CHAPTER III

METHODLOGY OF RESEARCH

A. Method of the Research

In this research, The researcher will use quantitative method. quantitative research is based on the measurement quantity or amount. In quantitative method, she will use experimental reserach with the form of quasi experimental design. According to Nunan, Experiments are carried out in order to explore the strengh of relationships between variable.[1] In experimental research, the researcher use treatment, while in naturalistic study without treatment. So, the experimental research method can be interpreted as the research methods use to find a spesific treatment efect against the other under controlled conditions.

This research, the researcher employed two classes of students, one class as an experimental class and another one as a control class. The students in experiment class was given the treatment by using Group Investigation technique and the students in control class was given treatment by using conventional method.

[1]David Nunan, *Reasearch Method in Language Learning* (Cambridge University Press, 1992), 24-25.

B. Place of the Research

The place of the research conducted at the first grade of SMKN 10 PandeglangSenior High School, located on Jl. Raya BaruSatu Km. 05 Koranji-Pulosari - Pandeglang-Banten 42262.

This research will be conducted on the first grade students of SMKN 10 Pandeglang in academic year 2019/2020.

C. Population and Sample

1. Population

According by Suharsimi population is object of the research, this is a according by Sugiyono population is a generalization area consisting of: objects or subjects that have certain qualities and characteristics determined by reserachers to study and then conclusion draw. From the statement above it can be said the population is the whole object of research destermined by researcher to be studied and then conclusion draw.The populations of this research was all first grade of SMKN 10 Pandeglang in academic year 2018/2019. The total number is 184 students.

2. Sample and Technique sampling

Sample is a part of population, which is choseen to participate in the study. The sample members selected in this study were 22% from 184 students as 40 students. This is supported by Arikunto, who says “If the students are less than 100 it is better to take all of them, so that the research

is population research. But, if the number of subject is large, it can be taken between 10-15% or 20-25% or more."

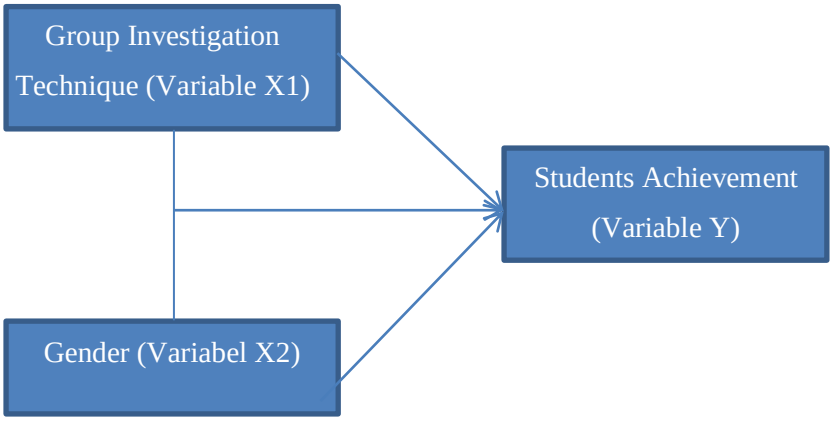
The research will take two classes to be experimental class and control class. The one of class as the experimental class which is taugh by group investigaton technique while another class as the control class which is taught without group investigation technique (conventional).

There were two classes of the first grade students. It was class X RPL 1 and X RPL 2. The experimental class consisted of 20 students, 10 male students and 10 female students. This was also done in the control class which consisted of 20 students, 10 male students and 10 female students. So the total numbers of students were 40 students.

D. Analytical Framework

The framework of thought bothered common conceptual models of how the teory relates to the various factors is have been identified as an washington issue.

In detail the relationship between group investigation and gender can be described as follows:



E. Variable of the Research

Variable is a something that will be objct of the research. According to Sugiyono Variable is an attribute or characteristic or value of a person, object or activity that has certain variations determined by the researcher to be studied and then conclusion drawn.[2] Variable that is used in this reasearch as follow :

1. Independent Variable

Independent variable (X) is the variable that influence or causes a change or the emergence of the dependent variable.[3] Independent variable in this research consisted of group Investigation Technique (X_1) and Gender (X_2). In this technique students are actively engaged in planning and carrying out investigations and presenting their findings to peers and others.

[2] Sugiyono, *Metode Penelitian Pendidikan Pendekatan Kualitatif, Kuantitatif, dan R & D* (Alfabeta Bandung, 2010), 61.

[3] Sugiyono, *Metode Penelitian Pendidikan Pendekatan Kualitatif, Kuantitatif, dan R & D* (Alfabeta Bandung, 2010), 61.

2. Dependent Variable

The dependent variable (Y) is the variable that is affected or which becomes a result because of the existence of independent variable. Dependent variable in this research is students achievement obtained from the value in writing descriptive text at the ten grade students of SMKN 10 Pandeglang in 2018/2019 academic year. Independent variable (X_1) Group investigation Technique

(X_2)Gender

Dependent variable (Y) Students Achievement

F. Indicator of Group Investigation

Table 3.1.

Indicator and instrument of Group Investigation techniqe

Step of Group Investigation	**Indicator**	**Instrument**
Topic selection	○ Give consideration on the basis of his own point of view	○ I am happy when the teacher gives choice to the material that in my opinion I was able to do it.

Cooperative planning	○ Learn to respect in the opinions of others ○ Improve joint learning, learn to communicate, both with friends and with teachers ○ Students are able to plan and organize their work together	○ I feel unable to give an opinion when discussing. ○ I give ideas during the discussion ○ I find easier to understand the material when the discussion going on
Implementation	○ Make students trained to take responsibility for the assignmnents they receive	○ I brave to be responsible for the tasks I receive. ○ I dare to ask when i feel don't understand the lesson
Analysis and synthesis	○ Increase participation in making a decision	○ Me and friends discuss in completing assignment given by the teacher

Presentation of final product	○ Increase students confidence ○ Improve students in communicating, both with friends themselves and with the teacher	○ I am happy when I assigned forward to explain the results of the discussion ○ I feel ashamed when I am assigned to move forward
Evaluation	○ Make students able to solve and deal with a problem	○ I am lazy when the teacher gives an assignment.

