CHAPTER III

RESEARCH METHOD

A. Research Design

From the research question, this study intended to show the significant impact of using individual pictures to the students' ability in predicting information on reading descriptive text. This study conducted to as experimental research. Experimental research is research activity that aims to find out the effect of treatment in condition as an effect of treatment[1].

The research design of pretest and post test of control and experimental group can be illustrated as follows:

Table 3.1 Experimental Research Design

Group	Pretest	Treatment	Posttest
A	O_1	X	P_1
B	O_2	-	P_2

Explanation:

A : Experimental group
B : Controlled group
O_1 : pretest given in experimental group
O_2 : pretest given in controlled group
X : the treatment where the technique is implemented in experimental group
P1 : post test given treatments in experimental group
P2 : post test given treatments in controlled group

Based on the diagram above, there were two classes (groups) which had been divided into experimental group (A) and controlled group (B). Both of them do the pretest (O1 and O2). The pretest was given to know the students' prior

[1]Tim Penyusun Buku Pedoman Penulisan Skripsi, *Pedoman Penulisan Skripsi EdisiRevisi*, (Surabaya, 2008), P. 08

knowledge before the treatment. Next, the treatment (X) had been applied to the experimental group and posttest (P1 and P2) had been given to both groups. Posttest was applied in order to know students' achievement of the two groups. The score of both groups were compared to see the improvement.

B. Variable of the Research

There were two variables in this study, independent variable and dependent variable. Independent variable is a variable that who's variable that is selected, manipulated, and measured for investigation.[2] In this study, the implementation of pictures was the independent variable. While, dependent variable is a variable that is observed and measured in order to determine the effect of the independent variable. [3] The students' reading ability was the dependent variable.

C. Hypothesis

This research has two hypothesis, they are:

1. Ha : there is significant improvement of students' reading ability in predicting information on reading descriptive text by using individual picture by the 8th grades students of SMP Wachid Hasyim 4 Surabaya
2. H_0 : there is no significant improvement of students' reading ability in predicting information on reading descriptive text by using individual picture by the 8th grades students of SMP Wachid Hasyim 4 Surabaya

[2]Susanto, *Developing a Research Proposal Practical Guideline*. (Surabaya:UNESA University Press,2002) P.10
[3]*ibid.* 10

D. Research Subject

The research subjects of this research were the students of SMP Wahid Hasyim 4 Surabaya. It was located at Jl. Bubutan Kawatan Gg VI No.22. The population was the 8th grade students' of SMP Wachid Hasyim Surabaya. The researcher used cluster sampling to choose the sample. It was because the English teacher taught in a big number of the students. Therefore, the researcher had chosen only two classes. After that, he/she decided them into the experimental and control group. The classes chosen are A and B classes. Every class contained 31 students.

E. Data and Source of Data

Source of the data is the important thing in research. The sources of data in this research are:

1. The 8th grade Students of SMP Wachid Hasyim 4 Surabaya. The Students are the primary source of data from which the researcher observed their difficulties and cause of difficulties in understanding the reading text by giving them test and questionnaire.
2. The students' test score and questionnaire are the data which the researcher observed to get the answers of the research problem

F. Research Procedure

There were some procedures to be followed during the research, in order to find out the valid data to answer the research problems.

The procedures are:

1. The researcher asked permission to the head master and English teacher to do the research

2. The researcher prepared all the instruments to collect the data. There were many steps in preparing the instruments:
   a. Deciding the test. Test adapted from English in Focus; BSE, P. 16 about Descriptive Animal
   b. Making the questionnaire. The questions in questionnaire related to the students' response toward the use of individual picture to improve their ability in predicting information on reading descriptive text
3. The researcher doing the research
   a. The first meeting the researcher gave pretest to the students in both of experimental and control class. The pretest was conducted in order to know the students' prior knowledge before giving the treatments.
   b. The second meeting the researcher gave some treatments to experimental class. In this time, the researcher implemented the use of individual picture to improve students' ability in predicting information on reading descriptive text. The researcher used individual picture to help the students understand the meaning of the difficulty words. Besides, the researcher also explained the students about the generic structure of the descriptive text.

