CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

Research design is an adjustment, adjusting research so the researcher can get valid data needed that suitable with the research variables and purpose for further analysis, and research design also determines instrument used, of the research. In this case, the researcher will use quantitative method, because the data is numerical form since the researcher is eager to analyze scores of test-takers joined selection test of FLDI.

For specific, this study will use correlational research for this study. Correlational research is a research method used to find relationship among variables.[52] In this method, there are two categories in interpreting the result of the correlation analysis. First category is signs (+ or -). These signs is used to interpret or indicate relation among variable whether it is positive (independent variable increasing, the other follows) or negative (dependent variable decreasing, the other follows). The last category is the strength of relationship. Strong relations among variables show that the independent variable having powerful influence on the dependent variable. Weak relations among variables show that the independent variable having lack influence on the dependent variable.

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[52] Donald Ary, et al., *Introdcution To Research In Education,* (USA: Wadsworth, Cengage Learning, 2010), 350.

B. Population

In conducting a research, we have to limit the subject included in it with detail information about the subject. Population is a well-described subject of research which sample drawn from. As addition, as Sugiono stated, subject/object with limitation must have same properties and status which is decided by researcher to be analyzed, and to draw conclusion from it.[53]

According to Taniredja and Mustafidah from Nawawi, population is a whole subject consisted with human, things, animals, plants, and phenomena as source of the research.[54]

Taniredja and Mustafidah also stated that population, based on its total number, divided into two categories:[55]

1. Countable population

This first type of population has data source with obvious limit quantitatively. For example, a population of all of senior high school students who joined final examination 2015; all of senior high school students are the population of a research which can be counted by using secondary data from ministry of education and culture, and the population is limited on year 2015 which is easier for researcher to get the population

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[53] Sugiono, *Metode Penelitian Kuantitatif Kualitatif Dan R&D*, (Bandung : ALFABETA CV, 2012), 215

[54] Tukiran Taniredja – Hidayati Mustafidah, *Penelitian Kuantitatif (Sebuah Pengantar)*, (Bandung: ALFABETA, 2014), 33.

[55] *Ibid*, 33.

data. This example shows the meaning of "has data source with obvious limit quantitatively".

2. Uncountable population

The second type of population has data source with non obvious limit quantitatively. For example, all customers in traditional market in East Java, all transportations passed through Soedirman street; it means that those population data can be collected by doing observation on the spot, but with unclear quantitative limit, researcher cannot sure how many customer did transaction in the market or how many transportation passed through Soedirman if there is no limit quantitatively like year, or date. It means that the population chose cannot be counted since there so many of them without specific limit.

The population of this research is male and female students of Nurul Jadid Islamic boarding school who had joined "selection test" conducted by FLDI in August 2015 and passed through the test; total population in this research is 86. On "selection test", the test-takers divided into three classes based on their gender and dormitory. Male test-takers used class in central dormitory, female test-takers was divided into two classes, class in west dormitory (al-Bayan) and east dormitory (al-Hasyimiyah).

After passing the selection test, they have been divided into six classes with two categories. First category is male – female, meaning that the classes are divided by gender of the students; since the institution is an Islamic boarding school, the students must be divided according to their gender

(divided into several dormitories and applied also for formal schools). Second category is dormitory, meaning that the classes also separated by the dormitory which the students staying in. the institution divided the classes according to three big dormitories, central dormitory (male), west dormitory (al-Bayan/female), and east dormitory (al-Hasyimiyah/female); each dormitory has two classes. The average age of the students was for about 13-17; they also were in first and/or second grade of senior high school in Nurul Jadid. So, researcher's population here is countable population, because it has limit quantitatively.

C. Sample

Sample is part of population that has same characteristic used for research and the result of sample analysis will be treated for the population.[56] Sample is important in research, because it can ease the burden of researcher by only focus on several individuals in a population instead of focusing on the whole population with great amount number of individual. The result of studying the sample can be interpreted as the result of studying the whole population. But, since the total population in this study is 86, this study will not take any sample because the population is reachable and easy to be measured.[57] According to Arikunto this kind of study is called by population research.[58]

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[56] V. Wiratna Sujarweni, *Metodologi Penelitian Lengkap, Praktis, dan Mudah Dipahami,* (Yogyakarta: PUSTAKABARUPRESS, 2014), 65.

[57] Tukiran Taniredja – Hidayati Mustafidah, *Penelitian Kuantitatif (Sebuah Pengantar)*, (Bandung: ALFABETA, 2014), 34.

[58] *Ibid*, 34.

