AN EXPERIMENTAL STUDY ON TEACHING VOCABULARY FOR READING COMPREHENSION BY USING CROSSWORD PUZZLES FOR THE EIGHTH GRADE STUDENTS AT SMP NEGERI 24 BANJARMASIN

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Abstract: The purpose of this research is to find out whether there is any significant difference in students’ vocabulary achievement for reading comprehension taught by using crossword puzzles for the eighth grade students at SMP Negeri 24 Banjarmasin. Therefore, the researcher employed quasi-experimental study and took class VIIIB (experimental group) and class VIIIE (control group), totally 64 students as the sample. In collecting data, the researcher used vocabulary test for reading comprehension, and observation. The findings of the research show that there is a significant difference in students’ vocabulary achievement for reading comprehension of students who are taught by using crossword puzzles. The difference can be seen from the students’ average scores; 70.18 in pre-test and 81.18 in post-test for experimental class and 70.03 in pre-test and 72.87 in post-test for control class. In addition, the t-test calculation showed that t-test (5.76) > t-table (1.99), which means Ha is accepted and Ho is rejected. Therefore, it is suggested for all English teachers to use crossword puzzles as one of the alternative media to teach vocabulary for reading comprehension, which can be used to help the students’ to improve their vocabulary for reading comprehension.

Keywords: Vocabulary Achievement, Reading Comprehension, Crossword Puzzles
INTRODUCTION

Language as communication has many important roles in our life. It is used to communicate, to interact, to express ideas or feelings and to obtain information. From all languages, English is one of important subject to learnt. A very strong reason to learn English because English is used in all over the world. In Indonesia, English is taught as a foreign language that has four skills, namely listening, reading, speaking and writing.

When people learn language especially English, they will be difficult to get the meaning if they do not have many vocabularies. Vocabulary is a very important language aspect to master. Vocabulary as one of the language aspects is to learn when people are learning a language. It is impossible to learn a language without vocabulary. The students, who are less in vocabulary, will be difficult in understanding the text, unable to speak English, and difficult to write their own idea. In addition, students with a small vocabulary also read slowly because they do not understand many of words or have to stop and look them up in dictionary.

It has been mentioned above that vocabulary is a language element that links the four language skills, but reading has close relation with vocabulary. It is stated by Hiebert & Kamil (2005: 1) that decades of research have confirmed the important role that vocabulary plays in reading comprehension and in students’ overall academic success. Vocabulary is a strong indicator of reading success (Biemiller, 2003). So, vocabulary development is important for beginning reading because it will determine learners’ reading comprehension. Vocabulary is strongly related to reading performance as well as to overall school achievement. Readers cannot understand the content of what they are reading unless they understand the meaning of the majority of words in text.

Occasionally, in teaching learning process, the students feel afraid of following the teaching learning process of English because they do not understand about the meaning of English words in English. To avoid that condition and to motivate the students in learning English, the teacher can use teaching aids to give different atmosphere to classroom situation that make the students love the subject. Some experts declared that some techniques to help students to improve their vocabulary. One of the techniques is by using game.

There are many games that can be used in teaching vocabulary. In this study the writer choose crossword puzzles because this game is familiar and very challenging to the students. They try to guess the word based on the clues. The writer chooses the topic about vocabulary based on the reason that vocabulary is the one of the basic parts to learn English skills. By knowing the vocabulary, student can be understand the English language and communicate successfully with other people. The writer also want to know the difference in vocabulary achievement between students’ who taught by using crossword puzzles and students’ who does not taught by using crossword puzzles. The writer believes that by knowing the result, the writer is able to inform it to the teacher and the students perhaps they can evaluate their way in teaching and learning. Because of these importances, the writer wants to conduct the thesis about students’ vocabulary achievement for reading comprehension.
REVIEW OF RELATED LITERATURE

Definition of Vocabulary

Vocabulary is considered as one of component of a language. Vocabulary is important aspect that appeared in listening, speaking, reading and writing. Moreover, Thornburry (2002:13) mention that without grammar very little can be conveyed, without vocabulary nothing can be conveyed. It means the learning activity works smoothly without knowing enough vocabulary. Some experts stated the definitions of vocabulary.

According to (Napa, 1991: 6 in the thesis of Neneng Ratnawati, Wiwik Eko Bindarti, Annur Rofiq, 2013: 1), vocabulary is one of the components of a language and that no language exists without words. As same opinion as Napa, Kridalaksana (2008) stated that vocabulary is a component of a language that maintains all of information about meaning and using word in a language.

Vocabulary is one of the language components that can affect macro skills. Nunan (1999: 101) stated that vocabulary is a list of target language words. In addition, Richards and Schmidt (2002: 629) stated that vocabulary is a set of lexemes, including single words, compound words and idioms.

From many definitions above, it can be elaborated that vocabulary is a number of words or bunch of words that should be familiar with someone and have in his or her mind. In other words, vocabulary is the word capacity of someone when he or she is writing or reading a text, or when he or she is expressing his or her ideas in practicing oral communication. Learning vocabulary will be easier for students to develop their four skills; listening, speaking, reading, and writing. Therefore, students who know more words are easier to comprehend than those who have limited vocabulary. Having more vocabularies can make possible in expressing something or messaging to others, reading different books or subject, and also dealing with foreign language.

