

**A COMPARATIVE STUDY BETWEEN STUDENTS VOCABULARY  
ACHIEVEMENT WHO ARE TAUGHT BY USING CROSSWORD  
PUZZLE AND RIDDLE GAME AT SECOND GRADE OF SMP  
SWADHIPA 1 NATAR**

**(A Script)**

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BANDAR LAMPUNG  
2017**

## **ABSTRACT**

### **A COMPARATIVE STUDY BETWEEN STUDENTS' VOCABULARY ACHIEVEMENT WHO ARE TAUGHT BY USING CROSSWORD PUZZLE AND RIDDLE GAME AT SECOND GRADE STUDENTS OF SMP SWADHIPA 1 NATAR**

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The purposes of this research were to find out the difference of students' vocabulary achievement taught through crossword puzzle and riddle game, the method who improve the student's vocabulary the most, and students' appraisal about crossword puzzle and riddle in teaching learning process. This research was conducted at second grade of SMP Swadhipa 1 natar in 2016/2017 academic year. The samples of this research were two classes, VIII.A and VIII.B. In collecting the data, the researcher used vocabulary test and questionnaire.

This research was done in four meetings. In the first meeting, the teacher started the first meeting with giving pretest as media to find the students vocabulary achievement. In the second meeting, the researcher taught them about crossword puzzle in class A and riddle game in class B. After explaining they were asked to make a group that consist 4-5 students in each group, each group was given one topic from the teacher such as coconut tree, flower, vegetable, and etc. In the next meeting, the researcher explained how to make a crossword puzzle of topic that the teacher was give. After that the researcher asked them to answer crossword puzzle and riddle game and exchanged their paper to other group. In the last meeting, the researcher conducted post test and distributed questionnaire.

The results of this research showed that: first, there was difference in students' vocabulary achievement taught crossword puzzle and riddle game. It could be seen from their means score of post test of crossword puzzle class was 81,73 and riddle game class was 73,04 with t-value was 2.629, which the data significant based on t-table was at least 2.015 and  $0.00 < 0.05$ . It meant that there was significant improvement in students' vocabulary achievement taught through crossword puzzle and riddle game. The second result related to the second

research quotation. It showed that the students were satisfied with crossword puzzle and riddle game. In crossword puzzle and riddle game correction, all of the students agreed that the techniques helped them to learn English better, improved their vocabulary and helped them to recognize their lack.

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GRADE OF SMP SWADHIPA 1 NATAR**

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**A Script**

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**Research Title : A COMPARATIVE STUDY BETWEEN STUDENTS VOCABULARY ACHIEVEMENT WHO ARE TAUGHT BY USING CROSSWORD PUZZLE AND RIDDLE GAME AT SECOND GRADE OF SMP SWADHIPA 1 NATAR**

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## DEDICATIONS

*Bismillahirrohmannirrohim*, this piece of work is siceenrely dedicated to those who never give up supporting me:

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- Emak and Ayah, who always care, protect and support me, so I can be what I want to be.
- Aal and Lily, you are the best brother and sister who always make me cheerfull.

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Thank you for all people for their love, support, advice, time and money.

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## MOTTO

*"When its get hards, get a little stronger and a little braver"*

*"When its get darks, get a little brighter and a little wiser"*

*Jeremy Fowler*  
*New Empire*

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Bandar Lampung, Mei 2017

The writer,

Meisita Aidila



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# **I. INTRODUCTION**

This chapter explained about introduction which dealt with background, research questions, objectives, uses, scope, and definitions of terms.

## **1.1. Background**

English as an international language, is very important to be learned. By learning English, the students could help themselves to face their future because English is needed in facing the globalization era. To master the language, the first step that students should learn is vocabulary.

Vocabulary is one of complex elements of a language. Vocabulary also plays an important role in helping the learners to master their language they had to learn. When students started to study English in their elementary school, the first kind of materials they had to learn is vocabulary. Vocabulary is the basic competence that might be reached by students in order to fulfill the qualifications of basic competencies in English like listening, speaking, reading and writing. For example are the students in second grade at SMP Swadhipa 1 Natar. Sometimes in speaking class, students could not speak fluently because they are lack of vocabulary. The students speak only a few sentences because they could not find the appropriate vocabulary to be used in expressing their ideas. The similar

problem is found in writing class that students could not write essays easily because they are lack of vocabulary. In conclusion, the learners would have difficulties in mastering competencies without mastering and understanding vocabulary.

Vocabulary might not be neglected by anyone who learnt a language. It is even needed to be mastered if learners wanted to master the language. It is so important that teaching vocabulary might be considered as the most important thing in English language teaching. Vocabulary is very important to be mastered since it is an essential meaning for conducting communication. Therefore, vocabulary achievement might be on the first priority in English language teaching and learning. Without mastering vocabulary, the learners would find it difficult to master the other language skills.

Another possible problem is that the way of teaching vocabulary used by the teacher is monotonous. It could make the students feel bored in teaching learning process. Therefore, the English teachers has the responsibility to create and determine the way of teaching which is effective to improve students' vocabulary. English teacher is forced to be creative to implement such an interesting and existing way of teaching that might be create a better atmosphere in the classroom. It is hoped that the students pay attentions to the lesson and the process of vocabulary achievement would be successful.

