

III. RESEARCH METHOD

3.1 Research Design

This research is a combination of quantitative and qualitative study to measure the improvement of students' vocabulary after taught the pictured stories; this research used *one group pretest-posttest design*. In the mean time, to the observer teaching learning process using pictured stories, this research applied an observatory study. This observes students activities during teaching learning process using pictured stories, and to see whether they studied vocabulary achievement had improve.

The research selected one class as the experimental group using random sampling. The aim of this research was to find out whether there was significant improvement of students vocabulary achievement by the use of pictured stories at the second year of SMP Tunas Harapan Kedaton, Bandar Lampung. The research was would be described as follows:

T1 X T2

Where:

T1 : Pretest

X : Treatment

T2 : Posttest

(Setiyadi, 2006:133)

3.2 Population and Sample

The population of this research was the second year at SMP Tunas Harapan Kedaton, Bandar Lampung. There were two classes chosen where each class consisted of 26 students. One as the research as the experimental class and the other as try-out class of the research. The language proficiency of the two classes chosen in this research was regarded of in the same level of proficiency. Class VIII A was chosen as the experimental class because in this class scored more than 65% than the other classes.

3.3 Techniques of Collecting Data

The data of the research was the ability of the student` vocabulary achievement before and after the treatments. The instrument of the research was multiple choice tests, where the researcher was given pretest and posttest in order to evaluate and to measure the vocabulary achievement. In collecting Data, this research used the following procedures:

3.3.1 Try out

The try out test was in the form at multiple choices. The numbers of the tests items were 40 with four options of answer for each (A, B, C, D) and the time allocated was 60 minutes. The try out test was given in class VIII B. This test was given to the students in order to know the quality of the test used to get the data on

the research. The test said to have a good quality if it has good reliability and good validity, and the test was not too easy and too difficult.

3.3.2 Pretest

The pretest was conducted before the treatment. It was used to know how far the students had achievement the vocabulary before treatment was given. The pretest used by the researcher was an objective test in the form of multiple choices.

In this research, the researcher applied pictured stories, which focus on vocabulary that the student has already achieved. The researcher assumed that in measuring their ability in vocabulary, an objective test can be used. The numbers of the items in the test were 30 items and each item had four options of the answered. One was the correct answer and the tests were the distracters.

3.3.3 Treatment

In this case, the researcher would apply the media. The treatment was given to the experimental class through pictured stories. The experiment was conducted in three meetings.

3.3.4 Posttest

The posttest was conducted after the researcher would be conducted the treatments. It would be used to know how the students' improvement of vocabulary after they were given treatments. Similar to the pretest, in the posttest the researcher would use of multiple choices. The questions were the same as the pretest.

In this research, the researcher would change the order of the questions and the distracters from those in the pretest in order that the students not only memorize or remember the order of the answer for each question but they could really understand the questions. The posttests consist of 30 items with four options. One is the correct answer and the test would be the distracter.

3.4 Procedures of the Research

1. Determining the subjects of the research

The subject of the research was selected using the sample would be chosen purposively. The subjects of the research follow pretest, treatment, and posttest. There were 26 students that become the subject of this research.

2. Selecting instrument materials.

In this research, there was one pretest that was eight grade students of SMP Tunas Harapan Kedaton, Bandar Lampung in the second semester of academic year of 2010/2011. The topic was "the things that was lived".

The materials took from students' handbook that was based on the educational unit level curriculum.

3. Conducting try out.

The try out conducted in the different class at first class VIII B of SMP Tunas Harapan Kedaton, Bandar Lampung. Try out was conducted to measure the reliability of pretest and posttest. It was administered for 40 items in 90 minutes. The aim of try out was to know the quality of the test which used as the instrument of the research, and determine which item should be revised for the pretest and posttest. This research used the result of the try out test to measure the level of difficulty and discrimination power, to find out the validity and reliability.

4. Conducting the pre test.

Pretest was conducted for 30 items in 60 minutes to measure student's basic ability.

5. Conducting the treatment.

After giving the pretest to the students, the researcher conducted the treatment for three meetings. Then, during the process of treatment, the researcher and also the English teacher observed the students' activity.

6. Administering post test.

The post test was administered before the class was finished, it was conducted for 30 items in 60 minutes and the aim was to find out the students' vocabulary achievement after they are being taught pictured stories.

