CHAPTER III
RESEARCH METHODOLOGY

A. Research Design

This research was quantitative based on the experimental research. An experimental design is the general plan for carrying out a study with an active independent variable. The design is important because it determines the study's internal validity, which is the ability to reach valid conclusions about the effect of the experimental treatment on the dependent variable.[1] It means that experimental design is a general plan of research design that is used to reach valid conclusion about the influence of the variable in this research.

This research used quasi experimental research design. Quasi experimental design is a research design that includes assignment, but not random assignment of participants to groups. This is because the experimenter can not artificially create groups for the experiment.[2] It means that in quasi experimental research design the researcher cannot take only few groups as samples because it can interfere learning process.

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[1] Donald Ary, Lucy Cheser Jacobs, and Chris sorensen, *Introduction to Research in Education,* (8th Edition), *(*Belmont: Wadsworth Cengage Learning, 2002), p.301
[2] John W. Creswell, *Educational Research: Planning and Conducting Quantitative and Qualitative Research,* (Boston: Pearson, 2012), p. 309.

In this research, two classes selected, the first class as a control class and the second class as an experimental class. The researcher will use pre-test and post-test group design.[3] It is design of this research as follow:

Table 2
Pre and Posttest Design

Select Control Group	Pretest	No Treatment	Posttest
Select Experimental Group	Pretest	Experimental Treatment	Posttest

Control class was a class that was not given treatment by using group investigation and experimental class was a class that was given treatment by using group investigation. In this research, the students were given pre-test to know their reading comprehension of recount text before treatment by using group investigation and posttest after the treatment by using Group Investigation in experimental class and by Reading Aloud in control class. The pretest and posttest were administered control and experimental class.

B. **Variable of the Research**

A variable is a characteristic or attribute of an individual or an organization that a researcher can measure or observe and varies among individuals or organizations studied.[4] There were two variables in this research namely: independent variable and dependent variable. An independent variable is presumed to effect (at least partly cause) or somehow influence at least one other

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[3] *Ibid.* p. 310
[4] *Ibid.* p. 112.

variable. The dependent variable "depends on" what the independent variable does to it, how it affect it.[5] The variables were investigated in this research, those are:

1. The independent of this research was group investigation (X), and

2. The dependent variable was students' reading comprehension on recount text (Y).

C. Operational Definition of Variable

The operational of variables are as follows:

1. Independent Variable (X)

Group investigation is a strategy for teaching reading that asking the student to make a group and investigate reading material especially in reading comprehension of recount text.

2. Dependent Variable (Y)

Students' ability in reading comprehension on recount text on personal recount is the ability to comprehend the reading material and retelling the event in the past. The aspect reading comprehension that taught to the students are main idea, expression/idiom, inference, grammatical features, detail, excluding facts not written, supporting idea and vocabulary in context.

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[5]Jack R, Fraenkel and Norman E. Wallen, *How to Design and Evaluate Research in Education,* (New York: McGraw-Hill,2008), p.42.

D. Population, Sample and Sampling Technique of the Research

1. Population

According to Creswell, the term population, as used in research, refers to all the members of a particular group. It is the group of interest to the researcher, the group to whom the researcher would like to generalize the results of a study.[6] The population of this research were all the students at the eighth grade of MTs Hasanuddin Bandar Lampung 2017/2018 which consist of 46 that are divided into two classes. Based on those statements, all the classes are the population in this research. The population of the students at the Eighth of MTs Hasanuddin Bandar Lampung in the academic year of 2017/2018 can be seen in Table 3.