A better strategy in teaching vocabulary should be used in order to make teaching vocabulary useful so that it enable the students to achieve as many

vocabularies as they could. It is hoped that vocabulary in students' minds would work over a longer period of time in their memories. The students are expected to learn words meaning, spelling, pronunciation and the use of vocabulary at a deeper level of understanding which could be considered as an important of sustained vocabulary growth. In teaching-learning process, the teacher should managed the class well to the learning process. It would be more effective if the teacher uses tools or devices that could helps the students to understand the material easier. For those reasons, the researcher tried to observe some kinds of interesting media to improve student's vocabulary.

Crossword puzzle and Riddle game are examples of media, which encourage students to learn vocabulary. Crossword Puzzle is a puzzle in which words had to be written vertically (clues down) and horizontally (clue cross) that normally took 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 word and phrases, by solving clues which led to the answer. In languages that are written left-to-right, the answer words and phrases are placed in the grid from left to right and from top to bottom. The shaded squares are used to separate the words as phrases.

Meanwhile, *Riddle* is excellent tool because they require students to practice a variety of language skills in order to find a solution. Riddle, requires higher level critical thinking skills, which was often needed in language learning, especially in the clearly stages of language acquisition where a significant amount of time was devoted to memorization and repetition. Riddle not only asks students to think

logically and creatively, but also a fun challenge to students, who would be motivated to solve the riddle provided.

The researcher reviewed a previous research to find out what had been studied by the other researcher. First, was research which had been conducted by Desti aryani (2008). In this research, experimental design was used by the researcher to find out the effectiveness of crossword puzzle on the students speaking ability. The data was collected through test which was given to the experimental class after treatment.

Another research was conducted by Siska Yuliana (2011). In this research, the researcher collected data by classroom action research in order to know the use of riddle game to improve student's vocabulary achievement. In this research the researcher found out that the riddles could develop and motivate students in learning English, especially vocabulary.

Based on some previous researchs above, the reasercher conducted the research in analyzing teaching vocabulary by using crossword puzzle and riddle game. This research tried to find out the students' appraisal between students who were taught by crossword puzzle and students who were taught by riddle game.

## **1.2. Research Questions**

In line with the background above, the research questions could be formulated as follows:

- 1) Is there any difference between students' vocabulary achievement who are taught by using crossword puzzles and riddle game?
- 2) What is the student appraisal toward the teaching vocabulary by using

crossword puzzle and riddle game?

### **1.3.Objectives**

Related to the background and research question, the researcher stated the objectives of the research in the following:

- 1) To find out the difference between students' vocabulary achievement who are taught by using crossword puzzle and riddle game.
- 2) To find out which is better between students' appraisal toward the teaching vocabularies by using crossword puzzle and riddle game?

### **1.4.Uses**

The findings of this research were expected to be beneficial theoretically and practically:

- 1) Theoretical benefit
  - a. This research might verify the previous research
  - b. The researcher expected that the result of the research could be used as an input in English teaching process.
- 2) Practical Benefit
  - a. In teaching vocabulary using games, the teacher could increase the student's motivation in order to make them interested in learning vocabulary.
  - b. This study could be used by teacher to provide better technique for teaching vocabulary in junior high school especially.



### 1.5.Scope

In this research, the researcher focused on finding which one between crossword puzzle and riddle game which gave better improvement students' vocabulary achievement. The students' achievement in learning vocabulary were tested using pre-test and posttest to know the students' achievement before and after they were given a treatment. The vocabulary which was tested had been focused on content words that were noun, verb, adjective, and adverb because these words were frequently used by students to communicate when the students learnt a language. This research was conducted to compare the students' vocabulary achievements that were taught through crossword puzzle and riddle in second grade of SMP Swadhipa 1 Natar. The subject of this research was group of students in second grade of SMP 1 Swadhipa Natar, South Lampung. In thwas research the researcher used two classes.

### 1.6.Definitions of Terms

**Crossword Puzzle** is one of the games that used some empty blocks to be filled with letter which will make a word based on the question of the crossword puzzle, it will be written into numbered square that go across and down.

**Riddle game** is a question that was amusing and typically presented as a game to practice a variety of language skills in order to find a solution

**Vocabulary** is one of basic term to understand every language skills in English. It was a set of grammatical include a noun, adverb, adjective and verb that could be arranged for making up the language.

**Achievement** is something important that you succeed doing by your own.

**Appraisal** is student's feedback about on his/her teaching performaing and material

## **II. LITERATURE REVIEW**

This chapter explained about previous study, concepts of vocabulary, concept of teaching vocabulary, concept of crossword puzzle, concept of riddle game, teaching vocabulary through crossword puzzle, teaching vocabulary through riddle game, advantages and disadvantages of crossword puzzle, advantages and disadvantages of riddle game, theoretical assumption, and hypothesis.

### **2.1.Previous study**

The researcher reviewed previous research to find out what had been studied by the other researcher. First was research which was conducted by Desti Aryani (2008). In Desti's research, experimental design is used by the researcher to find out the effectiveness of crossword puzzle on the students speaking ability. The data is collected through test which is given to the experimental class after treatment. The researcher uses one class as the experimental class. The class consists of twenty students. Documentations include pre-test, treatment, and posttest. Another research was conducted by Zunita (2010). In Zunita's research she finds out that crossword puzzle gives the positive effect in improving student's vocabulary and student's motivation in learning vocabulary.