7. Analyzing the data.

Both of the pretest and posttest results of the class treated by using repeated measures T-Test (Repeated Measures T-Test of SPSS (statistical package for social science) version 15.0 for windows). It would test in order to find out whether there was any significant improvement of student's vocabulary achievement after being taught by pictured stories. And for analyzing all available data would be selected into observation to investigate the process in teaching learning vocabulary by using pictured stories.

8. Concluding the results

After analyzing the results of both pretest and posttest, the conclusion explained based on the result.

9. Reporting the results

In reporting the result, the data would be arranged systematically based on the pretest and posttest to see whether there is improvement on the students' vocabulary achievement.

3.5 Instrument Used for Collecting the Data

3.5.1 Vocabulary Test

The procedures of the research were as follows: type of instrument that would be used in this research is multiple choice tests. The numbers of the items were 40 and each item consists of four options (a, b, c, d). The pretest and posttest were 30 items would be taken from the items of tryout test. The pretest and posttest would

be given to the students in order to evaluate, to measure the vocabulary. All of the items were about vocabulary that refers to noun, verb and adjective.

3.5.2 Observation

To know the process of teaching learning of vocabulary using pictured stories the researcher used observation sheet that would be used during teaching learning process. In collecting the data the researcher would be helped by English teacher.

3.6 Criteria Try out

In this research, to prove whether the test has good quality, it must be tried out first. The test can be said have good quality if it is has a good validity, reliability, level of difficulty, and discrimination power.

3.6.1 Validity

The test could be said valid if the test measures the object to be measured and it is suitable with the criteria (Hatch and Farhady, 1982:250). To measure whether the test has a good validity, this research used content and construct validity:

Content validity was concerned with whether the test is sufficiently representative and comprehensive for the test. In the content validity, the material given is suitable with the curriculum. The researcher used the vocabulary supposed to be comprehended by second year students; it will be based on KTSP of English for Junior High School. In this research, the researcher arranged the instrument based the material that already given, which is vocabulary and the instruments related to the content words (noun, verb and adjective). Content validity also can be

examined from the table of specification. The table presents the material that the researcher applied the test. The content validity was constructed by including vocabulary material in the training they were noun, verb and adjective of vocabulary. If the measuring instrument had represented all the ideas that connected with the material that would be measured, that measuring instrument has fulfilled the aspect of content validity. The content validity was constructed by including vocabulary material present in training they were noun, verb and adjective.

In this research, the researcher used vocabulary supposed to be comprehended by the second year students' based on curriculum and to know whether the test had good validity the term of the test.

Based on the curriculum KTSP 2006, the content of try out was presented in the table of specification below:

Table 1. Table of Specification of Try Out Test

No	Word classes	Item numbers	Percent
1	Noun	1., 2., 3., 4., 7., 8., 12., 13., 15., 18., 20., 24., 25., 26., 33., 34., 35., 36., 40.	58%
2	Verb	5., 6., 9., 10., 11., 17., 21., 22., 23., 27., 28., 29., 30., 31., 32., 37.,	30%
3	Adjective	14., 16., 19., 38., 39.,	12%
		Amount	100%

Construct validity was concerned to know the certain language knowledge skill. To know the test was true reflection of language which was being measured, the researcher would examined whether the test question actually reflect what is meant to know a language. To get the construct validity, the test was adopted from student's hand book. Then, the test determined according to the material that was taught to the students. In other words, the researcher wrote and made the test based on the material in the 2006 English curriculum for Junior High School.

3.6.2 Reliability

Reliability of test can be defined as the extent to which a test produces consistent result when administrated under similar conditions (Hatch and Farhady, 1982:243). 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 person product moment formula as follows:

$$r_l = \frac{\sum xy}{\sqrt{[\sum x^2][\sum y^2]}}$$

Where:

r_l : coefficient of reliability between odd and even numbers items

x : odd number

y : even number

x^2 : total score of odd number items

y^2 : total score of even number items

xy : total number of odd and even number

(Hatch and Farhady, 1982: 246)

The criteria of reliability are:

- 0.80- 1.00 : very high
- 0.60 – 0.79 : high
- 0.40 – 0.59 : average
- 0.20 – 0.39 : low
- 0.00 – 0.19 : very low

(Hatch and Farhady, 1982:247)

Then this research used “Spearmen Brown’s prophecy formula” to know the coefficient correlation of whole items.

