

CHAPTER III

RESEARCH METHODOLOGY

In this chapter, there are seven parts that discussed by the researcher. They are setting of the research, subject of the research, instrument of the research, variable of the research, research design, the method of data collection, and the method of data analysis.

3.1 Setting of the Research

This research was beenheld in MA Hasyim Asy'ari Bangsri Jepara. It is located at Jl. Pramuka No. 9 Bangsri, Kecamatan Bangsri, Kabupaten Jepara, Central Java. This research conducted on even semester. The writer did the research for six meetings. It consisted of pretest on first meeting, the application of Group Investigation technique and whole class teaching on the second until the fifth meeting, and the posttest in the sixth meeting.

3.2 Subject of the Study

3.2.1 Population

Population is one of the most important things to conduct a research. Based on Sugiyono (2015: 117) population is an object or subject with certain characteristics and qualities, which have been determined by the researcher to be studied. The population of this research was the tenth grade students of MA Hasyim Asy'ari Bangsri in the academic year

of 2018/2019 consist of eight classes. The total of population was 297 students consist of :

Table 3.1:

Population of the students

No	Class	Total of Students
1	X. Agama	39
2	X. IPA Imersi	30
3	X. IPS Imersi	29
4	X. IPA	40
5	X. IS-1	39
6	X. IS-2	41
7	X. IS-3	40
8	X. IS-4	39

3.2.2 Sample

In conducting research, it was difficult to make all of the classes to be observed. Therefore, we concluded the sample of population. Zuriah (2007: 119) states that a sample is a representative group from a population

to serve as respondents. The writer used simple random sampling in choosing a sample.

Arikunto (2006: 134) also explains that:

“If the population is 100 respondents or less, it is better to take the whole population and sample. If the population is more than 100 respondents, the researcher can take 10-15 % or more than 25 % of the population based on the capability of the researcher”.

In this research, the writer used simple random sampling in choosing a sample. The class divided into 2 groups those were experimental group and control group.

3.3 Instrument of the Research

In this study, the writer used test as the instrument. Test is a method of measuring a person's ability, knowledge, or performance in a given domain Brown (2004: 3). Meanwhile, according to Widoyoko (2016: 117) states that test is one of method used for measurement that is to collect the characteristics' information of an object. Test in language education can be divided into two types, namely written test and spoken test. In this research, the writer used a pre-test, treatment, and post-test. The writer used the multiple choices type of the test, and the total of the test was 40 questions.

3.4 Variables of the Research

Variable is one of the important things in doing a research. According to Sugiyono (2015: 61) variable is a quality which can take a number of different values or states. There were two kinds of variables, they were Independent Variable and Dependent Variable.

3.4.1 Independent Variable

Independent variable is a variable that will influence other variables. The relations or influences of this variable become main discussion, and easily to obtained and can be diversified into free variable. Based on the definition, the independent of this study was Group Investigation technique in teaching reading comprehension.

3.4.2 Dependent Variable

Dependent variable is the variable that is influenced by independent variable, or the effect of independent variable. The dependent variable was the students' reading comprehension.

3.5 Research Design

Garton, Ratti, & Giudice (2004) states that experimental research is the most powerful tool for identifying causes and should be used more in wildlife studies. In this experimental research, to collect data the writer used field research by true-experimental design with pretest-posttest control group design. The field of research was carried out by teaching practice and test.

In this experimental research, the writer used two classes as an experiment class and control class. In experiment class, the writer applied group investigation technique while in control class used conventional model to teach. The writer gave a pretest and posttest before giving a treatment to both classes. Pre-test was given in the first because the writer wanted to know that both classes have a same knowledge or not. After that, the students were given a posttest after learning process. It was to know the result of this research.

The model was:

Table 3.2 :
Research Design

R	O ₁	X	O ₂
R	O ₃		O ₄

In which:

R : Group which are selected randomly

X : Treatment in experiment class

O₁ : Pretest in experiment class

O₂ : Posttest in experiment class

O₃ : Pretest in control class

O4 : Posttest in control class

(Mubarok, 2015: 101)

3.6 Method of Data Collection

The writer used test to get the data as follow:

a. Pre-test

The writer gave a test first to all class (experiment and control class) before applying the technique in the learning process. It aimed to measure the capacity of their knowledge before receive a treatment. Both of classes got the same test. The test organized as multiple choices. The students answered by themselves.

b. Treatments

After doing the test, the writer gave a treatment by applying a group investigation technique twice in the experimental class. In this research the writer was as a teacher. The writer taught about Recount Text using Group Investigation technique. The writer did the treatment for two meetings in both experimental class and control class.

Table 3.3**The Schedule of the Research**

Date	Experimental Class (X. IS-1)	Date	Control Class (X. IS-2)
January 10, 2019	Pre-test for experimental class.	January 10, 2019	Pre-test for control class.
January 17, 2019	First treatment by using Group Investigation technique.	January 17, 2019	First treatment by using certain model.
January 24, 2019	Second treatment by using Group Investigation technique.	January 24, 2019	Second treatment by using certain model.
January 31, 2019	Post-test for experimental class.	January 31, 2019	Post-test for control class.