Third was research which was conducted by Siska Yuliana (2011). In siska's research, the researcher collects data by classroom action research in order to

know the use of riddle game to improve student's vocabulary achievement. In this research the researcher finds out that the riddles can develop and motivate students in learning English, especially vocabulary.

Based on some previous researches above, the researcher conducted the research in analyzing of teaching vocabulary by using crossword puzzle and riddle game. This research tried to find out the students appraisal between students who were taught by using crossword puzzle and students who were taught by using riddle game. By conducting this research, the researcher makes effective techniques that could be used by teacher in order to help students to improve their vocabulary in classroom.

## **2.2. Concept of Vocabulary**

Vocabulary is one of the most important components of language and one of the first things applied linguists turned their attention to. Vocabulary has an important role in learning because it allows you to communicate clearly with other people. Vocabulary is a tool that must be mastered by people to express their feelings, ideas, thought, opinions, etc in both spoken and written (Edge, 1993). A vocabulary is a set of familiar words within a person's language. A vocabulary, usually developed with age, serves as a useful and fundamental tool for communication and acquiring knowledge. Acquiring an extensive vocabulary is one of the largest challenges in learning a second language. Vocabulary is commonly defined as "all the words known and used by a particular person". Knowing a word, however, is not as simple as merely being able to recognize or use it. The main problem with vocabulary teaching is that only a few words and

a small part of what is required to know a word can be dealt with at any one time. This limitation also applies to incidental learning from listening or reading, but it is much easier to arrange for large amounts of independent listening and reading than it is to arrange for large amounts of teaching. Teaching can effectively deal with only a small amount of information about a word at a time. The more complex the information is, the more likely the learners are to misinterpret it.

Stepherd in 1973, says that vocabulary is one of the most significant aspects of language development. It means that vocabulary is the one that must be taken into consideration in language development.

Based on those statements, vocabulary is a word or a sound which represents a certain meaning as an utterance unity. It is the most important part in language learning. To achieve four skills, the students have to acquire the vocabulary well, and they needs to increase their vocabulary mastery too. It is clear that vocabulary is a fundamental in language. So, there is no language without vocabulary.

### **2.3. Concept of Teaching Vocabulary**

In teaching vocabulary, the teacher have the responsibility to make their teaching successful. By making use of their experiences, teacher might be able to know what kinds of techniques they should use. For *form*, *meaning*, and *use*, Nation (2001) declared there is both a receptive and productive dimension, so knowing these three aspects for each word or phrase actually involves 18

different types of lexical knowledge, as summarized in table 1.

**Table 1. What Is Involved in Knowing a Word**

<b>Aspect</b>	<b>Component</b>	<b>Receptive knowledge</b>	<b>Productive knowledge</b>
Form	spoken	What does the word sound like?	How is the word pronounced?
	written	What does the word look like?	How is the word written and spelled?
	word parts	What parts are recognizable in this word?	What word parts are needed to express the meaning?
Meaning	form and meaning	What meaning does this word form signal?	What word form can be used to express this meaning?
	concepts and referents	What is included in this concept?	What items can the concept refer to?
	associations	What other words does this make people think of?	What other words could people use instead of this one?
Use	grammatical functions	In what patterns does the word occur?	In what patterns must people use this word?
	collocations	What words or types of words occur with this one?	What words or types of words must people use with this one?
	constraints on use (register, frequency . . .)	Where, when, and how often would people expect to meet this word?	Where, when, and how often can people use this word?

*Source:* Adapted from Nation (2001, p. 27).

According to Haycraft as cited by Hidayatul (2002), that there were many ways of presenting new vocabulary. They are:

1. Creating a context or situation from which the students can then deduce the meaning.
2. Describing, defining object and drawing if it is necessary.

3. Using word game. There are large varieties of these, e.g. riddles which it is useful for practicing and revising vocabulary after it has been introduced.

So, to present some new vocabulary, we could use many ways, they are: creating situation or context, describing, and using words game like riddles and crossword puzzle. In this research, the researcher used the last technique, this teaching vocabulary using word game.

Referring to the four possible ways of teaching vocabulary above, one way to make the students interested in learning vocabulary was the researcher used the last technique, which meant teacher taught vocabulary through using word game. The researcher used crossword puzzle and riddle game as a technique in teaching. If a game was working properly, it was very often supplied a genuine desire to communicate in target language, even within the artificial confines of classroom.

About the types of vocabulary, according to De Gregory ascited in Hidayatul (2002), *“there are two big divisions of words: function words and content words.* The first division, function words are words that must be learned in connection with use in the sentence. These kinds of words such as noun determiners, auxiliaries, qualifiers, preposition, coordinators, interrogators and sentence linkers. Second division, content words or lexical words are words whose meaning is recorded in dictionaries and often stated by means of definitions, synonyms, antonyms and contextual explanation. These kinds of words are nouns, verbs, adjectives and adverbs.

#### **2.4. Concept of Crossword**

Crossword puzzle is a wonderful means of developing vocabulary, spelling, and language skills from childhood through adulthood (Jones, 2007). Crossword

puzzle is appropriate for incorporate age (for individual, partners or small groups) whenever possible. So from the statement before, we could conclude, that crossword puzzle was useful for all levels and all subjects.

Crossword puzzle was great game in improving vocabulary. It was a word puzzle for improving students' vocabulary in which word shaved to be guessed from contextual clues and written in spaces in a grid. This was in line with the objective of this game which was to make as many words aspossible, spelling grid from vertically and horizontally.

