

CHAPTER III

RESEARCH METHOD

A. Research Design

The researcher used quantitative approach to conduct the research. The purpose of using quantitative approach was to measure the level of students' linguistic intelligence in English mastery. In order to see the degree of relationship between linguistic intelligence and English mastery, the researcher used correlation design, because it correlates two variables of the data which were the correlation between linguistic intelligence and English mastery.

Correlation research method is a quantitative approach. According to Creswell (2008), defines a correlation as "a statistical test to determine the tendency or pattern for two (or more) variables or two sets of data to vary consistently". There are two variables investigated in this study, where the independent variable is linguistic intelligence (X) and the dependent variable is English mastery (Y). This research was quantitative research since the data the researcher got was from students' score of the test and questionnaire set.

The study was conducted through quantitative method and the design was correlation study. Creswell stated that correlation research indicates an association between two or more variable. In this study, the independent variable or the variable that explained and affected another variable was "Linguistic

Intelligence” or usually known as X variable. For the dependent variable or the variable that being affected by the independent one was “English Mastery” or usually known as Y variable.

B. Research Setting

A. Research Setting

The setting of this research includes the location and time of the research.

1. The location of the research at State Islamic Junior High School 1 Gambut at eighth grade academic year 2015/2016. That is located on Jl. Irigasi Tambak Sirang Laut, Gambut.
2. The research is conducted the eighth grade academic year 2015/2016, around April and May 2015.

C. Population and Sample

1. Population of the Study

The population of this study is all of eighth grade of Junior High School 1 Gambut academic year 2015/2016. There are four classes and it consists of 120 students. To know the total number of population can be seen in the following table:

Table 3.1 Population of Research

Academic Year	Classes	Total
2015/2016	A	30
	B	30
	C	30
	D	30
	Total	120

2. Sample of the Study

The researcher takes the sample of population by using slovin's formula for this research. According to (Sevilla et. al., 1960, p:182), *Slovin's formula* is used to calculate the sample size (n) given the population size (N) and a margin of error (e). It's random sampling technique formula to estimate sampling size. It is computed as $n = N / (1 + Ne^2)$.

Whereas:

n = no. of samples

N = total population

e = error margin / margin of error (0.05 / 0.02)

In line with the explanation above, the researcher decide to take 0.05 for margin of error. So, there are 92 samples in this research. The result is a follow:

$$n = 120 / (1 + 120 (0.05)^2)$$

$$n = 120 / (1 + 120 (0.0025))$$

$$n = 92$$

D. Research Instrument

To collect data in this research, the writer use some techniques which covered of:

1. Questionnaire

The questionnaire was taken from a Likert type Linguistic Intelligence questionnaire derived from Gardner's MI model (1993) and *Linguistic Intelligence Profiling Questionnaire by Tirri and Nokelainen*. It contained 15 related questions, for each of which 5 options are considered. The learners were asked to score the statements ranging from 1 to 5 alternatively for speed during 20 minutes. The options quantify the degree of agreement of the learners, as follow:

- a. Totally disagree : 1
- b. Disagree : 2
- c. Undecided : 3
- d. Agree : 4
- e. Totally agree : 5

Nunan (1992, p:14) says that reliability refers to the consistency and of the results obtained from a piece of research. Reliability refers to the level of internal consistency or stability of the test over time. To verify the reliability of the test, the writer uses the Alpha Cronbach formula. Based on the analysis using the formula above, the result of reliability coefficient of the test of linguistic intelligence is 0.817. It can be said that the instrument is reliable.

2. English Language Mastery Test

The test of English Language mastery is intended to collect the data about students' English mastery. The test is an objective test in the form of multiple choices (written test). The written test consists of reading, writing, grammar, vocabulary and listening section. It is the content and subscription to the Indonesian Educational curriculum.

In this research, the researcher will provide 40 multiple choices which have been done in 70 minutes by the students. These questions consist of 10 questions for reading section, 10 questions for grammar section, 10 questions for vocabulary section, 5 questions for writing section and 5 questions for listening section.