Table 3
The population of the Students at the Eighth Gradeof MTs
Hasanuddin Bandar Lampung in the academic year of 2017/2018

No	Class	Gender		Number of Students
		Male	Female	
1.	VIII A	12	11	23
2.	VIII B	14	9	23
Total		26	20	46

Source: Document of MTs Hasanuddin Bandar Lampung in the Academic Year of 2017/2018

2. Sampling Technique

In this research, the sample took from the population of research by using cluster random sampling technique. The selection of groups, or clusters,

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[6]*Ibid.* p.105.

of subjects rather then individuals is known as cluster random sampling.[7] The research was conducted at the eighth grade that was consists two classes. The steps in determining the experimental class and control class as follows:

    a. The first, the researcher made a kind of lottery.

    b. Second, the researcher provided 2 pieces of small paper which each piece was the name of each class then the researcher rolled them up and put them into a glass.

    c. Third, the researcher shook the glass and took one of the pieces of the paper. For the first paper as the experimental class.

    d. Next, the researcher shook the glass again and take one small of piece of rolled paper. The name of class must be different with the name in the first shake so for the second paper as the control class.

3. Sample of the Research

Sample is part of population. According to Fraenkel, a sample is any part of a population of individuals on whom information is obtained.[8] Based on the definition above, sample is part of population that used in this research. The eight grade consist two classes that were VIII A and VIII B. By using cluster random sampling technique the researcher choose VIII A as experimental class and VIII B as control class.

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[7] *Ibid. p.95*
[8] *Ibid.*

E. Data Collecting Technique

In collecting the data, the researcher used some techniques, they were:

1. Pretest

   The pretest was given before the treatment by using group investigation. The pretest was administered to measure the student' reading comprehension ability on recount text. The test was in form of multiple choice questions about recount text based on the provided topics that consist of 25 items with four alternative options and 60 minutes time allocation.

2. Posttest

   The posttest was conducted after the students in experimental and control class given the treatment. It used to know student' reading comprehension recount text after being given treatment by using group investigation. It was administered after treatment given to measure the influence of using group investigation towards student' reading comprehension on recount text, the test was in form of multiple choice questions about recount text based on the provided topics that consist of 25 items with four alternative options and 60 minutes for time allocation.

F. Instrument of Research

This research used multiple choice question (MCQ) as a tool for testing in oder to know students' reading comprehension on recount text. At the test content 25 items with four alternative options. The test is aim to measure students' reading

comprehension on recount text. The specifications were used in measuring reading comprehension are: main idea (topic), expression / idiom/ phrases in content, inference (implied detail), grammatical feature, detail (scanning for a specifically stated detail), excluding fact not written, supporting idea, vocabulary in content. The researcher prepares the instrument in the form of multiple choice questions. The specification pretest and posttest can be seen in Table 4 and 5.

Table 4
The Test Specifications for Pretest and Posttest After Validity

No	Aspect	Item Number					
		Pre-Test		Total	Post Test		Total
		Even	Odd		Even	Odd	
1	Main idea (Topic)	-	1, 9, 11	3	24	1, 13	3
2	Expression/Idiom/ Phrase In context	14	21	2	4	9	2
3	Inference (Implied detail)	12, 24	-	2	2	23	2
4	Grammatical features (reference)	4, 16	3, 15	4	10, 16	5, 15	4
5	Detail (scanning for a specifically stated detail)	8, 20	23	3	8, 18, 20	-	3
6	Excluding facts not written	18	5, 19, 25	4	6, 12	7, 21	4
7	Supporting idea(s)	2, 22	7, 13	4	14	3, 19, 17	4
8	Vocabulary in context.	6, 10	17	3	22	11, 25	3
Total				**25**			**25**

G. Research Procedure

In this research, this research was conducted three steps; they were as follows:

1. Planning

Before the researcher applied the research procedure, the researcher made some planning to run the application well. There were some steps that were planned by the researcher. The procedure of making planning of the research can be seen as follows:

a. Determined the subject of the research

The subjects of the research were the students at the first semester of the Eighth grade of MTs Hasanuddin Bandar Lampung.

b. Preparing try-out

The researcher prepared a kind of test (called try-out test) that was given to the students. The researcher prepared try-out test for pre-test and post-test. Then the researcher evaluated the test items.

c. Preparing pre-test

The researcher prepared pre-test that was given to the students. The pre-test was given based on the questions select in the try out.

d. Determining the material to be taught

The researcher determined the material to be taught to the students, that was reading comprehension of recount text. The researcher gave treatment using Group Investigation for Experimental class and Reading Aloud for Control class.

e. Preparing post-test

The researcher prepared a kind of test (called post-test) that was given to the students. By giving post-test,the researcher know the students' improvement in their reading ability in comprehending English text or not.