Crossword puzzle trained the learners to solve problems or answer questions then put the answer in the given boxes of the answer sheets. Students had to guess or find suitable words according to the context clues. The clues could be sentences with a word missing, definition, synonym, or antonyms. Therefore, the students should answer the crossword puzzle. Crossword puzzle gave the students pleasure. While they played the crossword puzzle and got some pleasures on it, they also improved their vocabulary, for example: spelling, letters equences, in words and phrases, etc.

From the statement above, we could conclude that the form of the puzzle consisted of two parts. The first part consisted of some grids with a certain arrangement and the second part was clues. The grids were arranged based on the number of the letters of each clue answered both vertically and horizontally.

To play this media, the students fill the grids with letters based on the clues. So, they had to find out the answer of each clue. If they could answer one clue correctly, this would be easier for them to fill other grids and answer the other



clues, because some letters in grids were connected each other. So, they learnt how to recognize their mistakes and fix them.

## **2.5. Concept of Riddle Game**

In teaching vocabulary, unless there was a challenging way or technique, the students might not be interested in learning. But riddle game gave the students chance to improve the student's vocabulary.

There were many definitions of riddle. According to Evan (1957), riddle is the nouns all refer to something baffling or confusing which is to be solved. According to Brassell (2008) a riddle is a statement or question or phrase having a double or veiled meaning, put forth as a puzzle to be solved. According to Mardan (2009), a riddle is generally a question devised so as to require clever or unexpected thinking for its answer.

A riddle, sometimes called a "brain tester," was usually a question that required clever or unexpected thinking for its answer. In general conversation, someone typically presented a question to another person who accepted the challenge of guessing the correct response. The guesser might get one or multiple guesses and sometimes the asker gave clues, but this was not required. Riddle usually had only one correct answer, and it was commonly provided in the end, even if the guesser did not think of it.

In general, riddle could be divided into two main sections namely enigmas and conundrums. The enigmas were a type of a question that was presented in a metaphorical language. These could be cracked or solved only after careful

observation of the problem statement. Most of the ancient English poems had these kind of enigmas embedded within them. Conundrums were similar to enigmas but for the fact that the answer lies hidden in the question itself and application of the concept of punning could bring out the real answer hidden within the question. The usage of different meanings with a common spelling too, could extract the hidden truth (Rashid, 1951). Riddles games were divided into types as follows: 1). Riddles with Double Meaning, 2). Riddles that Create False Concepts, 3). Riddles with Clues, 4). Riddles in Popular Culture . In this research, the writer used the riddles with clues. The reseracher was arranging the clues that had to answer by students. The clues were arranged to be riddles consisted of the meaning of the word that was learnt as learning materials.

The structure of a riddle typically used one of several techniques to create a twist, which made it was difficult to guess. One common technique involved double meanings. If the double meaning was in the words of the question, then the language created intentional confusion. The asker intended one meaning and hoped that the guesser would understand the words differently. Here is an example: *It has three eyes, all in a row. When the red one opens, all freeze.* In this riddle, the asker intended for the guesser to understand the word “eyes” as a connotative, so the “eyes” was not as the real eyes. The eyes here were the light in traffic light, and the answer of the riddle was “traffic light”.

According to Nation (1990:24) the characteristic of a good game are:

1. Game should be suitable in all students' level.
2. Game should motivate students to enlarge their vocabulary.
3. The materials of game should challenge to the students.

Riddle game was appropriate by three steps in teaching vocabulary. Riddle was also challenging for the students, because to correctly solve a riddle, students needed to:

- listen carefully and correctly interpreted linguistic.
- learn to ask precise and effective questions.
- precisely articulate a logical and convincing solution.

Riddle required higher level critical thinking skills, which were often needed in language learning, especially in the early stages of language acquisition where a significant amount of time was devoted to memorization and repetition. Riddle did not only ask students to think logically and creatively, but also as a fun challenge to students, who would be motivated to solve the puzzle the riddle had provided.

## **2.6. Teaching Vocabulary Through Crossword Puzzle**

According to Zunita (2010), the teacher will propose some sequences of material presentation through crossword puzzle game in the classroom as follows:

1. The students are divided into small groups consisting of 3-4 students
2. The students are given some instructions and explained how the puzzle works and the rules. Such as;

Please fill in the crossword puzzle based on the word missing or definition of the words.

3. Each group is given crossword puzzle.
4. Each group is asked to do the puzzle by the certain of time.
5. The students are forbidden to work it out of their group.

6. While the students are working the teacher monitor them.
7. The students are asked to submit their works.
8. The students are asked to exchange their works with other groups.
9. The teacher and the students discuss together. The winner is the group which has more correct answers.
10. Spell the letter, pronounces the words and asks the students to follow her.

### **2.7. Teaching Vocabulary through Riddle Game.**

According to Siska (2011), the teacher will propose some sequences of material presentation through Riddle game in the classroom as follows:

1. The students are divided into small groups consisting of 3-4 students
2. The students are given some instructions and explained how the riddle works and the rules.
3. Each group is given riddle.
4. The students are forbidden to work it out of their group.
5. While the students are working the teacher monitor them.
6. The students are asked to submit their works.
7. The students are asked to exchange their works with other groups.
8. The teacher and the students discuss together. The winner is the group which has more correct answers.