The final score is calculated:

- *Students' correct answer x 2,5*

E. Data Collection Procedure

In collecting the data, the instrument of this research are questionnaire to measure student's linguistic intelligence (variable X) and English mastery test to measure the students's level in mastering English (variable Y).

1. Questionnaire

In this research, the writer will distribute the questionnaire to the students aimed to know about students' linguistic intelligence. The questionnaire was taken

Gardner's MI model (1993) and *Linguistic Intelligence Profiling Questionnaire* by Tirri and Nokelainen. There are 15 valid items used for linguistic intelligence. The questionnaire used four alternatives based on the Likert's scale types. According to Syofian Siregar (2013), Likert's scale is used to measure attitude, opinion, perception based on the certain object or phenomena.

2. Test

A test is a systematic procedure for observing one's behavior and it with the aid of numerical of category system. A test is used to collect the data of students' English mastery (variable Y). The writer used forty multiple choice questions for English mastery test was taken from *English book* for eighth grade. It is the content and subscription to the Indonesian Educational curriculum.

F. Data Analysis Procedure

After processing the data, the next step is data analyzing. There are three steps of analyzing data. The first step is to find out the students' English mastery. The second is to find out student's linguistic intelligence. And the third is to find out the relationship between students' linguistic intelligence and English mastery, after that the writer used the correlation formula by Pearson Product Moment Correlation Formula to test the significant relationship between them.

To find out the degree of students' idiomatic expression mastery and their learning strategies in reading and the correlation degrees of them:

1. Make students' score table based on the test and find out the sum of their score of English mastery. After that classifying the students' score by using the following criteria. The students' scores will be categorized into five level based on Book of David P. Haris as follows:

Score	Category
80-100	Excellent
70-<80	Good
60-<70	Fair
50-<60	Low
0-<50	Very Low

2. After presenting the questionnaires, the writer counted and analyzed the result of the questionnaires that have been answered by the students as the data description. The writer also make students' score table based on the questionnaire and find out the sum of their score of linguistic intelligence. After that classifying the students' score by using the following criteria. The students' scores will be categorized into five level based on Book of David P. Haris as follows:

Score	Category
65 - 75	Excellent
55 - < 65	Good
45 - < 55	Fair
35 - < 45	Low
0 - < 35	Very Low

3. In order to determine the degree of correlation between students' linguistic intelligence and English mastery eighth grade students of MTsN 1 Gambut in academic year 2015/2016. The writer uses a Pearson Product Moment because both of data are interval data. Pearson Product Moment is usually used to correlate two variables based on its correlation coefficient value, it is useful to describe and find out the significance of the correlation between two variables, variable X and variable Y. It is usually symbolized by r or r_{xy} (because it is also known as three regression coefficient). The writer also calculated the data by using statistical product and service solution (SPSS) version 19.0

Pearson Product Moment formula as follows:

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

r_{xy} : coefficient of correlation between X variable and Y variable

X : sum of score in X distribution

Y : sum of score in Y distribution

XY : sum of multiplication of X an Y

X^2 : sum of X quadrate

Y^2 : sum of Y quadrate

Pearson correlation

The score of “r” product moment (r_{xy})	Interpretation
0.00-0.19	There is a relationship between X and Y, but the correlation is very weak or little so it is ignored or it is considered no correlation in this rating.
0.20-0.39	There is a relationship between X and Y, but it is weak or little.
0.40-0.69	There is a relationship between X and Y. The value is medium.
0.70-0.89	There is high relationship between X and Y.
0.90-1.00	There is very high relationship between X and Y.

To know whether there is any significant correlation or not between X variable and Y variable, the writer formulated H_a (Alternative Hypothesis) and H_0 (Null Hypothesis) first as follows:

- a. H_0 : “There is no significant correlation between X variable and Y variable”.
- b. H_a : “There is significant correlation between X variable and Y variable”.