      Treatment was started by giving the students a chunk of animal descriptive text. The researcher instructed the students to read it by themselves. Then, the researcher let the students ask what they do not understand about the chunk of the text, including the meaning of the difficult words. The researcher gave the showed the students one single picture dealing with unfamiliar words. It aimed to get the students think and correlate the picture with the text. It was

done in order to activate students' background knowledge and give them opportunity to figure things out on the text.

Next, the researcher instructed the students to explain what they catch from the picture. In this case, the students have opportunities to verbalize their understanding. The last, the researcher and the students discuss about the whole text.

c. The third meeting the researcher gave posttest to the students in both of experimental and control class.

d. The researcher collected the data, analyzed and made conclusion as the result of the research.

G. Data Collection Techniques and Instruments

1. Data Collection Technique

To gather the data of the first question, the researcher used the technique below:

a. Test

Test is a method of measuring person ability, knowledge or a performance in a given domain[4]. The test was purposed to determine the result of students' ability in reading descriptive text by using individual picture. To do this, the researcher needed to measure students' achievement toward controlled group and experimental group by conducting pretest and posttest. It was described as follows:

i. Pre-test

[4] Louis Cohen, " *Research Method in Education*" (London and New York: Routledge, 2007),p. 414

Pretest is a preliminary test administered to determine a student's baseline knowledge or preparedness for an educational experience or course of study[5]. In this study, the data was collected through pretest in both groups in order to measure the students' prior achievement before the treatment. It was given at the first meeting before the researcher give treatment.

ii. Post-test

Posttest is a test given after a lesson or a period of instruction to determine what the students had learned. After the researcher gave the treatment, the posttest given at the third meeting. The topic which given by the researcher was the same topic with the pre-test. The result of the test was scored and calculated. It was compared to the pretest. It was done to determine the result of students' ability in reading descriptive text by using individual picture.

The students' improvement had been measured by scores that obtained through the pre-test and post test. Then According to Heaton, the researcher classified into the following levels[6]

a) Score 8.6-10 classified is very good
b) Score 7.0-8.5 classified is good
c) Score 5.6-6.9 classified is fair
d) Score 4.6-5.5 classified is bad
e) Score 00-4.5 classified is very bad

[5] http://www.thefreedictionary.com
[6] Heaton,J.B.. *Writing English Language Test,* (London and New York: Longman, 1991), P.62

b. Questionnaire

Questionnaire is a set of questions for gathering information from the subject of study. In this research, researcher used questionnaire to get data related to the second research problem. There are ten questions in the questionnaire. It made in the form of multiple choice. The questionnaire used in this study was intended to see the students' response toward the use of individual picture in teaching English reading skill. Students' response questionnaire was purposed for the students. It was given to the students at the end of the meeting to know the student responses toward the treatments.

2. Research Instruments

Research instrument is what the researcher used to collect the information. It can be helpful tool to the researcher's study. According to Arikunto, "*instrument is a tool or facility that used by the researcher to collect the data to make easy her/his research and to get better result*".[7] In short, instrument is a tool which was used by a researcher in using method during conducting the research in order to get the data better. Thus, determining instrument depends on the method used in the research.

a. Instrument for Test

The construction and administration of tests is an essential part of the experimental model of research, where pretest and posttest have to be devised

[7] Arikunto, Suharsimi. "*Prosedur Penelitian Suatu Pendekatan Praktek"* (Jakarta: Rineka Cipta, 2002), P.136.

for controlled group and experimental group[8]. In constructing the test the researcher considered some feature that the level difficulty must be the same in both tests. Also, the researcher considered the relationship between the test items and the course of objective. In administering the pretest and posttest, the researcher needed worksheet as the instrument.

b. Instrument for Questionnaire

The writer distributed the questionnaire to the students. The questionnaire contains 10 questions. After 30 minutes, the writer collected the questionnaire. This part was devoted to the description of the questionnaire. The questionnaire instrument the researcher used in this study was "rating scales". It contains the set of questions for gathering information. Rating scales are very useful for researchers as they build in a degree of sensitivity and differentiation of response while still generating number[9]. In this research instrument the researcher administered the questionnaire instrument to get students' response towards the use of individual picture as media in learning reading descriptive text.

3. Validity

Test validity is gained from the result of validation. It relied on the expert validator's perception. There are three criterions for worksheet validity which is made by the researcher. Those are:

a. Instruction aspect. It covers the instruction clarity.