There three steps way to teach using Riddle Game, they were:

#### ***Pre viewing***

The purpose of pre viewing activity is to stimulate the student's background knowledge or developing learner's comprehension strategies. The

activities which would be done are:

Telling the students that they are going to play with riddle presented in English and asking them some questions to stimulate their background knowledge, for example give them a riddle in Indonesian

### ***While viewing***

In this step, the riddle would be presented more. The purpose of this activity was to make the students more active and challenging in answering the riddle which has been given by the teacher. The activities that could be done are: First viewing is as global understanding. Give the first riddle in English, and try to solve it together and helped by the teacher. This is to make the students know how to solve the riddle. So in solving the next riddle, it will be easier. And also ask the students to guess the topic and content. Second viewing is presentation of language. After first viewing, ask the students several questions to check their understanding of the context of the riddle.

### ***Post viewing***

Post viewing activities were often connected to the idea of using language that comes from the riddle. The activity that could be done are asking the students some questions about their understanding about the topic after being taught by using riddle and having them do the vocabulary task.

## **2.8. Advantages and disadvantages of using crossword puzzle in teaching**

### **Vocabulary**

According to Jones (2007) the advantages and disadvantages of crossword puzzle as a media of teaching learning process are follows:

### **2.8.1. The Advantages of Using Crossword Puzzle**

1. Crossword puzzle solving involves several useful skills including vocabulary, reasoning, spelling, and word attack skills.

2. Crossword puzzle is a good way to teach and enrich vocabulary because the definitions or synonyms of the words/clues are right there to provide reinforcement.

3. Crossword puzzles can also be used to encourage the use of a dictionary or thesaurus or to learn terminology used in particular subject. They can be used as a quiz.

4. Crossword puzzle in the class room is that they are associated with recreation, and can be less intimidating for students as review tools.

5. Puzzle solving is a much more active type of learning, and will engage students with the material more than passive types of review techniques do.

6. Crossword puzzle also has the advantages of appealing to different learning styles.

- Visual learners often have strong puzzle-solving skills, and feel great satisfaction when they complete one.
- Auditory learners enjoy step-by-step reasoning, so they also benefit from the sequential steps of completing a crossword.
- Kinesthetic learners enjoy the multi-task strategies required to solve a crossword.

### **2.8.2. The Disadvantages of Using Crossword Puzzle**

1. Constructing cross word puzzle may become, for students, frustrating and time consuming because the students often have trouble matching up the squares.
2. The teacher should be aware that cross word puzzles do not become busy work. The teacher should like the use of all educational games, have some purposes in mind, even if the purpose is fun. So it needs long time for some students to finish it.

## **2.9. Advantages and Disadvantages of Using Riddle Game in Teaching Vocabulary**

According to Nachtigal (2010) the advantages and the disadvantages of riddle game as a media of teaching learning process are follows:

### **2.9.1. The Advantages Using Riddle Game in Teaching Vocabulary**

1. Riddle game can make the students more interested in learning the material, because it is very challenging game which requires the students find the answer based on the clues with their own effort.
2. The teacher doesn't need to explain too many materials to the students.

### **2.9.2. The Disadvantages Using Riddle Game in Teaching Vocabulary**

The students were active and make noisy. So it was difficult for the teacher to control them. And by doing riddle game the teacher only had a little time to explain the material and gave some new vocabularies. So, there was no longer time for teacher to explain more and help them to memorize all the new words.

### 2.10. Hypothesis

Before the researcher present forward the hypotheses, the researcher would like to give an explanation about what a hypothesis was. A hypothesis is a tentative statement about how to deal with the defined problems (Bernard Philips (1974) in B. Dubey (2008)). Using a hypothesis enabled the researcher to focus on the work so researcher could gather the data the researcher needed in order to come to some conclusions.

Based on the frame of theory and theoretical assumption above, the researcher formulated the hypothesis.

$H_0$  There is no significant difference of vocabulary achievement between the students who are taught through Crossword Puzzle and those who are taught through Riddle Game

$H_1$  There is significant difference of student's appraisal between the students who are taught through Crossword Puzzle and those who are taught through Riddle Game.

The criteria is  $H_0$  is rejected if alpha level lower than 0.05 (  $\alpha < 0.05$ ) and  $H_0$  is accepted if alpha level is higher that 0.05 (  $\alpha > 0.05$ ).

The criteria is  $H_1$  is rejected if alpha level is higher than 0.05 (  $\alpha > 0.05$ ) and  $H_1$  is accepted ig alpha level is lower than 0.05 (  $\alpha < 0.05$ ).

If  $H_0$  is rejected than  $H_1$  is accepted.



### III. METHOD

In this chapter, there were some discussions about the research method which consisted of design, subject, instrument, data collecting technique, validity and reliability, procedure, data analysis, and hypothesis testing.

#### 3.1. Design

This research was a quantitative research in which the researcher focused on the significant difference of students' vocabulary mastery at the second year students of SMP Swadhipa 1 who were taught through crossword puzzle and riddle game technique and to compare the results of the two techniques in teaching vocabulary by using statistical data. In conducting this research, the researcher used Independent Group T-test (two group pretetst and post test design). This research used two classes as experimental class which received the treatments, crossword puzzle for group one and riddle game for group two. The students had pre-test, three meetings and post-test. This design was reffered to Setiyadi (2006: 135) as follows:

$$G1 = T1 \quad X1 \quad T2$$

$$G2 = T1 \quad X2 \quad T2$$

Note:

G1: Group 1

G2: Group 2

T1: test before treatment

T2: test after the treatment

X1: treatment by using crossword puzzle

X2: treatment by using riddle game

### **3.2. Population and Sample**

This research was conducted at SMP 1 Swadhipa Natar. The population of the research was the second year of SMP 1 Swadhipa Natar. There were 4 classes in the school which consist 20 - 23 students for each class. There were two classes that were used as the sample in this research. These two classes were determined as the experimental class 1 and experimental class 2.