Kinds of Vocabulary

According to McMilan (in Abdul Muth’im, 2010: 10) divides vocabulary into two classes:

1) Functional Words

Functional words are those that often have little meaning in the dictionary sense but which serve important functions in relating other words in the language to each other. Some of the words that belong to this group are: pronouns, determiners, auxiliary verbs.

2) Content Words

Content words are those that name and describe the infinite number of things, persons, events, and process that speaker of English want to talk about. Content words refer to noun, verb, adjective and adverb.

Jackson (in Abdul Muth’im, 2010: 11) described each part of vocabulary as follows:

1) Noun
Noun is generally refer to ‘things’ in the broad sense. They include sub-classes of nouns such as proper and common nouns, concrete and abstract nouns, and countable and uncountable nouns.

2) Verb

Verb is generally refer to actions, event and processes. The sub-division of verbs are: transitive and intransitive verbs, dynamic and stative verbs.

3) Adjectives

Adjectives typically amplify the meaning of a noun, either by occurring immediately before it, as in the wide road, or by being linked to it by means of a copula verb as in The road is/become wide.

4) Adverbs

Adverbs represents a very diverse set of words.

5) Prepositions

Preposition have as their chief function that of relating a noun phrase to another unit. The relationship may be one of time (after the meal), place (in front of the house), or logic (because of his action).

6) Conjunctions

Conjunction as the name imply, also have a joining functions, usually that of joining one clause to another, but sometimes also of one noun to another. They are two kinds, namely: (1) co-coordinating conjunctions such as: and, or, but, and (2) sub-coordinating conjunctions such as: when, if, why, whether, because, since, etc.

7) Determiners

Determiners are a class of words that are used with nouns and the function of defining the reference of the noun in same way.

8) Pronouns

Pronouns have the main function of substituting for nouns, once a noun has been mentioned in a particular text.

**Definition of Vocabulary Achievement**

Achievement, according to (Hornby, 1995: 10 in the thesis of Neneng Ratnawati, Wiwiek Eko Bindarti, Annur Rofiq, 2013: 2), is something achieved or done successfully with effort or skill. Then, it can be concluded that the students’ vocabulary achievement is the students’ ability in achieving or mastering the collection of words recognized and understood with successful efforts.

**Teaching Vocabulary**

Teaching vocabulary is a complex task because it includes the meaning of the words. A good teacher should use appropriate techniques and enough practice for certain words, so that the
objective will be achieved. Concerning the appropriate techniques, a teacher must choose suitable method of teaching vocabulary. The teacher has to teach not only the meaning of the words but also can use appropriate method for each other aspect of language. Teacher is demanded to be successful in teaching learning goal. According to Wallace (1982: 27-30) there are six principles in teaching vocabulary: aim, quantity, needs, frequent, exposure, repetitions, and meaningful presentation.

The Position of Vocabulary in Reading

Vocabulary is an important thing in reading. It is stated by Biemiller (2003) that vocabulary is a strong indicator of reading success. From that statement, it can be concluded that if a learner has large vocabulary he or she will be easier to comprehend the information of a text while if he or she has limited vocabulary, he or she will be difficult to get meaning or the information. Moreover, The National Reading Panel (National Institute of Child Health and Human Development (NICHD), 2002) has affirmed the prominence of vocabulary in the reading process (in Richer, 2005: 414). In other words, someone who has large vocabulary will be easier to get the meaning of a text.

Reading Comprehension

Reading comprehension is the ability to read text, process it and understand its meaning. Basically, reading is thinking and understanding and getting at the meaning behind a text (Serravallo, 2010: 43). In order to read, the text must be decoded and also comprehended. When someone decodes the text, the individual words were deciphered.

Cognitive processes involves in reading comprehension. The top of the reading process model contain cultural and word knowledge and generalized cognitive processing strategies that construct a meaning for big pieces of text. The basic comprehension process (micro-processes, integrative processes, macro-processes, elaborative processes, and meta-cognitive processes) work together simultaneously and complement one another (Klingner, : 2007).

Games

Huyen and Nga, 2003 (in the thesis of Milda Nur Ahsanah, 2013: 15) said that learners of English have to deal with unfamiliar vocabularies during their language acquisition; they should participate in different task-based activities in their classroom, such as vocabulary games which especially focus on helping learners develop and use words in different context by making the lesson more enjoyable.

The same point of views comes from Slattery and Jane, 2001 (in the thesis of Milda Nur Ahsanah, 2013: 15). They explain that games can help the learners to create context in which the language is useful and meaningful. They are also argues that in increasing vocabulary, teachers should need media to be used. One of them is by using game. A game can make students more enjoyable and focus in learning because they do not feel they are forced to learn.