2. Application

After making the planning, the researcher tried to apply the research procedure that already planned. There were some steps in doing this research, they were

a. In the first meeting before given the treatment, the researcher gave pre-test. This test in the form of recount text that consist of 25 items.

b. In the second until fourth meeting, after given the pre-test to the students, the researcher conducted the treatment by using Group Investigation in the experimental class and using Reading Aloud in control class.

c. In the fifth meeting, the researcher gave post-test. The test was multiple choice with 4 options a, b, c and d. The total number of the test items were determined by the validity and reliability analysis of the try out. After being determined by the validity and reliability, there were 25 questions of post-test.

3. Reporting

The last point that should be done in the research procedure is reporting. There are as follows:

1. Analyzing the data received from try-out

2. Analyzing the data received from pre-test and post-test

3. Making a report based on the findings.

H. Scoring Procedure

Before getting the score, the researcher determined the procedure used in scoring the students' work. In order to do that, the researcher used Arikunto's formula.[9]. The scores of post test and pretest was calculated by using the following formula :

$$S = \frac{r}{n} x\ 100$$

Notes :

S   = Score of test

r   = Total of right answer

n   = Total items

I. Tryout

Try-out test was given in try-out class to evaluate the test items to know the test valid or not before used to pre-test and post-test items. The try-out test

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[9]Arikunto Suharsimi, *Dasar – dasar Evaluasi Pendidikan, (*Jakarta : Bumi Aksara, 2015). p. 263

was held on 4th November 2017 that given to VIII MTs Al-Furqon Rawi in South Lampung, because in MTs Hasanuddin only have two classes. The researcher chose MTs Al-Furqon to be a try out place because it has the same level with MTs Hasanuddin, it has same curriculum, and same conditions of the learner.

1. **Validity of the Test**

To know whether the test is good or not, some criteria should be considered. The criteria of a good test are validity (content validity, construct validity and items validity), and reliability. Validity is defined as the extent to which scores on a test enable one to make meaningful and appropriate interpretations.[10] It means that Validity is a criterion in a test that makes the text good and suitable for students. To measure whether the test has good validity or not, the researcher used the content validity and construct validity.

a. **Construct Validity**

To measure construct validity refers to the source. Showing the measurement used contains correct operational definition, which is based on the theoretical concept. Construct validity is the degree to which scores on a test can be accounted for by explanatory construct of sound theory.[11] It means that construct validity is a measurement of values on a score based on theoretical concept.

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[10] Donald Ary, at.al., *Op. Cit*, p. 224
[11] *Ibid,*p.219

This research administered the test whose the scoring covered eight aspect of reading they are: main idea, Expression/idiom/phrase in context, inference, supporting idea, grammar, vocabulary, detail, excluding fact not written. To make sure, the researcher consulted the instrument of the test (pre-test and pos-test) to the English lecturer of UIN Raden Intan Lampung (Mr Satria Adi Pradana,M.Pd) as a validator, for determining whether the test has obtained construct validity or not. After the researcher consulted the test with the validator, the items test was suitable to the eight aspects of reading. (see appendix 3)

b. **Item Validity**

The test was given to the students are 50 multiple questions to know valid or not the questions that gave to the student at eight grade of MTs Al-Furqon Rawi Lampung Selatan. The item validity used to measure the validity of the test items. The researcher was given the tryout of the test to students from the different sample. The researcher used ANATES to calculate the data obtained from the try out to find the item validity of each them. After the researcher calculated the data by using ANATES, The result of the items try out for pre-test there were 23 items considered invalid. The invalid items number were 1, 5, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 21, 27, 31, 39, 40, 41, 44, 45, 46, 47, and 50. While the valid