They were purposively sampling as a consideration from the teacher in the school because they had almost similar ability and same level. The experimental class 1 was taught through crossword puzzle and the experimental class 2 was taught through riddle game.

### **3.3 Instrument**

The instruments of the research were:

#### **1. Crossword puzzle test**

Crossword puzzle test were conducted in the teaching learning process.

The tests were about asking students' to fill the white squares with letters, forming words or phrases, and solve clues which led to the answers.

#### **2. Riddle game test**

Riddle game test were conducted in the teaching learning process. The tests were about asking students' to answer the questions, which described things: animals, thing in class, and flowers.

#### **3. Vocabulary test**

Vocabulary tests were conducted in first meeting and the last meeting in each experimental class. The tests assessed the students' understanding and the students' vocabulary by choosing the correct answer related to the topic.

#### 4. Questionnaire

Questionnaire was used to know the students' appraisal about the teacher lesson and the material when teaching using crossword puzzle and riddle game. In this case, only some questions related to the statements of problems were used.

### **3.4. Data Collecting Technique**

In collecting data, the researcher used the following techniques:

#### **1. Pretest**

This test was given before the treatments. The function of pre test was to know how far the vocabulary mastery of the students before applying crossword puzzle and riddle game treatment. The researcher administered the pre-test to both classes unexpectedly in the first session. The test was in the passive voice with crossword puzzle class with 40 questions each classes. The time given was 60 minutes and the correct answer to each item received 1 point. There was no penalty for false response.

#### **2. Posttest**

After conducting the treatments, a posttest was administered to both classes. The function of post test was to know the increasing of vocabulary mastery after applying crossword puzzle and riddle game. The posttest was passive voice with

40 questions for each classes and the time allocation was 60 minutes. The items of the posttest were the same as the pretest which the items had analyzed. There was no penalty for false response. It was done in order to find out the students' achievement after having the treatment.

### 3.5. Validity and Reliability

The test was needed to be done to prove whether the test item had a good quality. The test was held in different class from the sample classes. The test could be said as good quality if it has good validity, reliability, level of difficulty and discrimination power.

#### 3.5.1. Validity

To see the validity of the test, the researcher emphasized on content and construct validity.

##### a. Content Validity

Test is a good reflection of what has been taught and of knowledge, which the teacher wants her students to know. Content validity can be examined from the table of specification. If the table represents the material that the tester wanted to test, then it is a valid test from point a view (Shohamy, 1985: 74). The content of try out test was presented in the table of specification below.

Table 2. Table of specification of the tryout test

No.	Word Classes	Number of Items	Percentage
1.	Noun	1,3,12,18,24,27, 30, 33, 34, 35, 37, 42, 44, 45, 47.	30%
2.	Adverb	5,11, 13, 16, 20, 25, 43, 48, 49,50.	20%
3.	Adjective	2,4,6,7,8,9,10,14, 15, 17, 22, 23, 28, 40,46.	30%
4.	Verb	19,21,26,29,31,32,36,38,39,41	20%
Total			100%

### b. Construct Validity

Construct validity focused on the kind of the test that was used to measure the ability. It examined whether the test actually in line with the theory. It meant that the test will measured the aspect or construct based on the indicator. Setiyadi (2006: 26) says that if the test only measures one skill, the construct validity of test can be known by evaluating the items used in test. If it is done the test is valid.

### 3.5.2. Reliability

Reliability refers to the consistency of test. In order to be reliable, a test must be consistent in its measurement. Reliability of a test can be defined as the extent to which a test produces consistent result when administer under similar conditions (Hatch and Farhady, 1982: 32). To estimate the reliability of the test this research used *split-half technique*. To measure the coefficient of the reliability between odd and even group, this research used the formulas follows.

$$r_i = \frac{\sum xy}{\sqrt{(\sum x^2) + (\sum y^2)}}$$

where  $r_i$  = coefficient of reliability between odd and even groups

$x$  = Total numbers of odd group

$y$  = Total numbers of even group

$X^2$  = Square of  $X$

$Y^2$  = Square of  $Y$

(Lado (1961) in Hughes, 1991: 31)

Then the researcher uses “Spearman Brown’s Prophecy formula” (Hatch and Farhady (1982: 286) to know the coefficient correlation of whole items.

The formula is as follows:

$$rk: \frac{2rl}{1 + rl}$$

where:

rk : the reliability of the test

rl : the reliability of half test

The criteria of realibility are:

1. 0.90- 1.00= high
2. 0.50-0.89= moderate
3. 0.00-0.49= low

(Hatch and Farhady (1982: 286)

The result of the reliabilty of the try out test in this research was 0.98 (see appendix 6). Seeing the criteriaof the test of the reliability that the researcher proposed above, the reliabilty of this test was high, while the criterion for high reliability was in the range 0.90 – 1.00. It could be concluded that this instrument gave consistent result when it was administered under similar condition, to the same participants but in different time (Hatch and Farhady (1982: 286).