Games are considered to help and encourage the students to make the effort to win because they will be given a lot of opportunities to practice their language more freely (Bredemeier & Greenblat, 1991). In addition, Shaptoshvili (2002) said that game not only engage students in an enjoyable and challenging activity with a clear goal but also can provide
practice in another key area i.e. vocabulary. such games facilitate initial practice and periodic revision of vocabulary in an enjoyable context, thus making classroom just like an amusing and satisfying experience for teacher and student alike.

A game has many advantages in learning. According to Cameron, 2001 (in the thesis of Milda Nur Ahsanah, 2013: 16), the advantages of game are as follows:

a. It can be used to change the sphere of a lesson and to maintain motivation;
b. It can encourage students to interact and communicate;
c. It can increase students’ vocabulary and to reduce the dominant of the classroom by the teacher;
d. It can act a testing mechanism, in the sense that they will expose areas of weakness and the need for remedial work.
e. It can make students seek to solve problem in which they are intimately involved;
f. It can be used to punctuate long formal teaching units and review students’ energy before returning to more formal learning;
g. It is motivating and challenging;
h. It can help students to make and sustain the effort of learning;
i. Vocabulary games bring real world context in to the classroom, and increase the students’ use of English in a flexible, meaningful and communicative ways;
j. It is usually involves friendly competition and they keep students interested in learning the language;
k. It can help the students learn and hang on to new words more easily.

Besides offering many advantages, games are also very useful. Lewis, 2006 (in the thesis of Milda Nur Ahsanah, 2013: 16) explained that the positive side of games attract the students to learn English because they are fun and make them want to have experiment, discover and interact with their environment. He adds other advantages of game, as follows:

1. Games add variation to a lesson and increase motivation by providing a plausible incentive to use the target language.
2. The games context makes the foreign language immediately useful to the children.
3. Through playing games. Students can learn the way children learn their mother tongue without being aware they are studying; thus without stress, they can learn a lot;
4. Even shy students can participate positively.
Crossword Puzzle

In general, crossword puzzle is a word game that consists of black and white squares. A crossword puzzle, according to Wahyuningsih (2009) is a game in which words, guessed from their definitions, are fitted into a diagram of white and black squares. The crossword has words written horizontally (across clues) and words written vertically (down clues). Crossword puzzle could be used to sustain students interest and make the student feel relax.

Damayanti (2012: 13) adds crossword puzzle is a word game which consists of black and white squares and also arrangement numbered of squares to be filled in with words. Students need to think and guess the word based on the clues to fill in. This activity is very challenging that people have to solve to find the answer based on the clues given.

The Use of Crossword Puzzle in Teaching Vocabulary

The crossword puzzle is still the most popular word game. The words are run together horizontally and vertically. According to Wharton, 1995: 48 (in the thesis of Zunita Widyasari, 2010: 23) stated that crossword puzzle for use in the language classroom is really quite easy to create. First, make a list of words with which your students should be familiar. Then, search for a letter common to two words and you are off.

The puzzle forms may be used in several ways:

1) The students find animals, colors, or plants in the puzzle.
2) The students find certain parts of speech: verb, noun, preposition, etc.
3) Other categories may include the names of the days, the week, months, school subjects.
4) The student finds proper nouns: cities, states, countries, famous people, etc.
5) The student finds certain kinds of activities: trades, professions, sport, hobbies, etc.

This game can be done in individual, in pair, or in groups. The teacher gives a copy of the “crossword puzzle” and explains the rules, such as students have to complete it as quickly as possible. For the individual game, the student who can complete it first is the winner and gets the good point from the teacher. In pair work or group, the winner is the pair or group who can complete it first. All of the winners will have prizes from the teacher. It makes this game to be more attractive.

METHODOLOGY

Approach and Type of Research

This research was an experimental design and the writer needs to deliver a quantitative method to complete this study. According to Fraenkel and Wallen (2009: 261), experimental research is one of the most powerful research methodologies that researchers can use. Of the many types
of research that might be used, the experiment is the best way to establish cause-and-effect relationships among variables.

This study is aimed to find out the use of crossword puzzle on teaching vocabulary and the writer will find out the difference between two variables that will be conducted; independent variable and dependent variable; students’ who are taught by using crossword puzzle and students’ who are taught without using crossword puzzle as independent variable and students’ vocabulary achievement as dependent variable. There are two groups of students; they are experimental group and control group. They are take from the eight grade students of SMP Negeri 24 Banjarmasin.

**Population and sample**

According to Fraenkel and Wallen (2009: 91), population is the group of the interest to the researcher, the group to whom the researcher would like to generalize the results of the study. The population of this study was all the eight grade students of SMPN Negeri 24 Banjarmasin. The total number of the eight grade students of SMP Negeri 24 Banjarmasin are 217 students, consist of seven classes. They are class VIIIA until VIIIG. Since the population is more than 100 students, the researcher used purposive sampling technique to get the data.