The formula is as follows:

$$rk = \frac{2r1}{1 + r1}$$

Where:

- rk : the reliability of the test
- $r1$: the reliability of half the test

(Hatch and Farhady, 1982:246)

3.6.3 Level of Difficulty

Difficulty level related to how easy or difficult the item is from point of view of the students who take the test. This was important since test items, which are too easy, tell us nothing about differences is discarded. To see the level of difficulty, this research used the following formula:

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

Where:

LD : level of difficulty

U : Number of the Upper group who answer correctly

L : Number of the Lower group who answer correctly

N : Total number of students following the test

The criteria are:

00.0 – 0.30 : difficult

0.30 – 0.70 : average

> 0.70 – 1.00 : easy

(Shohamy, 1985: 79)

3.6.4 Discrimination Power

The discrimination power (DP) refers to the extent to which the item differentiates between high and low level students on the test. A good item according to this criterion is one which good students do well on and bad students fail.

To know the discrimination power of the test, the researcher 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:

- D: 0.00-0.20 : poor items
 D: 0.21-0.40 : Satisfactory items
 D: 0.41-0.70 : Good items
 D: 0.71-1.00 : Excellent items
 D: - (Negative) : bad items (should be omitted)

(Heaton, 1975:180)

1. If the value is positive discrimination a large number of more knowledgeable students than poor students got the item in correct. If the value is zero, no discrimination.
2. If the value is negative, it means that more low-students than high level students got the item correct.
3. In general, the higher the discrimination index, the better. In classroom situation most items should be higher than 0.20 indexes.

(Shohamy, 1985:81)

3.6.5 Scoring System

In scoring the students result of the test, this research used Arikunto`s formula.

The ideal higher score is 100. The score of pretest and post tests are calculated by using formula as follows:

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

Where:

S : the score of the test

R : the total of the right answers

N : the total items

(Arikunto, 1997:212)

3.7 Data Analysis

3.7.1 Test

After conducted pretest and posttest, the researcher would be analyzed the data. It would used to know whether there was significant difference of the use of pictured stories in student's vocabulary achievement at the second year of SMP Tunas Harapan Kedaton, Bandar Lampung.

The researcher examined the students' score using the following steps:

1. Scoring the pretest and posttest.
2. Tabulating the score of student's vocabulary test results using Repeated measures T-test. In this research, the researcher used statistical computerization.
3. Drawing conclusion from the tabulated result of the pretest and posttest administering, that is statistically analyzed using SPSS (Statistical Program for Social Sciences) in order to test whether improve of the students' gain will be significant or not.

3.7.2 Process

The researcher provided an analysis by using the steps proposed by Meolong (1990), the data was analyzed by using following steps:

1. Interpreting all data available by selecting them into an observation. In this step, the researcher selected the data in order to keep them relevant with the research question about the process of teaching vocabulary by using following steps: the teacher distributes a piece of pictured stories for each student. The teacher reads the pictured stories loudly and in a fun way, writes, and explains the difficult words in the whiteboard.

The teacher also provides the meaning of vocabulary and how to pronounce (at glance) the words. The teacher reads the pictured stories again loudly and asks the students to repeat after her. The teacher gives the real picture to the students related to vocabulary. The teacher asks the students if there are vocabularies they do not understand. The students divide into small groups consisting of four until five students. The teacher shows pictures to the students in the whiteboard and then the teacher asks the students to make group consists of four or five students. Each group should choose a piece of paper contented a number. Each number is an explanation of the pictures.

Each group should match the explanation with the pictures. The students were asked to fill in the pictured stories game in 10 minutes. In implementing pictured stories game, the students are not allows to say the word or show their pictured stories game sheet to the others. If the time is over the students and the teacher discusses the answer together. The group is that answer it correctly and get the highest score is the winner of game.

2. Arranging all collected data according to their categories based on the

research question. They were process of teaching vocabulary by used pictured stories.

3. Interpreting all collected data and made conclusion.

3.8 Hypothesis Testing

Ho = There is no significant improvement of the students vocabulary achievement after being taught the use of pictured stories

Hi = There is significant improvement of the students vocabulary achievement after being taught the use of pictured stories

The hypothesis testing was used to prove whether the hypothesis proposed in this research was accepted or not. The hypothesis would be statistically analyzed using Repeated measures T-test that would be used to draw the conclusion with the significance level of 0.05 ($P < 0.05$).