CHAPTER III

RESEARCH METHODOLOGY

In this chapter will be explained about the methodology of research in conducting this research which includes the point of research design, the subject of the research, the instruments in collecting the data, and the analysis technique.

A. Research Design

Research is an activity to obtain the truth of scientific knowledge through predetermined procedures to reach the truth. According to Mardalis research is the technical way done in the research process, while the study is interpreted as an effort in the field of science run to obtain the fact and principles consciously and systematically to bring of truth.[34] In the other word method is a technical way done in the research process. Systematically using the scientific method, a design or plan of study. To achieve systematic process, it is necessary the ways in the research justify scientifically.

This research uses quasi experimental research. Experimental research is the way to find a causal relationship (relationship clause) between the two factors, example the research gives a traditional and treatment techniques. It is uses to reduce or set aside other factors that interfere. Experiments are always done with

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[34] Mardalis, *Metode Penilitian Suatu Pendekatan Proposal*, Jakarta:Bumi Aksara, 1995, p. 24

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the intent to see a treatment.[35] In quasi experimental research the subject cannot be randomly assigned to either the experimental or the control group.[36]

The researcher takes two classes, the control group and the experimental group. The control group is taught by traditional technique while experimental is taught by small group technique. The research design of pretest and posttest of control and experimental group can be illustrated as follows:

Table 3.1
The research design

Group	Pretest	Treatment	Posttest
A	O1	X	P1
B	O2	-	P2

Explanation:

A and B   : A is Experimental group

                   B is control group

O_1 and O_2 : O_1 is the pretest given treatment in experimental group

                   O_2 is the pretest given treatment in control group

X   : The treatment where the technique is implemented in experimental group.

P_1 and P_2 : P_1 is the posttest given treatments in experimental group

                   P_2 is the posttest given treatments in control group

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[35] *Suharsimi* Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktek,* Jakarta: Bina Aksara, 1987, p.3
[36] *Http://* eprints.umm.ac.id/1921. Access in Wednesday 29 July 2011

The writer give pretest to the students to know their ability before the treatment is given and compare the ability of two groups. Ideally in good pretest, the result should have significant difference between both groups.[37] The treatments or independent variable (X) will be applied to the experimental group. Posttest is given to both groups. Post test is applied to know students ability in reading of the two groups. The score of both groups is compared with the improvements.

B. Setting of the Study

The setting of this study will be conducted at MA NEGERI 1 KOTA MOJOKERTO in the academic 2011/1012. This is located on Jl. Cinde Baru VIII, Prajurit Kulon, Mojokerto. The researcher chooses MA NEGERI 1 KOTA as the setting of the study because this is a new school, it is just built at year 2000. Another reason the school has not applied this technique yet.

C. Hypothesis

This study was consisted of two hypotheses, they are:

Ho = There is no significant difference in teaching reading by using small group task technique at the eleventh grade of MA Negeri Kota Mojokerto.

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[37] Sugiyono, *Methode Penelitian Kuantitatif Kualitatif dan R&D,* Bandung: Alfabeta, 2010, p.76

Ha = There is a significant difference between the mean of the improvement teaching reading by using small group and traditional technique at the eleventh grade at MA Negeri 1 Kota Mojokerto.

Where the criterions are

Ho accepted if t-value < t-table

Ha accepted if t-value > t-table

D. Population and Sample

1. Population

Population is a group of elements or cases, whether individuals, object or events that conform to specific criteria in which we intend to generalize the result of the research[38]

The population of this research is the eleventh grade of MA NEGERI 1 KOTA MOJOKERTO, Prajurit Kulon, Mojokerto. There are five classes. Each class consists of 36 students, so the total of population is about 180 students.

2. Sample

Sample is the group of elements, or a single element from which the data are obtained.[39] The samples of this research are two classes (XI IS 1 and XI IA 1) which are selected based on classification made by the school. Class XI

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[38] Sugiyono, *Op cit.* p.80
[39] Sugiyono, Op cit. p.81

IA 1 act as the experimental group and XI IS 1 as the control group. Each class has 36 students. Both are chosen based on the teacher's recommendation. The total number of the sample is 72 students.

E. Research Variable

Variable is the object of the research or the focus of the study. There are two variables in the study, they are:

1. Independent Variable

Independent variable is a variable is selected, manipulated, and measured for investigation. The independent variable of this study is "Small group task"

2. Dependent Variable

Dependent variable is a variable affected by independent variable. While the "students' reading comprehension" is the dependent variable.

F. Research Instrument

Since the study is quasi experimental, pretest and posttest will be used as instruments to collect data. Data collections are in the form scores obtained from pre and posttest given to both groups, and both tests are similar. On the other hand, the scores from post test are used to measure whether the implementation method influences the experimental group or not.