During doing the research, the writer gave different treatments to the experimental class and the control class.

Table 3.4**The Activity of the Research**

Activities	Experimental Class	Control Class
First Treatment	Observing <ul style="list-style-type: none"> Students observed the picture that was given by teacher 	Observing <ul style="list-style-type: none"> Students observed the picture that was given by teacher

	<p>Asking</p> <ul style="list-style-type: none"> • The student tried to identify the picture • Students asked about the picture and the relation of the picture with the material <p>Exploring</p> <ul style="list-style-type: none"> • Students were asked to read and identify the social function, generic structure, and language features in the example of recount text than was given by teacher <p>Associating</p> <ul style="list-style-type: none"> • The students made small group consist of 4-6 students • Students has 	<p>Asking</p> <ul style="list-style-type: none"> • The student tried to identify the picture • Students asked about the picture and the relation of the picture with the material <p>Exploring</p> <ul style="list-style-type: none"> • Students were asked to read and identify the social function, generic structure, and language features in the example of recount text than was given by teacher
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	<p>recounttext that was given by teacher</p> <ul style="list-style-type: none"> • The students discuss with their group (group investigation technique) <p>Communicating</p> <ul style="list-style-type: none"> • The students presented the result of discussion in front of the class • While students were presenting, teacher gave feedback 	<p>Associating</p> <ul style="list-style-type: none"> • The students tried to understand the material individually about definition of recount text • Students discuss with their pair <p>Communicating</p> <ul style="list-style-type: none"> • The students presented the ideas to the other pairs • While students were presenting, teacher gave feedback
<p>Second Treatment</p>	<p>Observing</p> <ul style="list-style-type: none"> • Students observed the picture that was given 	<p>Observing</p> <ul style="list-style-type: none"> • Students observed the picture that was

	<p>by teacher</p> <p>Asking</p> <ul style="list-style-type: none"> • The studentstried to identify the picture • Students asked about the picture and the relation of the picture with the material <p>Exploring</p> <ul style="list-style-type: none"> • The students comprehend about recount text that was given by teacher <p>Associating</p> <ul style="list-style-type: none"> • The students made small group consist of 4-6 students • Students has different of recount text that was given by teacher • The students discuss 	<p>given by teacher</p> <p>Asking</p> <ul style="list-style-type: none"> • The studentstried to identify the picture • Students asked about the picture and the relation of the picture with the material <p>Exploring</p> <ul style="list-style-type: none"> • The students comprehend the recount text • The students analyze the text with their pair • The students answer the question based on the text
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	<p>with their group (group investigation technique)</p> <p>Communicating</p> <ul style="list-style-type: none"> • The students presented their result in front of the class • While students were presenting, teacher gave feedback 	<p>Communicating</p> <ul style="list-style-type: none"> • While students were presenting, teacher gave feedback
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c. Post-test

Post-test was given in the end of teaching learning process. This test was given to experimental and control class to measure their improvement after using the group investigation technique in the learning process. The test organized as multiple choices.

3.7 Method of Data Analysis

3.7.1 Trying-Out of the Instruments

The instrument that used in this research was a test (pretest and posttest). Tryout test was applied in the first time before doing the

posttest. The result of the test was used to find the validity and reliability.

a. Validity

To calculate the validity, the writer used the Product Moment formula:

$$r_{xy} = \frac{(N \cdot \sum XY) - (\sum X \sum Y)}{\sqrt{\{N \cdot \sum X^2 - (\sum X)^2\} \{N \cdot \sum Y^2 - (\sum Y)^2\}}}$$

In which:

r_{xy} : the item of the test reliability

N : the number of respondent

X : total score of each item

Y : individual total score

X^2 : total for the square for each item

Y^2 : total for the square of individual total score

$(X)^2$: the square of the total score for each item

$(Y)^2$: the square of the individual total score

(Arikunto, 2014: 213)

b. Reliability

To measure the reliability of the test, the writer used the following formula:

$$r_{11} = \frac{2 r_{1/2}}{1 + r_{1/2}}$$

In which:

r_{11} : coefficient of reliability

$r_{1/2}$: reliability of half test

(Widoyoko, 2016: 245)

3.7.2 T-test

The writer used a quantitative data which was related to numerical and it was analyzed by statistics. It used “t-test” formula to calculate the data by comparing students’ pretest and posttest. T-test was used to examine whether there was a significant difference between the score of students’ achievement in learning reading comprehension by applying Group Investigation technique and whole class teaching.

The formula of t-test is expressed as follows:

$$t_o = \frac{\bar{x}_1 - \bar{x}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

In which:

t = t-Value

S = standard deviation

\bar{x}_1 = the average score of experimental class.

\bar{x}_2 = the average score of control class.

n_1 = the total of experimental class

n_2 = the total of control class

(Sa'idah, 2017: 172)