Therefore, it could be stated that the test had fulfilled the criteria of the reliability.

In other words, the test was reliable.

### **3.5.3. Level of Difficulty**

A good test was the one that was not too easy or too difficult. To find out the level of difficulty, this research used the following formula:

$$LD = \frac{U-L}{N}$$

Where:

LD : Level of Difficulty

U : Upper group students who answer correctly

L : Lower group students who answer correctly

N : The total Number of students

The criteria are:

0.00– 0.30 = difficult

LD = 0.30 -0.70 = Average

LD> 0.70 -1.00 = Easy

(Arikunto, 1997: 121)

Table 3. The difficulty Level of the Try out Test

NO	Number of Item	Computation	Criteria	Decision
1	5	<0.30	Difficult	Dropped
2	40	0.30-0.70	Average	Administered
3	5	>0.70	Easy	Dropped

Based on the result of the try out test related to criteria, it could be inferred that there were 5 items had the result more than 0.70. It means that the items were easy. Therefore, those items were dropped. And there were five items had the result less than 0.30. It meant that the items were difficult. So, those items were dropped. Mean while, 40 average items were administered to be reference for the pretest and the posttest (see table 1). The result of the difficulty level of the try out test shown on appendix.

#### 3.5.4. Discrimination Power

Discrimantion power used to indicate the discrimantion of the failure and the success of the students. To find out the discrimination power, this research used the following formula:

$$DP: \frac{U-L}{\frac{1}{2} N}$$

Where: DP = Discrimination power

U = The proportion of upper group students

L = The proportion of lower group students

N = total number of students

The criteria are:

- a. If the value is positive, there are a large number of more knowledgeable students than poor students who get item correct, if the value is zero, it means that there is no discrimination.
- b. If the value is negative, it means that there are lower students than high-level students who get the correct item.
- c. In general, the higher the discrimination index, the better. In class room situation, the most items should be higher than 0.20 indexes.

(Shohamy, 1985 : 81)

Table 4. Computation of try out test

NO	Number of Item	Computation	Criteria	Decision
1	17,49	0.00	Poor	Dropped
2		<0.00	Poor	Dropped
3	19,22,25,30,32,44,45,46	<0.20	Poor	Dropped
4	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,18,20,21,23,24,26,27,28,29,31,33,34,35,35,37,38,39,30,41,42,43,47,48,50.	0.20>0.20	Good	Administered

Based on the calculation of discrimination power, the result of try out test showed that there was ten items had zero discrimination. It meant that the items could not discriminate the lower and upper students well. Therefore those items were dropped since the discrimination result was negative, which meant low level students answered more than high level students. Eight items did not fulfil the standard of discrimination power since those items had discrimination power under 0.20 which meant that the items had poor discrimination power. So that, those items were dropped. Meanwhile, 40 items had good discrimination power;



therefore, those items were administered to be the reference for pretest and posttest.

### **3.6. Procedure**

The procedures of this research as follows

1. Determining the population and selecting the samples
2. Selecting and arranging the materials to be made as a pre test
3. Administering the pre test

Pre test was needed to know the ability of the students' vocabulary. The researcher asked the student to fill the puzzle by answer the questions.

4. Conducting the treatments

The treatments were conducted in two meetings based on lesson plan. In Crossword puzzle's class, the researcher explained how to answer the puzzle and how to find clue from the question.

In riddle game class, they were asked to answer the question and gave the students clues to find the answer.

5. Administering the post test

The post test was conducted after the treatments. This post test was similar to the pre test. The researcher asked the students to answer the question and wrote the answer in the puzzle.

6. Conducting questionnaire

The questionnaire was conducted after give the post test to the students. The questionnaire required the students to answer the questions by putting a checklist ( ) on the one of the answers based on their opinion.

## 7. Analyzing the data

The researcher scored the students final work, in pre test and post test. After that, the researcher analyzed, by seeing the comparison of two scores.

### 3.7. Scoring System

In order to know the comparative students' vocabulary mastery by using crossword puzzle and riddle game, score was computed by doing these activities:

1. Scoring the pre test and the post test
2. Finding the mean of pre test and post test

The mean was calculated by applying this formula:

$$Md = \frac{\sum d}{N}$$

Where:

$Md$  : Mean (average score)

$\sum d$  : The Total of the Students' Score

$N$  : The Total Number of the Students

(Hatch and Farhadi, 1982:25)

Checking and analyzing the questionnaire data using a formula to find out the percentage and present them in form of the table. The formula which was used was:

$$S = \frac{R}{N} \times 100$$

Where:

$R$  = total right answer

$N$  = total of items

(Arikunto, 1997: 212)

### 3.8. Data Analysis

The researcher analyzed the data in order to find whether Crossword puzzle was better in teaching vocabulary than Riddle game. The data was examined using

Independent group T-Test since in this research there were two means of two different group (experimental class 1 and experimental class 2) that would be compared each of them. The data of the research used statically analyzed by using Statistical Package for Social Sciences (SPSS) version 16.0.

The steps of the data analysis of this research:

### **3.8.1 Random Test**

Run test was used to make sure whether the data was random. In this case, the researcher used mean as cut point run test.

The hypothesis for random test formulated as follows:

Ho : the data was random

Hi : the data was no random

In this script, the criterion for the hypothesis are  $H_0$  is rejected and  $H_1$  is accepted if  $p > \alpha$ , and the researcher uses level of significance 0.05.