Sample is the group on which information is obtained (Fraenkel and Wallen, 2009: 90). In this research, the researcher determines two classes as the sample, VIIIIB is as the experimental group and VIIIE is as the control group. In which the each class consists of 32 students. The researcher chooses these classes based on two considerations. First, the classes are taught by the same teacher. The teacher give same treatment, the same number of course and the same material to both of classes. Therefore, the characteristics of the class is similar. Second, the researcher chooses the classes based on teacher’s recommendation. The teacher recommends these classes because their score in reading is relatively similar. Therefore, the background knowledge and the background skill of students in reading of both of the class are similar too.

The researcher uses all of the students of those classes as the sample. For this research, the purposive sampling is used to obtain sample. Purposive sampling is used the researcher’s judgement to select a simple that they believe, based on prior information, will provide the data they need (Fraenkel, 2009). This technique was chosen based on same considerations such as two classes are considerate having the same characteristics; they are taught by the same English teacher and they have the same language proficiency level.

**Instrumentation**

**Test**

Fraenkel and Wallen (2006: 125) defined achievement test as a test that measure an individual’s knowledge or skill in a given area or subject. Based on this definition, the researcher compose a set of vocabulary test for reading comprehension to know students’ vocabulary achievement at eight grade students in SMP Negeri 24 Banjarmasin. The test item are develop by the researcher based on vocabulary that learn by the students of junior high school. The test type is multiple-choice items. There are 30 items of vocabulary test for reading comprehension. Each items of multiple choice consist of four option, which marked as a, b, c, and d. The
researcher will use pre-test to collect the data on the student’s prior knowledge and the post-test is given after the treatment done. Post-test is used to know the students’ achievement in writing descriptive text after the treatment given.

Lesson Plan

Lesson plan are prepare in order to have a clear description of what should be done in classroom. It provided a guideline for the teacher in conducting every steps of the planning. The scenario involved the activities that are conduct, time allotment, the teachers approach and the material are use in teaching and learning process.

Observation Form

In this study the researcher also used observation form to observe the application of crossword puzzles in the classroom. Observation form is a form requiring the observer not only to record certain behaviours, but also to evaluate some as the occur (Fraenkel and Wallen, 2009: 119).

Validity and Reliability of Instrument

Validity

Fraenkel and Wallen (2009: 147) stated that validity is the most important idea to consider when preparing or selecting an instrument for use. There are three kinds of validity: content validity, criterion-related validity and construct validity (Isaac and Michael 1981: 119). In this research, researcher used content validity to measure the validity of research instrument. Isaac and Michael (1981: 121) stated that content validity is demonstrated by showing how well the content of the test samples the class situations or subject matter about which conclusion are to be drawn. The content should be appropriate for the subject and the sample or questions represent the content to be assessed. Therefore, the test this research is formed based on the learning material.

Reliability

Reliability refers to the consistency of the scores obtained—how consistent they are for each individual from one administration of an instrument to another and from one set of items to another (Fraenkel and Wallen, 2009: 154). Reliability is needed for the researcher to make sure the accuracy of the data. Test reliability is used to measure the instruments in order to find out whether the instruments can be used a measuring tool or not whenever the instruments are used. In testing reliability of test, the researcher uses internal-consistency method requires only a single administration of a test. There are split-half procedure and Kuder-Richardson approaches for estimating the reliability in internal consistency method (Fraenkel and Wallen, 2009: 156). In this research, the researcher uses KR21. The formula is:

\[ r_{11} = \frac{k}{k-1} \left( 1 - \frac{M (k-M)}{k \nu} \right) \]

Note:

k = total items of test
M = students’ mean score
Vt = the variance total of test score

In this study to interpret the coefficient reliability, the following criteria are applied:

Table 3.1

<table>
<thead>
<tr>
<th>Raw Score</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.80 – 1.00</td>
<td>Very High</td>
</tr>
<tr>
<td>0.60 – 0.79</td>
<td>High</td>
</tr>
<tr>
<td>0.40 – 0.59</td>
<td>Fair</td>
</tr>
<tr>
<td>0.20 – 0.39</td>
<td>Low</td>
</tr>
<tr>
<td>0.00 – 0.19</td>
<td>Very Low</td>
</tr>
</tbody>
</table>

Steps in Conducting Research

Preparation

Before the research was conducted, the researcher did some preparations.

Execution

The researcher begins the research with giving the pre-test to the both groups, either experimental group or control group to obtain the result before given the treatments.

Analysis Data

After it has done, the researcher also calculated the score of pre-test and post-test and analyzed it.

Data Collection

The kind of data used for this study is scores on vocabulary test using crossword puzzle. The data are collected after three times of treatments. The researcher give students a set of vocabulary test in experiment group and control group. The test score and collect the answer of the test. Scores of control group is name as data Y, and scores of experimental group is name as data X. Finally, the data will applicable into data analysis process using t-test.

Data Analysis

The researcher collects the syllabus as basic reference to design the lesson plan and also collect students’ data information.

Counting the validity and reliability of try out test.

The researcher will analyzed the observation sheet by counting the percentage of procedure in teaching learning activity. If the percentage of the procedure implemented reaches 75%, it means the implementing of procedure in teaching and learning activity is success. The formula is used follows:

\[
\text{Percentage} = \left( \frac{\text{total activities which are done by teacher/students}}{\text{total activities}} \right) \times 100\%
\]
Analyzing the test is taken through the following steps:

a. Counting and interpreting students’ score for pre-test and post-test.

b. Counting and interpreting teacher and students’ observation sheets.