1. Validity

This study uses content validity to construct the test. Content validity demands that the test should be constructed as a representative of the course, the relationship between the test items and the course of objective always being apparent.[40] To fulfill the content validity, the content of the test should be match with the curriculum provided, for the example text books material in used this school.

2. Test

Test is a method of measuring person ability, knowledge or a performance in a given domain[41]. The test is used to determine the result of student learning in reading through Small group technique and Traditional technique. Furthermore, the composition is analyzed in this test are content and pronunciation.

a. Pretest

In this case the researcher uses two classes they are XI-IA 1 as experimental group, XI- IS 1 as control group and both of them will be given a pre test. The purpose of pre test is to know the students' reading ability. Then, the experimental group will be given a treatment by using Small group task technique, and control group using traditional technique.

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[40] William, *The Research Methods Knowledge Base,* 2nd Edition. Ithaca,N.Y.: Cornell Custom Publishing, 1999, p. 67

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

b. Posttest

After doing pretest, treatments are given to both classes. But there are different treatments in each class. Small group task techniques are used in experimental group, and traditional techniques are used in control group. The improvement is measured through post test.

G. Research Procedure

To answer the research question of the study, pretest posttest and interview are conducted.

1. Organizing Teaching Procedure

This quasi experimental study is to see the effect of the two different groups: experimental group and control group. The experimental group is thought using Small group task technique, while the control group uses the traditional technique of teaching learning process.

Pretest is conducted before the treatment while posttest is after the treatments. Such activities are conducted to both groups to see the improvement of reading ability. The research schedule is figured out in the following table.

Table 3.2

The Teaching Procedure

No	Experimental Group		Control Group	
	Date	Theme/ Material	Date	Theme/ Material
1.	26th July 2011	Pretest	26th July 2011	Pretest
2.	28th July 2011	Treatment 1: Taught using Small group technique with the theme based on the book.		Treatment 1: Taught using Traditional technique with the theme based on the book.
3.	29th May 2011	Treatment 2: Taught using Small group task with the theme the earthquake.		Treatment 2: taught using Traditional technique with the theme the earthquake.
4.	30th July 2011	Posttest	30th July 2011	Posttest

a. **The Experimental Group**

Pretest is given to both groups on the first meeting. The treatments for the experimental group are conducted on the second meeting and the third meeting. Post test is given on the fourth meeting.

1) First Treatment

The First treatment is held on 28th July 2011. In this time the students will be taught to use Small Group task. The theme of the activity based on the text book.

2) Second Treatment

The Second treatment is held on 29th July 2011. In this time the student will be taught to use Short Note with different theme as the first meeting. The theme is an Earthquake

b. **The Control Group**

In control group each student will be tought through traditional technique. The second and third meeting students are tought as usual treatment. Post test is given on the fourth meeting.

2. **Data Collection Technique.**

Test is a method of measuring person ability, knowledge or a performance in a given domain[42]. In this study test is the most important instrument. The

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

result of pretest and posttest are used to investigate the effectiveness of Small group task in teaching reading. The tests descriptions are illustrated below:

a. Pretest

   The data is collected through pretest in both classes in order to know the difference between the two classes taught by small group technique and traditional technique. Pretest is administered to both classes to measure the students' reading ability before the treatment. The pretest conducted on 26th of July 2011.

b. Posttest

   After the researcher observe the implementation of this technique, the posttest is given. Then, the result of the test is scored and calculated. It is conducted on 30th of July 2011 in both classes.

3. Data Analysis Technique

   After collecting the data of pretest and post test from the experimental group and control group, the researcher measure the score differences from pretest and post test of experimental group and control group by the statistical calculation. In this study, the researcher uses t – test formula to find out whether the mean differences between them are significant or not. T- Test uses to measure and compare the difference of means score between

experimental group and control group.[43] The students' scores are 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 control groups.

Second, the researcher calculates 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 $\quad$ = mean

Σfx $\quad$ = total of the test

N $\quad$ = total of students

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

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

[43]A.E.Bartz, *Basic Statistical Concepts in Education and the Behavior Sciences* (Minneapous:Burgess Pub.Co,1976). p.293

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

∑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 analyze the data through t- test to find out whether the difference of the scores between them is significant or not. Through the following formula:

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

Where:

Mx   = mean score of experimental group

My   = mean score of control group

$\sum X^2$ = The sum deviation square of small group class

$\sum Y^2$ = The sum deviation square of control group class

N   = number of students each class

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

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

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

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 experimental group

After calculating all of the scores, the writer calculates the number of degree by adding the individual of each group, then subtract the two. The formula is described as follows:

df $= N1+N2-2$

Where :

df   =degree of freedom

N1   = number of subject in experimental class

N2   = number of subject in control class

Standard of significance[44]   = 0,025

After doing those steps, the researchers conclude the result of the research by testing the hypothesis.

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[44] Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik*, Rineka Cipta, Jakarta, 2006, p. 310