items were 27 items. They were the items number 2, 3, 4, 6, 9, 10, 19, 20, 22, 23, 24, 25, 26, 28, 29, 30, 32, 33, 34, 35, 36, 37, 38, 42, 43, 48, and 49. It can be seen in appendix 4. After the researcher calculated the try out test by using ANATES, the researcher consulted again to the validator (Mr Satria Adi Pradana, M.Pd.) he said to remove two items test number 24 and 32 that is very difficult and very easy, hence the test items became 25 item to use in pretest and posttest.

2. Reliability of the Test

The way to know a good test is by reliability. Reliability refers to the consistency of test scores. People who use such measuring instruments must identify and use techniques that will help them determine to what extent their measuring instruments are consistent and reliable.[12] Reliability is the consistency of the measurement and dependable of the measurement. Besides a good test should have high validity, a good test should have high reliability, scores need to be consistent. The researcher used ANATES to know reliability of test.

The criteria of reliability test are :

0.91 – 1.00 = Very high reliability

0.71 – 0.90 = High reliability

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[12]Donald Ary, et.al., Op.Cit, p.236

$0.41 - 0.70$ = Medium reliability

$0.21 - 0.40$ = Low reliability

$0.0 - \leq 0.20$ = Very Low reliability.

From the criteria of reliability above, it can be drawn a conclusion that the result obtained in the ANATES of reliability that reliability test in reading comprehension has high reliability because the result of the reliability was 0.81 and the result of posttest was 0.74. The researcher concluded that the degree of the level of reliability of the instruments was high reliability. (see appendix 4)

J. Data Analysis

After collecting the data, the researcher analyzed the data by using independent sample t-test. There were two tests that must be done before analyzing the data by using independent sample t-test. They were normality test and homogeneity test.

1. Fulfillment of the assumptions

a. Normality Test

In this research, normality test used to know whether the data in the experimental class and control classes are normally distributed or not. In this research, the researcher used statistical computation by using SPSS (*Statistical Package for Social Science*) for normality. The tests of normality employed were Shapiro Wilk. The hypotheses for the normality test will formulated as follows:

Ho : The data are normally distributed.

Ha : The data are not normally distributed.

While the criteria of acceptance or rejection of hypotheses for normality test are as follows:

H_o is accepted if Sig. $> \alpha = 0.05$

H_a is accepted if Sig. $< \alpha = 0.05$

b. Homogeneity Test

In this research, homogeneity test used to determine whether the data in experimental class and control class are homogeneous or not. In this case, the researcher used statistical computation by using SPSS (*Statistical Package for the Social Science*) for homogeneity of test. The test of homogeneity employing Levene statistic test.

The hypotheses for the homogeneity tests are formulated as follows:

H_o = the variances of the data are homogenous

H_a = the variances of the data are not homogenous.

While the criteria of acceptance or rejection of homogenity test are as follow:

H_o is accepted if Sig. $> \alpha = 0.05$

H_a is accepted if Sig. $< \alpha = 0.05$

3. Hypothetical Test

The researcher wused independent sample t-test. In this case, the researcher used statistical computation by using *SPSS* (Statistical *Package* for Social Science) for hypothetical of test. The purpose of using SPSS in this case is to practicality and efficiency in the study.

The hypotheses are :

Ha : There is a significant influence of using Group Investigation towards students' reading comprehension on recount text at the first semester of the eighth grade of MTs Hasanuddin Bandar Lampung, in the academic year of 2017/2018.

Ho : There is no significant influence of using Group Investigation towards students' reading comprehension on recount text at the first semester of the eighth grade of MTs Hasanuddin Bandar Lampung, in the academic year of 2017/2018.

While the criteria of acceptance or rejection of hypothesis are:

Ha is accepted if Sig. $< \alpha = 0.05$

Ho is accepted if Sig. $> \alpha = 0.05$