D. **Data and Data Collection Technique**

1. **Data**

According to Noor, data is information received about fact or phenomenon in form of quantitative data (numbers) or qualitative data (words).[59] Data is divided into two parts:

a. **Primary Data**

Primary data is data collected by the researcher himself by using observation, interview, and questionnaire, for example, as tools to get the data.[60] When a researcher observed a population to get data he wanted to analyze, the data as result of the observation is primary data

b. **Secondary Data**

Secondary data is data collected by institution or individual which used by other researcher to be analyzed.[61] For example, a researcher was conducting a study related with students' performance in mechanic class; he used students' data from school in his town. The students' data are secondary data because there was someone who had collected the data and used by other people.

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[59] Juliansyah Noor, *Metodologi Penelitian Skripsi, Tesis, Disertasi, dan Karya Ilmiah,* (Jakarta: Prenadamedia Group, 2011), 137.

[60] Joop J. Hox – Hennie R. Boeije "Data Collection, Primary vs Secondary", *Encyclopedia of Social Measurement* Vol. 1, 2005, 593.

[61] Ibid, 596.

Data used in this research had been gathered from the result of selection test and first semester examination of FLDI by the institution itself; the data served as secondary data as explained.

2. Data Collection Technique

Data collection technique is a way in collecting data, the number of participant in it, and the schedule of execution. Document analysis will be used in this research to collect data needed because this data collection technique is not limited by space and time that ease researcher to know data from previous research.[62] The researcher also had been helped by FLDI teacher to get permission from the institution's officer; FLDI's officer got the data needed for this study at August 2015 and January 2016.

Since the information or data needed by this research in form of document, researcher only needs to collect it from the institution, FLDI. The document mentioned above is students' scores from selection test of the institution held on august 2015 and also from their first semester academic year 2015-2016. Those scores will be taken from the data base of FLDI by permission of its officers of course.

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[62] Juliansyah Noor, *Metodologi Penelitian Skripsi, Tesis, Disertasi, dan Karya Ilmiah,* (Jakarta: Prenadamedia Group, 2011), 141.

E. Research Instrument

As explained, the data used is secondary data which means that the instrument of this research is documentation or document analysis.[63] This kind of instrument let the researcher to use recorded data by previous studies, researches, or results of tests to be analyzed or assessed.

F. Data Analysis Technique

Data analysis technique in this research is a tool in analyzing collected data. The researcher states that there are two variables that need to be correlated in order to know both correlation and draw a conclusion after the analysis process. Those variables are scores of FLDI's "selection test" on August 2015 (variable X) and scores of FLDI's first semester final examination on January 2016 (variable Y).

According to the relation or correlation between variables, Denscombe stated that correlation analysis is the best way to find relationship between scores of FLDI's "selection test" and scores of FLDI's first semester final examination.[64] In case of correlating two variables or more, Pearson Correlation Product Moment is used to analyze the relation of variables mentioned, because this type of correlation analysis is easy to use and a good analysis without considering any influence outside the data.[65] Here is the

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[63] Tukiran Taniredja – Hidayati Mustafidah, *Penelitian Kuantitatif (Sebuah Pengantar)*, (Bandung: ALFABETA, 2014), 51.

[64] Martvn Denscombe, *The Good Research Guide, for Small-Scale Social Research Projects, Fourth Edition*, (England: open university press, 2010), 258.

[65] Donald Ary, et al., *Introdcution To Research In Education,* (USA: Wadsworth, Cengage Learning, 2010), 130.

formula of Pearson correlationk product moment without finding z scores that ease the process of datamnh j, analysis:[66]

$$r = \frac{\sum XY - \frac{(\sum X)(\sum Y)}{N}}{\sqrt{\left(\sum X^2 - \frac{(\sum X)^2}{N}\right)\left(\sum Y^2 - \frac{(\sum Y)^2}{N}\right)}}$$

r	= Pearson r
X	= sum of scores in X distribution
Y	= sum of scores in Y distribution
$X2$	= sum of the squared scores in X distribution
$Y2$	= sum of the squared scores in Y distribution
XY	= sum of products of paired in X and Y scores
N	= number of paired X and Y scores (subjects)

If the sum of the calculation by using the formula is below the significance level (0.05), it means that both variables have significance correlation. But, if the significance of the correlation of the variables is above 0.05, meaning it indicates insignificance correlation between variables.

To ease the researcher's work, SPSS 16 for windows will be used to be the instrument of it. Statistical Package for Social Science or SPSS is an application for Windows (formerly for DOS) that can analyze, and calculating statistical data which is very useful to ease researcher's work. As addition,

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[66] *Ibid,* 130.

Donald Ary, et.al, stated that SPSS is well-known among researchers in doing

data analysis in educational research.[67]

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[67] Ibid, 140.