[8] Louis Cohen, " *Research Method in Education*" (London and New York: Routledge, 2007), P. 432
[9] ibid, P. 325

b. Content aspect. Including:

   i. Proper lesson material.

   ii. Compatibility of lesson material and indicator.

   iii. Compatibility of instruction and student level.

c. Language aspect

   i. Language written in the test must have correct formal English norm (grammar, structure, and culture).

   ii. The clarity of sentence structure.

   iii. Avoid ambiguity on the question.

   iv. Systematic

4. Data Analysis Procedures.

In data analysis, the researcher analyzed the result of teaching and learning process of this study. There were some kinds of data that must be analyzed. The data concerning the impact of this study which was the improvement of students reading skill through individual pictures and data concerning the student's response toward the use of picture and do not use picture. Those were described as follows:

a. Analyzing data concerning the impact of the study

To see the effectiveness of the study, whether it affected success or not, the researcher conducted pretest and posttest to collect data. Then, the researcher measured the score differences from pretest and post test of experimental group and controlled group by the statistical calculation. In this study, the researcher used t–test formula to find out whether the mean

differenced between them were significant or not. T- Test used to measure and compared the differenced of means score between experimental group and controlled group. The students' scores were analyzed statistically by using a procedure of t – test, with the steps below:

First, the researcher put the scores of the pre test and post test of experimental and controlled groups.

Second, the researcher calculated the mean from overall scores of pre test and post test of both groups. The calculation of the mean used the following formula:

$$MEAN : \sum \frac{fx}{N}$$

Where :
M = mean
$\sum fx$ = total of the test
N = total of the students

Third, after collecting the data of pre test and post test overall score from both of groups, then the researcher calculated of the mean of difference score between the pre test and post test of each group through the formula below:

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

Where:
Md = mean of the different score pre test and post test each groups

$\sum d$ = the total of different score.
N = total of students taking the test.

After collecting the data of pre test and post test from both groups, the researcher analyzed the data through t- test to find out whether the difference of the scores between them was significant or not. Through the following formula:

$$t = \frac{M_x - M_y}{\sqrt{\left[\frac{\sum X^2 - Y^2}{N_x + N_y - 2}\right]\left[\frac{1}{N} + \frac{1}{N}\right]}}$$

Where:
Mx = mean score of experimental group
My = mean score of controlled group
$\sum X^2$ = The sum deviation square of native's class
$\sum Y^2$ = The sum deviation square of non-native's class
N = number of students each class

Before calculating the t-value, the researcher used the following formula to find the sum deviation square of each group:

$$\sum X^2 = \sum X^2 - \frac{\left(\sum X\right)^2}{N}$$

$$\sum Y^2 = \sum Y^2 - \frac{\left(\sum Y\right)^2}{N}$$

Where:
X = deviation of posttest and pretest score of each subject in experimental group
Y = deviation of posttest and pretest score of each subject in controlled group

After calculating all of the scores, the researcher calculated the number of degree of freedom by adding the individual of each group, then subtract of two. The formula as follows:

$$df = N_1+N_2 - 2$$

Where:
df = degree of freedom
N1 = number of subject in experimental class
N2 = number of subject in control class
Standard of significant = 0,05

b. Analyzing data concerning students' response toward the study

Students' response questionnaire was arranged based on the Likert scale. It was assessed with the following scale[10]:

i. Very weak = 1
ii. Weak = 2
iii. Average = 3
iv. Good = 4
v. Very good = 5

The score of students' response was calculated with the every single question and was looked for the percentage by using formula as follow:

[10] Sugiyono, Statistika untuk Penelitian, (Bandung; Penerbit Alfabeta, 2010) P. 93-95

$$\%\ SRS = \frac{\sum SRS}{SRS\ maksimum} \times 100\%$$

Information:

$\sum SRS$: the total of students' response score was gotten by calculating *SRS (*VI+ *SRS* I+ *SRS* N + *SRS* U+ *SRS* VU)

SRS maksimum : $\sum R \times$ the best score choice

: $\sum R_{\times 5}$

The precentage result can be measured by using likert scale. It was explained as follows:

Table 3.2 Criteria of Students' Response

Percentage	Criterion
0% - 20%	Very weak
21% - 40%	weak
41% - 60%	average
61% - 80%	strong
81 – 100%	very strong

The result of the research is claimed positive according to student responses only if every single questionnaire of student response has percentage upper 61% with strong criterion.