Table 3.2
Scoring System (SMPN 24 Banjarmasin)

<table>
<thead>
<tr>
<th>Score</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 – 100</td>
<td>Excellent</td>
</tr>
<tr>
<td>80 – 89</td>
<td>Good</td>
</tr>
<tr>
<td>70 – 79</td>
<td>Fair</td>
</tr>
<tr>
<td>60 – 69</td>
<td>Poor</td>
</tr>
<tr>
<td>50 – 59</td>
<td>Fail</td>
</tr>
</tbody>
</table>

The value of each test number is 3.34. The formula to count the score as follow:

\[ \text{Score} = \text{Right Answer} \times 3.34 \]

5. Analyzing the data for quasi experimental design with the group pre-test and post-test design using t-test as follow:

\[ t = \frac{M_x - M_y}{\sqrt{\left(\frac{\sum x^2}{N} + \frac{\sum y^2}{N} - 2\right) \times \left(\frac{1}{N} + \frac{1}{N}\right)}} \]

\[ M_x : \text{mean from experimental group} \]

\[ M_y : \text{mean from control group} \]

\[ \sum x^2 : \text{the sum of square of pre-test and post-test result from experimental group} \]

\[ \sum y^2 : \text{the sum of square of pre-test and post-test result from control group} \]

\[ N : \text{subject of S} \]

FINDINGS AND DISCUSSION

The Description of the Data

The population in this research was all eight grade students of SMP Negeri 24 Banjarmasin with the total number of 217 students. The eight grade students were divided into seven classes. Two classes were choosen as the subjects of this research by using purposive sampling technique. There are 32 students in Class B and 32 students in Class E. Researcher chooses class B as experimental class which is given a treatment by using crossword puzzles and class E as control class which is not given treatment by using crossword puzzles in teaching and learning process.
Data of Pre-test and Post-test

Validity and Reliability of Test

The test fulfilled the criteria for content validity since the material based on the syllabus. In addition, the test considered as valid because the content and the format of the test were familiar for the students. The test consisted of 30 multiple-choice questions. The topics of the test are narrative text, recount text, and advertisement.

In order to find reliable the test instrument, the researcher used KR 21 formula. After the calculation, the result of the try out test showed that the test were reliable because the value was higher than r-table value (r-test:r-table = 1.0164<0.2461 in r-table). The result can be interpreted as having very high reliability. Therefore, it can be concluded that the test used as the instrument of this research was valid and reliable to obtain the data needed.

Data of Pre-test

The schedule of pre-test can be seen on the following table.

Table 4.1

<table>
<thead>
<tr>
<th>No</th>
<th>Date</th>
<th>Material</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>April 14th, 2016</td>
<td>Pre-test</td>
<td>√</td>
</tr>
<tr>
<td>2</td>
<td>April 15th, 2016</td>
<td>Pre-test</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>April 18th, 2016</td>
<td>Narrative Text</td>
<td>√</td>
</tr>
<tr>
<td>4</td>
<td>April 21st, 2016</td>
<td>Recount Text</td>
<td>√</td>
</tr>
<tr>
<td>5</td>
<td>April 22nd, 2016</td>
<td>Narrative Text</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>April 23rd, 2016</td>
<td>Recount Text</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>April 25th, 2016</td>
<td>Advertisement</td>
<td>√</td>
</tr>
<tr>
<td>8</td>
<td>April 29th, 2016</td>
<td>Advertisement</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>April 30th, 2016</td>
<td>Post-test</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>May 2nd, 2016</td>
<td>Post-test</td>
<td>√</td>
</tr>
</tbody>
</table>

The Research Result

The Result of Experimental Group

The research began by conducting a pre-test to both experimental and control class. The pre-test of experimental class was held on 14th of April 2016, taken by 32 students. The pre-test result in experimental class was categorized as fair level based on the average score of students’ achievement. It can be seen on the table 4.2 below.
Table 4.2

The Result of Pretest in Experimental Class

<table>
<thead>
<tr>
<th>Score</th>
<th>Category</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Frequency (f)</td>
</tr>
<tr>
<td>90 – 100</td>
<td>Excellent</td>
<td>0</td>
</tr>
<tr>
<td>80 – 89</td>
<td>Good</td>
<td>4</td>
</tr>
<tr>
<td>70 – 79</td>
<td>Fair</td>
<td>19</td>
</tr>
<tr>
<td>60 – 69</td>
<td>Poor</td>
<td>6</td>
</tr>
<tr>
<td>50 – 59</td>
<td>Fail</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>32</td>
</tr>
</tbody>
</table>

Based on the table 4.2 the results of pretest are as follow: there was no a student in excellent level, there were 4 students in good level (12.50%), there were 19 students in fair level (59.375%), there were 6 students in poor level (18.75%), and 3 students in fail level (9.375%).

