0.000. So, the *Sig.(2-tailed)* is less than 0.05 (0.000 < 0.05). It means that the students' achievement of the control and the experimental group have improved.

Then, the difference mean of the control group is 12.813, while the difference mean of the experimental group is 22.500. The difference mean score of the experimental group is higher than the control group. It proves that the experimental group has a better improvement than the control group.
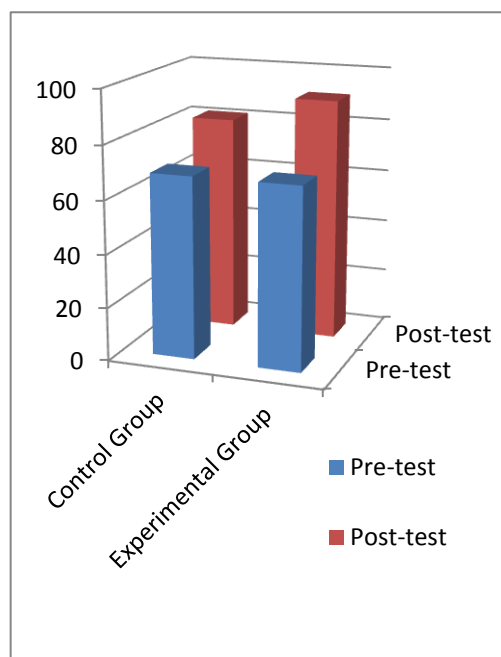
After finishing the procedures of the analysis of the result of the test, the result shows that there is a significant difference in the seventh grade students of SMP N 2 PATEBON in the academic years of 2016/2017 who are taught by using the picture crossword puzzle compares to those who are taught using the conventional method. So, the working hypothesis (Ha) is accepted. Below is the comparison between the control and the experimental group of pre-test and post-test score.

The chart above proves that the seventh grade students of SMP N 2 PATEBON in the Academic Year of 2016/2017 obtain a significant achievement in vocabulary mastery and the picture crossword puzzle game is an effective way in teaching vocabulary.

Based on the explanation and all the calculations above, the treatments of picture crossword puzzle is effective. But, if we see the mean score of the post-test of both groups, there is something interesting here. The mean score of the post-test of the control group is 81.25 and 90.94 for the experimental group. The range of the mean score is only 9.69. In the writer's point of view the range is not that significant. Although statistically proven that the treatments of picture crossword puzzle is effective.

The passing grade in SMP N 2 Patebon is 75. It means that both groups have reached the score. It can be inferred that the picture crossword puzzle is a good method in teaching vocabulary, but so does the conventional method (translation). The mean score of the control group is 81.25. It is not that bad. It is really good. So actually both treatments are good for teaching vocabulary. Although the experimental group's score is higher than the control group, it cannot be concluded that the conventional method (translation) is not an effective way in teaching vocabulary. So, the writer concludes that actually the both treatments are effective to teach vocabulary.

Result of the Questionnaire

The questionnaire was given to the students after they have done the post-test in the last meeting. The questionnaire was only given to the experimental group which consisted of 32 students. There were five questions which related to the treatments they have experienced

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in the questionnaire. The questionnaire was written in Indonesia, so the students were able to understand the questions easily. The question number 1 is whether the students like the treatments, number 2 is whether the students can remember the vocabulary easily after using the treatments, number 3 is whether the students can answer the answer of the test easily after the treatment, number 4 is whether the students become more interested in studying English after the treatments, and the number 5 is about whether the students get a new experience in learning English using the treatment. The result shows that there are 91.8% students give positive effect on Picture Crossword Puzzle Game.

Based on the explanation in the discussion of the test result, both of the treatment actually are effective in teaching vocabulary. It means that there is no ineffective method. But if we see the results of the questionnaire, we can get other information relates to the picture crossword puzzle. The results of the questionnaire show that students like to study using picture crossword puzzle, they are able to memorize the vocabularies easier, they are able to answer the test easily, they like to learn English more after using picture crossword puzzle and they get new experience in learning English. In addition, picture crossword puzzle can make the students pay attention more and focus on the learning process. It has happened in the classroom, even though the class is a little bit noisy, but most of the students enjoy the game. The writer got a lot of questions about the materials from the students during the treatments.

CONCLUSIONS

Based on the research finding, there is an improvement of both groups in the pre-test and the post-test. In the control group, the mean score has improved from 68.44 to 81.25. The experimental group's mean score also has improved from 68.44 to 90.94.

The writer analyzed the test score using the Independent Sample T-Test. The working hypothesis (Ha) is accepted if there is a significant difference in students who are taught by using the picture crossword puzzle game compares to those who are taught using conventional method (translation). In the post-test, the mean score comparison of both groups proves that the working hypothesis (Ha) is accepted. Ha is accepted if the value of *Sig.(2-tailed)* is less than 0.05 The value of *Sig.(2-tailed)* was 0.000. It means that 0.000 < 0.05. Moreover, the t_{value} (4.182) is higher than the t_{table} (1.999). Because the t_{value} is more than the t_{table} (4.182 > 1.999), it means that the Ha is accepted.

The writer also compared the mean scores of pre-test and post-test of each group to determine how much they have improved using the paired-sample-test. The results show that both of the groups have improved after the treatments given. However, the mean scores indicate that the difference mean score of the experimental group (22.500) has improved better than the control group (12.813), while the t-value of the control group is 10.430 and the experimental group is 11.421.

From the calculation, statistically the picture crossword puzzle is effective in teaching vocabulary. But if we see the mean score of the post-test, the range is not that significant. The range of the mean score is only 9.69. The passing grade in SMP N 2 Patebon is 75. It means that both groups have reached the score. It can be inferred that the picture crossword puzzle is a good method in teaching vocabulary, but so does the conventional method (translation). The mean score of the control group is 81.25. The score is really good. So actually both treatments are good for teaching vocabulary.

Second, the results of the questionnaire show that there are 91.8% students give positive effect on Picture Crossword Puzzle game. The students like to study using picture crossword puzzle, they are able to memorize the vocabularies easier, they are able to answer the test easily, they like to learn English more after using picture crossword puzzle and they get new experience in learning English. In addition, picture crossword puzzle can make the students pay attention more and focus on the learning process.

Based on the explanation above, the writer concludes that even though the results is not that significant, but the questionnaire result shows that the students give a positive response to the treatment

After doing this research, the writer would like to give some suggestion related to the study.

First, it is important for the teachers to know the general characteristic of the students in a class. The teachers should be more creative in teaching the material. For example, using games as a method. Using games in a classroom can make the students enjoy and motivate them in the learning process, especially in teaching vocabulary, the picture crossword puzzle game can be an alternative in teaching vocabulary.

Second, for the students, they can use any kind of games to learn vocabulary. The students should realize that there are many fun ways in learning English, especially in learning English vocabulary.

Third, the writer suggests that the other researchers should find other games for teaching English, especially teaching vocabulary as a new method in teaching English in a fun way.

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