G. Indicator of Gender

Table 3.2.

Indicator and instrument of Gender

Componen	Indicator	Instrument
Learning Materials	○ The characteristic of gender that have some boys are like of visual spatial lerning and science skills. ○ The characteristic of	○ I am happy when I leraning English. ○ I feel a difficult every Learning English ○ I prefer study

	gender that have some girls are like verbal learning.	Science than Language
Learning Environment	○ Educational fasilities and insfrastructure can meets the needs of male and female students.	○ I am excited to learn when the tools are available and complete according to the needs of male and female students.
Teachers	○ The teacher has an understanding of ustice and gender loyalty	○ I am happy when taught male teachers ○ I am happy when taught female teachers ○ I am always happy when taught male and female teachers ○ I not happy when the techer compares between male and female students ○ I am eager to learn

		with motivation ○ I prefer taught by the teacher friendly and fun both male and female

H. Research Instrument

The use of to support the data collection process and obtain the desired data, the istrument include:

1. Researcher use test which will be given to the sample. The researcher will to pre-test and post-test. The test done include the ability in writing descriptive text. The test writing ability in this research form of a assignment toward students to write descriptive text.

Test is a method of measuring a person's ability, knowledge, or performance in a given domain.A test measures performance, but the results imply the test-taker's ability, or, to use a concept common in the field of linguistics, competence. Most language tests measure one's ability to perform language, that is, to speak, write, read, or listen to a subset of language.[4]

In the treatment, the researcher will use descriptive text as material. The researcher divides students into four groups heterogeneous, Then

[4]H. Douglas Brown. *Language Assessment, Principles and Classroom Practices.* New York : Addision Wesley Longman, 3.

students will choose four title subtopics that given by researcher. And the researcher uses group investigation technique to know students achievement of writing descriptive text.

2. Researcher use questionnaries to collect file data to find data about gender and group investigation. Where the statement items in the questionnaries develop from indicators based theory relevant to each researcher variable. Furthermore, the statement is measured by Likert scale.

I. The Technique of Data Collecting

In collecting the data, the writer did:

1. Pre-test

The pre-test was administered before treatment. The same pre-test was given to both experimental and control class. The pre-test will conducted before applying group investigation techniquestudy to the class, that is conduct in the first meeting in order to know basic of students writing descriptive comprehension.

2. Treatment

Treatment is the process of given the material which will the researcher give to experimental group after pre-test. The students were taught by applying group investigation technique while control group, the

students were taught by using conventional method. Both experimental and control group wee taught with the same material.

3. Post test

Post test also will conducted after applying group investigation technique study to the class, or it is given after the treatment. It was aimed to get the mean scores of experimental group and control group.

4. Questionnaries

Questionnaries is collection of data sorted by giving a set of question and written statements to the responden's answer. Questionnary in this study will be devoted to the subject of the trial. The questionnaries were selected as instruments of data collection for more effective and efficient questionnaries.Category likert scale:

Table 3.3.

Category likert scale

Assessment	Value
Selalu	5
Sering	4
Kadang-kadang	3
Pernah	2
Tidak Pernah	1

The influence of Group Investigation Technique and Gender toward students achievement can use table interpretation skor, they are:

Table 3.4.

Interpretation Score

Assessment	Value
0% - 20%	Sangat lemah/sangat tidak efektif
21% - 40%	Lemah/tidak efektif
41% - 60%	Cukup/cukup efektif
61% - 80%	Kuat/efektif
81% - 100%	Sangat kuat/sangat efektif

J. The Technique of Analyzing the Data

To analyze the data about the influence of group investigation and gender toward students achievement in writing descriptive in this research, researcher used Descriptive statistic and Inferensial statistic.

1. Descriptive Statistics

Descriptive Statistics is statistics used to analyze data by describing data has been collected without making general conclusions or generalizations. This technique is used to present the data in form of table

frequency distribution, graphs, calculation mean, medians and mode, standard deviations and variances.

2. Inferential Statistic

This analysis technique is used to analyz sample the data and the results are applied to the population. This technique is used to perform prerequisite test which include:

1. Normality test

Normality test is intended to find out whether the data distribution or using group investigation technique in class experiment and non group investigation in class control with the influence of gender both in the class. Normalitiy test in this research the researcher used the formula Chi-square, the formula is:

$$x^2 = x^2 = \sum \frac{(fo - fe)^2}{fe}$$

Notes:

X^2 = chi-square

f_o = the observed frequency (fo)

fe = the expected frequency (fe)

with determinated the data if normally distributed so x^2_{count}smaller x^2_{table} ($x^2_{count} < x^2_{table}$)

2. Homogenity test

Homogenity test is intended to find whater the sample chooses become the respondens and come same the groups.This research used the formula:

$$F = \frac{Biggest\ Variant}{Smallest\ Variant}$$

Notes:

F_{count} = F value

BV = the biggest variant

SV = the smallest variant

The data determinated homogen if F_{count} smallest fromF_{tabel}(F_{count}<F_{tabel}).

2. Hypothesis Test

To do T-test can use the formula:

$$T = \frac{M_x - M_y}{\sqrt{\left(\frac{\sum x^2 + \sum y^2}{N_x + N_y - 2}\right)\left(\frac{1}{N_x} + \frac{1}{N_y}\right)}}$$