Since the minimum score on every subject at SMP Negeri 24 Banjarmasin is 70, therefore there were 9 students who were failed in pretest. The average score on pretest in experimental class was 70.18. It can be concluded that class had fair score in this vocabulary test according to the category on table 4.2.

In the end of the research, the researcher held a post-test. In experimental class, the post-test conducted after all the treatments were given. There were three treatments given. The purpuse of post-test is to find out whether the use of crossword puzzles improves students’ vocabulary achievement or not. Meanwhile, the post-test was conducted for control group. That is to see the effect of the use crossword puzzles as media in teaching and learning vocabulary for reading comprehension in experimental group. The result of post-test in experimental group can be seen on the table 4.3 below.

Table 4.3

The Result of Posttest in Experimental Class

<table>
<thead>
<tr>
<th>Score</th>
<th>Category</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Frequency (f)</td>
</tr>
<tr>
<td>90 – 100</td>
<td>Excellent</td>
<td>4</td>
</tr>
<tr>
<td>80 – 89</td>
<td>Good</td>
<td>17</td>
</tr>
</tbody>
</table>
Based on table 4.3 it can be seen that the average score increased after they had been treated by crossword puzzles as media in teaching learning process. The result of post-test in experimental class are as follows: neither of the students were in poor nor fail level, there were 4 students in excellent level (12.50%), there were 17 students in good level (53.125%), and there were 11 students in fair level (34.375%). The average score in post-test of experimental class was 81.18.

**The Result Control Group**

The pre-test of control group was held on 15th of April 2016, taken by 32 students. The result in control group was categorized as fair level based on the average score of students’ achievement. It can be seen on the table 4.4 below.

<table>
<thead>
<tr>
<th>Score</th>
<th>Category</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 – 100</td>
<td>Excellent</td>
<td>3</td>
<td>9.375%</td>
</tr>
<tr>
<td>80 – 89</td>
<td>Good</td>
<td>2</td>
<td>6.25%</td>
</tr>
<tr>
<td>70 – 79</td>
<td>Fair</td>
<td>10</td>
<td>31.25%</td>
</tr>
<tr>
<td>60 – 69</td>
<td>Poor</td>
<td>16</td>
<td>50%</td>
</tr>
<tr>
<td>50 – 59</td>
<td>Fail</td>
<td>1</td>
<td>3.125%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>32</td>
<td>100%</td>
</tr>
<tr>
<td>Average Score</td>
<td></td>
<td></td>
<td>70.03</td>
</tr>
</tbody>
</table>

Based on table 4.4 the result of pretest in control class are as follows: there were 3 students in excellent level (9.375%), there were 2 students in good level (6.25%), there were 10 students in fair level (31.25%), there were 16 students in poor level (50%), and there was a student in fail level (3.125%). So, only a student who was failed in pretest of control class. The average score on pretest in control class was 70.03, it can be said that control class also has fair score like experimental class. Then, the researcher gave them a post-test. Post-test was conducted
for control group as the determiner. The result of post-test in control group can be seen in the table below.

Table 4.5

<table>
<thead>
<tr>
<th>Score</th>
<th>Category</th>
<th>Students</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
<td></td>
</tr>
<tr>
<td>90 – 100</td>
<td>Excellent</td>
<td>3</td>
<td>9.375%</td>
<td></td>
</tr>
<tr>
<td>80 – 89</td>
<td>Good</td>
<td>5</td>
<td>15.625%</td>
<td></td>
</tr>
<tr>
<td>70 – 79</td>
<td>Fair</td>
<td>12</td>
<td>37.50%</td>
<td></td>
</tr>
<tr>
<td>60 – 69</td>
<td>Poor</td>
<td>12</td>
<td>37.50%</td>
<td></td>
</tr>
<tr>
<td>50 – 59</td>
<td>Fail</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>32</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Average Score</td>
<td></td>
<td>72.87</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the table 4.5 it can be seen that the average post-test score of control class also increased, but a little bit. The results are as follows: there were 3 students in excellent level (9.375%), there were 5 students in good level (15.625%), there were 12 students in fair level (37.50%), there were 12 students who still in poor level (37.50%), and there was no a student in fail level. The average post-test score in control class was 72.87.

Based on the calculation, there is a significant difference in students’ vocabulary achievement for reading comprehension between students who taught using crossword puzzles and does not taught by using crossword puzzles. The following table below shows the average students’ vocabulary achievement for reading comprehension.

Table 4.6

<table>
<thead>
<tr>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Class</td>
<td>Control Class</td>
</tr>
<tr>
<td>70.18%</td>
<td>70.03%</td>
</tr>
</tbody>
</table>

From the table 4.6 it can be seen that the mean score in experimental class from pre-test to post-test increased from 70.18 to 81.18 or increased by 11 points. Moreover, the mean score in control class from pre-test to post-test also increased from 70.03 to 72.87 or increased by 2.84
points. It can be concluded that the use of crossword puzzles helped the students to improve their vocabulary achievement.

