

CHAPTER III

RESEARCH METHOD

This chapter discusses research method in conducting the research. It contains research design, variable, population and sample of the study, the research instrument, the procedure of experiment, the data collection, and the data analysis.

A. Research Design

Research design is strategy to arrange the setting of the research in order to get valid data based on the research problem in order to be able to explain more comprehensively. In this research, the researcher used experimental quantitative research. It is because in this research the researcher will do some experiment by giving some treatment to the subject study to know that there is any effectiveness of teaching English using EGRA technique by comparing two groups of study, experimental group and control group. Because the researcher could not manipulate the group using random, so the researcher uses quasi-experiment.¹ This design can tell us about whether they would have improved anyway, or whether another approach would have been more effective.

The design above shows that in this study, the experimental group will receive pre-test and the given treatment by using EGRA technique and

¹ Donald Ary, *Introduction to Research in Education* (USA: Holt, Rinehart and Winston. 1979)P.260

the last will be given post-test. Control group will be given pre-test without any treatment and the last they will also get post-test. Improving student's writing by EGRA technique can be seen from the post-test result of both groups.

Table 3.1
The Activities during Treatment

Group	Pre-test	Treatment	Post-test
Experiment	V	V	V
Control	V		V

B. Variable

Variable is a condition of characteristics that experimenter manipulate, controls and observes. Ary states that "a variable is an attribute, which is regarded as reflecting or expressing some concept or constructs"². A variable is defined as something that varies from one case to another. The dependent variable is variable which one observes and measure to determine the effect of the independent variable. The independent variable (major variable) is the variable which is selected, manipulated, measured by the researcher.

In this research there are two variable. There are independent variable (X) and dependent variable (Y). Independent variable in this

² Ibid P. 28

research is using EGRA technique (X) and the dependent variable is the students' ability in writing.

C. Population and Sample of the Study.

A population is a number of habits of individual that have similar characteristic and become the subject matter of the study. The population of this study is the students of tenth year students at SMAN 6 Kediri academic year 2012-2013. There are ten classes, each consist of 34 students. So the total numbers of the student are 340 students. In this research, the researcher only takes two classes. It consists of 68 students.

The sample that is used as sub group of the total number in population is only two classes, which will be taken as experimental group and control group. Because the researcher could not manipulate the group using random, so the researcher uses quasi-experiment.³ The class chosen by researcher is X-2 and X-3. Class X-3 is taken experimental group and X-2 as the control group.

D. The Research Instrument

1. Test

In this research, the researcher uses one instrument to get the data. This is written test. Test is a set of stimuli presented to and individual in order to elicit response on the basis numerical score. Test is one of the ways to obtain valid data. Test used is related to the subject because the concern of the study is on writing. Test is conducted to know the

³ Ibid,P.260

improvement of students' writing. There are two kinds of test, pre-test and post-test.

a. Pre- test

Pre-test is a test which giving before the researcher give treatment to the student. Pre-test was conducted to measure students' writing before treatment. Giving pre-test is important, because this is to know the initial students' ability in writing.

b. Post test

Post test will be given to all of sample after the experimental group gets some treatments and the control group does not. Post test was conducted to measure students' writing after treatment. The material of post test is based on the material that given in the treatments. This test is aimed to know about progression on both experimental and control group.

After giving the test, the researcher found the final score from the test. The scoring rubric is based on the text book used by tenth graders' of SMA Negeri 6 Kediri. The scoring is done a mark sheet consisting of 5 categories to assess with 2-5 scale for each category. The categories are generic structure, developing idea, accuracy (grammar and vocabulary), and mechanic (punctuation style). Below is the table of criteria from the test result.

Table 3.2
The scoring rubric

Aspect	Score	Descriptive
Generic structure	5	Complete and coherent text structure
	4	Structure is the full but not coherent
	3	Incomplete text structure
	2	Structure text is not correct
Developing idea	5	The main idea precise, relevant supporting sentence
	4	The main idea is right, approached the relevant supporting sentence
	3	The min idea is right, the sentence is not relevant
	2	There was no main idea
Accuracy (grammar and vocabulary)	5	Using proper grammar and vocabulary excellent
	4	Using proper and vocabulary is good
	3	Using proper and vocabulary is enough
	2	Using proper and vocabulary is less
Mechanic (punctuation style)	5	Using proper punctuation is excellent
	4	Using proper punctuation is good
	3	Using proper punctuation is enough
	2	Using proper punctuation is bad

E. The procedure of experiment

This study uses experimental that is using control group pre-test and post-test design. Dealing this experiment, the teaching activities are divided into three parts. They are pre teaching activity, main teaching activity and post teaching activity.

The pre teaching activity is giving the pre-test. The main teaching activity is giving treatment to the experimental group and giving conventional teaching to the control group. The last activity is post teaching activity. It is conducted by giving post-test to both groups. The

post-test is aimed to know whether or not teaching English using EGRA technique is effective.