### **3.8.2 Administering the normality of the Distribution Test**

Normality test was used to find out whether the data of both classes (experimental class 1 and experimental class 2) were normally distributed. The hypothesis for the normality test is as follow:

Ho: the distribution of the data was normal

Hi : the distribution of the data was not normal

In this script, the criterion for the hypothesis was:

$H_0$  would be accepted if  $\text{sign} > \alpha$ . In this case, the researcher used the level of significance 0.05.

### 3.8.3. Testing of Homogeneity of Variance

This test was used to determine whether the data fulfill the criteria of the quality of variance. The test used T-Test to analyze the data.

The hypothesis for the homogeneity of variance is as follows:

Ho : there was no significant difference in the level of ability (equal)

Hi : there was significant difference in the level of ability (not equal)

In this script, the criterion for the hypothesis was:

Ho would be accepted if  $\text{sign} > .$  In this case, the researcher used the level of significance 0.05.

The result was significant value students, that was 0.01 ( $p=0.012$ ). Based on the table 10, it could be stated that the students' significant score was lower than 0.05 ( $0.01 < 0.05$ ). Therefore t-ratio was (2.629) so,  $H_0$  was rejected and  $H_1$  was accepted, it meant that there was significant difference of students' vocabulary achievement between those who were taught through Crossword puzzle and who were taught through Riddle game.

### 3.9.Hypothesis Testing

The hypothesis testing was used to prove whether the hypothesis proposed in this research was accepted or not. The hypothesis was analyzed at significance level of 0.05 in which hypothesis was approved if  $\text{Sig.} < .$  After collecting the data, the data was analyzed in order to find out whether there were differences between the students' vocabulary taught by using crossword puzzle and riddle game and which one of the technique that improves students' vocabulary achievement the most.

This study used Independent group T-test to investigate the level of significance of the treatment.

The formulation was:

1	<p><math>H_0</math> There was no significant difference of vocabulary achievement between the students who were taught through Crossword Puzzle and those who are taught through Riddle Game.</p> <p>The criteria is <math>H_0</math> (null hypothesis) is accepted if alpha level is higher than 0.05 ( <math>&gt; 0.05</math>).</p>
	<p><math>H_1</math> There was significant difference of vocabulary achievement between the students who were taught through Crossword Puzzle and those who were taught through Riddle Game.</p> <p>The criteria is <math>H_1</math> (alternative hypothesis) is accepted if alpha level is lower than 0.05 ( <math>&lt; 0.05</math>).</p>

## **V. CONCLUSION AND SUGGESTION**

This chapter is divided into two parts, namely conclusion and suggestion. Based on the findings and discussion on the previous chapter, the writer draws some conclusion of comparative crossword puzzle and riddles game in teaching vocabulary to improve students' vocabulary. Meanwhile, the last section proposes some suggestion for practitioner engager in this topic.

### **5.1 Conclusion**

Finally, after conducting the research at the second grade of SMP Swadhipa 1 Natar, the researcher conducted as follow:

- a. Relating to the first research question is about the significant difference between students vocabulary achievement taught through crossword puzzle and riddle game. There was significant difference of students' vocabulary achievement between those who were taught through crossword puzzle and riddle game at second grade students of SMP Swadhipa 1 Natar. Teaching vocabulary through riddle game is better applied in helping students to increase their vocabulary achievement than taught through crossword puzzle. Through riddle game more give the students pleasure to find the answer and easy to understand the meaning, and its more fun than riddle game. Through crossword puzzle, it's more complicated to

understand the question that give by the teacher, because there is no clue to answer the question. So, riddle game is good game to teach vocabulary than crossword puzzle.

- b. Relating to the second research question is about the students' appraisal of crossword puzzle and riddle game. Both of those techniques, the students agree that through the techniques help them to study English better, improve their vocabulary achievement. Most learners pointed out that it was very useful to make easier in learning vocabulary. During teaching learning process the studnets gave good responses towards the use of crossword puzzle and riddles games. It can be seen from their active participation and ethusiasm in teaching learning process.
- c. Relating to the students gain score of class of word, it can be conclude that the students in riddle game class has better score than students gain score of class of word in crossword puzzle class.
- d. Relating to hypotesis testing,  $H_0$  is rejected and  $H_1$  is accepted because there was significant difference between students' vocabulary who are taught through by using crossword puzzle and riddle game at SMP Swadhipa 1 Natar.

## **5.2 Suggestion**

In reference with the conclusions above, the writer gives some suggestions as follow:

### **1. Suggestions for English Teachers**

In order to improve the students' vocabulary and to make the process of teaching learning process more fun and can be caught well, the researcher suggests for the entire English teacher, the teacher should be able to find and choose an appropriate method or technique in teaching English for students in junior high school. Riddle game is good media to teach vocabulary, riddle game should be implemented for all students; it aims to avoid the student's boredom and to attract the students' motivation to learn more about English, especially vocabulary skill. It causes the form of riddle game is colorful and easy to understand.

### **2. Suggestions for Further Research**

- a. This study was conducted in the Junior High School level. Therefore, the further research can try to find out the comparing study using crossword puzzle and riddle game in different level.
- b. In this study, multiple choices were employed as the media to measure the improvement of students' vocabulary achievement. Further research can try to apply those techniques with another kind of vocabulary test, it can be essay test.



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