**The Description of the Students’ Achievement**

After the data from the results of pre-test and post-test are obtained, then the researcher analyzed the result of the instruments to test hypothesis. From the result of pre-test, the experimental class got average score 70.18 which was categorized as fair score. Nevertheless, from the result of post-test, they got average score 81.18 which was categorized as good score. It showed that there is an increasing in students’ vocabulary achievement that is 11 points.

Then, the result of pre-test, the control class got average score 70.03 which was categorized as fair score. However, from the result of post-test, they got average score 72.87 which was categorized as fair score. It means that there is an increasing in students’ achievement that is 2.84 points. It may be because of the affect of students’ memory on the test given. In other hand, the time spend between pre-test and post-test is short, that is, only 2 weeks.

**The Result of Observation**

The researcher also needed other observers to help observing the teaching and learning process. This was for keeping the objectivity in observing the teacher and students’ performance in class during the research. The treatment was administered three times. The material used for each lesson plan were the same curriculum on that school, the only difference was the media; the class used crossword puzzles as the media on their teaching and learning activities. Since the researcher could not give the treatments because she also needs to observe the process in the teaching and learning, so the English teacher of SMP Negeri 24 Banjarmasin in eighth grade give the treatments and also did the experiment. To determine the process of teaching and learning, two observation sheets were administered in each treatment: observation sheet for teacher and students. Two observers were employed to keep the objectivity of the observation results; they were Ridina Sholihati, she was a student in English Departement FKIP UNLAM Banjarmasin batch 2012 who already passed PPL2 subject and the reseacher herself. Each observers used the observation sheet which servers as one of the instruments of this study.

In teaching and learning process, a document was needed. The documents were syllabus and lesson plan of English subject for eighth grade students at SMP Negeri 24 Banjarmasin. Syllabus needed to help the researcher to design the lesson plans.

**The Result of Teacher’s and Students’ Performance**

The process of obsevation is conducted by two observers. They were the researcher (first observer) and the researcher’s friend (second observer). The two observers observed the teacher’s and student’s performance in the teaching and learning process. On first meeting, the first observer and second observer found that the teacher conducted the teaching process exactly the same as it was proposed in RPP in experimental and control class. Morever, the average percentage of teacher performance in experimental is 88.3% and control is 84.6%. Then, on the second meeting, the first observer and second observer also found that the teacher conducted the teaching proces working well both in experimental and control class.
Furthermore, the average percentage of teacher performance as well as the first meeting, that is 94.1% in experimental class and 84.6% in control group.

In the last meeting, that is third meeting, the average percentage of the teacher performance worked very well. The average percentage of teacher performance in experimental is 100% and also control is 100%. It means that the teaching process is in line with RPP in experimental and control class. The result of observation teacher performance can be seen on the table 4.8.

Table 4.8

<table>
<thead>
<tr>
<th>No</th>
<th>Class</th>
<th>M1 O1</th>
<th>M1 O2</th>
<th>M2 O1</th>
<th>M2 O2</th>
<th>M3 O1</th>
<th>M3 O2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Experimental</td>
<td>88.3%</td>
<td>94.1%</td>
<td>94.1%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Control</td>
<td>84.6%</td>
<td>84.0%</td>
<td>100%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Moreover, the first observer and second observer found that the learning process worked well both in experimental and control class. From the first meeting, the percentage of students’ performance in experimental class is 70.5% and control class is 73.1%. On the second meeting, the percentage of students’ performance in experimental class is 79.4% and control class is 80.7%. Then, on the third meeting, the students’ performance in experimental class is 85.2% and control class is 80.7%. It means that there is an increasing in students’ participation in experimental class. Below is table 4.7 showing the result of observation in meeting I - III:

Table 4.9

<table>
<thead>
<tr>
<th>No</th>
<th>Class</th>
<th>M1 O1</th>
<th>M1 O2</th>
<th>M2 O1</th>
<th>M2 O2</th>
<th>M3 O1</th>
<th>M3 O2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Experimental</td>
<td>70.5%</td>
<td>79.4%</td>
<td>79.4%</td>
<td>85.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Control</td>
<td>73.1%</td>
<td>80.7%</td>
<td>80.7%</td>
<td>80.7%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The tables above show that the percentages of teachers’ performance as well as the students’ performance reached more than 75%. It can be concluded that the procedures of teaching and learning designed in lesson plan were acquired.
Hypothesis Testing

In testing the hypothesis, the researcher used t-test formula to know whether there was the difference or not by comparing the result from experimental and control class. As stated in chapter three, the researcher used t-test formula below:

\[ t = \frac{M_x - M_y}{\sqrt{\left( \frac{\sum X^2}{N} + \frac{\sum Y^2}{N} - \frac{2}{2} \right) \times \left( \frac{1}{N} + \frac{1}{N} \right)}} \]

The researcher used the formula above because this formula had purpose to compare between two sample. From that operation the researcher found the significant ratio (t) is about 5.76, while t-table is 1.99 for the significant level; \( \alpha = 0.05 \), and df (degree of freedom) = 62. It can be seen that the calculated t value > the t-table. It means that the null hypothesis (Ho) is rejected, and alternative hypothesis (Ha) is accepted. As a conclusion, it can be conclude that the use of crossword puzzles in teaching and learning process gives significance improvement in students’ vocabulary mastery. This result was supported with the result post test that was higher than pre test score.