The schedule of activity during the research is presented in the table:

Table 3.3
Treatment of the Research

Experimental Group	Control Group
<p>Treatment</p> <p>Establish</p> <ul style="list-style-type: none"> • The teacher gives a positive atmosphere, it means that give game about the topic, etc. • The teacher share basic information in the class (descriptive text). <p>Giving Reading</p> <ul style="list-style-type: none"> • The teacher divides a class into groups of 4 or 5. • Each group has got reading material (descriptive text) to read and analyze. • The students with its group analyze the parts of descriptive text given based on the scaffold of descriptive text that is includes: opening, series of information (body paragraph), 	<p>Not treatment</p> <ul style="list-style-type: none"> • The teacher explains about descriptive text and the general structure. • The teacher gave the descriptive text. • The students analyze the descriptive text. • The teacher assigns the students to do the writing task.

<p>and a concluding statement (closing).</p> <p>Reading analyze</p> <ul style="list-style-type: none"> • The teacher gives reading material (descriptive text) to read and analyze. • The students analyze the reading material individual. <p>Arrange</p> <ul style="list-style-type: none"> • The learner is given a certain topic to be described on their own written text. • The teacher could go around the class to check and lead the learners to accomplish their work. 	
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Table 3.4
The Schedule of Experiment

TIME	ACTIVITY
Thursday, 9th of May 2013	Pre-test
Monday, 13th of May 2013	Treatment I
Thursday, 16th of May 2013	Treatment II
Monday, 20nd of May 2013	Treatment III
Thursday, 23rd of May 2013	Post-test

F. The Data Collection

There are many kinds of instrument. The researcher used the test to collect the data. The researcher considered the written test. It is appropriate to senior high school students. There are two kind of test, pre-test and post-test. It is conducted to know whether EGRA technique in increasing student' writing ability in writing descriptive text or not.

G. The Data Analysis

The analysis in this research is quantitative. It is suggested that numerical measure are used. The data from the test will be analyzed using quantitative data analysis. The researcher applies statistical method to get generalization or conclusion from the result. Since the objective of this research is to know whether EGRA technique increases tenth grades' writing, t-Test is used. Because the measure is to measure two different paired scores, the non independent t-Test is used.

1. Counting the mean of experimental group and control group. The formula is below.

$$M_e = \frac{\sum X_e}{N}$$

$$M_c = \frac{\sum X_c}{N}$$

Where,

M_e = the mean score of experimental group

M_c = the mean score of control group

⁴ JB Heaton. *Writing English Language Test* (USA: Longman Group. 1988) P. 176

ΣX_e = the sum of all score of experimental group

ΣX_c = the sum of all score of control group

N = number of students

2. Counting the difference means between the means of experimental group and control group. The researcher use the formula below:

$$M_e = M_e(\text{post}) - M_e(\text{pre})$$

$$M_c = M_c(\text{post}) - M_c(\text{pre})$$

3. Counting is total sum squares of experimental group and control group. The formula is

$$SS_1 = \Sigma X_1^2 - \frac{(\Sigma x_1)^2}{N_1}$$

$$SS_2 = \Sigma X_2^2 - \frac{(\Sigma x_2)^2}{N_2}$$

Where,

SS_1 = the total squares of different value quadrate in pre-test and post-test of experimental group

SS_2 = the total squares of different value quadrate in pre-test and post-test of control group

ΣX_1^2 = the sum squares of mean of experimental group

ΣX_2^2 = the sum squares of mean of control group

Getting the total sum square value of experimental group and control group, the researcher uses T-test formula as follow:

$$t = \frac{X_1 - X_2}{\sqrt{\left(\frac{SS_1 + SS_2}{N_1 + N_2 - 2}\right) \left(\frac{1}{N_1} + \frac{1}{N_2}\right)}}^6$$

⁵ Ibid P.177

$t = T$ - Value

X_1 = the mean of experimental group

X_2 = the mean of control group

SS_1 = the total sum squares of experimental group

SS_2 = the total sum squares of control group

N_1 = the total number of experiment group

N_2 = the total number of control group

The last, the researcher compare the t-test value of t-table with degree freedom (df) and significant level.

Df (Degree Freedom) = $N_1 + N_2 - 2$

α (significant level) = (this research use alpha 5%)

Interpretation, based on the research result or statistical analysis, if t-test > t-table in significant rank of 0,05, H_0 (null hypothesis) is rejected. However, if t-test < t-table in significant rank of 0,05, H_0 (the null hypothesis) is can not be rejected. H_0 : control = experimental. There is no significance different. H_a : Experimental > Control. There is significance different.

⁶ L.R Gay. *Educational Research Competencies for Analysis and Application* (New York: Macmillan Company. 1992) P.471