Discussion of Research Result

Based on the data gathered, it was found that there is a significant difference in students’ vocabulary achievement for reading comprehension taught by using crossword puzzles. Experimental class had three times meeting with treatment by using crossword puzzles and control class had three times meeting without treatment using crossword puzzles. Before the treatments on both class, they had pre-test to know their prior knowledge. Pre-test for experimental class was held on 14th of April 2016 and pre-test for control class was held on 15th of April 2016. The result from pre-test showed that experimental class got average score about 70.18 and control class got 70.03. It means that both classes have similar prior knowledge.

Both classes had three times meeting, every Monday and Thursday for experimental class, and also for control class every Friday and Saturday. Both classes had same materials: they are narrative text, recount text, and advertisement. After all meetings, both classes had a post-test. Post-test was held on 30th of April 2016 for experimental class and on 2nd of May 2016 for control class. Experimental class got average score about 81.18 and control class got average score about 72.21. Both classes showed an improvement in their score in post-test.

By comparing the pre-test score and post-test score, it showed that there were increasing points about 11 points for experimental class and about 2.84 points for control group. Both classes got good improvement in their vocabulary mastery although in control class was not higher as experimental class. Control class improvement can be happened because their high prior knowledge. Based on that result increasing points in experimental class was higher than control class.

As a result, crossword puzzles gave some benefits in teaching and learning process. First, it could make an improvement in students vocabulary mastery because it was applicable and it made students easy to remember the vocabularies. Second, it can be used an alternative
choice to improve students’ vocabulary achievement because it was challenging the students to guess difficult vocabulary.

Experimental class got good improvement in vocabulary achievement after all treatments were done. It was supported with the result of observation which was showed that English teacher was done the teaching and learning based on the lesson plan. Finally, it can be said that crossword puzzles can improve students’ vocabulary achievement.

Researcher found that crossword puzzles also have some weaknesses in teaching learning activity when the researcher conduct the research. First, some students get confused by some part of puzzles. It can make students to discuss with their friend; consequently, the students do not pay to teacher’s explanation seriously. Second, the class becomes noisy and it takes much time for teacher to handle the class. Third, there was some vocabulary which could not interpreted in a crossword puzzle.

In brief, it can be seen that the use of crossword puzzles in teaching and learning process could help students to improve their vocabulary achievement. The use of crossword puzzles also helps the teacher in drawing students’ interest in joining the lesson. Crossword puzzles also help the students in memorizing the vocabulary. Nevertheless, crossword puzzle still have some weaknesses.

CONCLUSION AND SUGGESTION

Conclusions

Based on the data analysis, the researcher makes concludes that:

a. There is a significant difference in students’ vocabulary achievement between students who are taught by using crossword puzzles and who are not taught without using crossword puzzles in teaching vocabulary for reading comprehension for the eighth grade students at SMPN 24 Banjarmasin.

b. Based on the calculation that has been done, the result of t-test is 5.76, compared with the t-table with significance level (0.05), and d.f(62) is 1.99. Therefore, in this research the Ho is rejected and Ha is accepted.

c. From observations’ finding, the use of crossword puzzles in teaching and learning activity helps the teacher in drawing students’ interest in joining the lesson. The students more interested in learning and could remember the new vocabulary easily. However, not all of the words in English can be visualized.

d. Researcher also found that crossword puzzles also have weakness in teaching learning activity such as some students get confused by some part of puzzles. The class becomes noisy and takes much time for teacher to handle the class. However, the use of crossword puzzles can be good option for the teacher when she/he wants to teach vocabulary for eighth grade students.
**Suggestions**

Based on the conclusions, the researcher proposes several suggestions as follow:

a. It is suggested for English teacher at SMP Negeri 24 Banjarmasin to use crossword puzzles as one of alternative technique.

b. Since there is still some students got confused by some part of puzzles, the teacher have to be more careful to choose which puzzles are appropriate for learning.

c. Teachers should pay more attention to students and manage the class while using crossword puzzles in order to make the students more concentrate to the lesson and memorize the new vocabulary. Moreover, the teachers should consider how many words the students have to memorize and how much time is given for the students in every lesson.

d. Students’ need to study and practice more in order to expand their vocabulary mastery because mastering vocabulary is very important in learning foreign language. it is suggested for the students’ to expand their vocabulary in many ways uch as reading, listening, etc.

e. It is suggeted that a further study related to the current study conducted to discover wider and deeper understanding and can be used as reference for others if they want conduct a research which related to this topic.
REFERENCES


Nur Ahsanah, Mildia. 2013. Improving Students Vocabulary Mastery by Using Crossword Puzzles of Eight Grade Students of SMP Negeri 17 Banjarmasin Academic Year 2012/2013. Sarjana’s Thesis. English Department, Faculty of Teachers Training and Education, Lambung Mangkurat University, Banjarmasin.


