

Chapter Three

Methodology

This chapter provides the explanation about the research methodology used in this research. This chapter shows the research design, research setting and participants, data collection method, and data analysis. Besides, this chapter explains how the data were analyzed.

Research Design

In this research, the researcher used a quantitative approach. Williams (2007) stated that quantitative approach is to respond a research questions in requiring numerical data. Cresswell (2012) asserted that quantitative research is an analyzing method of statistical procedure by collecting the numerical data to explain, interest, or predict. It means that in a quantitative research the data obtained in the format of numbers, statistic and counting mode. This study also collected numeric data from a large number of people with an instrument. Hence, the appropriate research design for this study was quantitative research design based on the similarities of characteristics between quantitative research design and this study. In this research, quantitative research approach was appropriate because the researcher investigated the correlation between students' achievement and students' TOEFL-like score. Besides that the researcher wants to know the information about the levels of students' achievement and students' TOEFL-like score.

The researcher used correlation design technique to analyze the correlation between students' achievement and students' TOEFL-like score. Correlation

design is statistical test to determine the tendency or pattern for two or more variables or sets of data to vary consistently (Creswell, 2012). The correlation design involved quantitative research which is related to statistic data. Correlation design was suitable for this study as it could describe whether the two or more variables are connected or not.

The researcher employed an explanatory correlation design in this study. The researcher chose an explanatory correlation design because an explanatory correlation design is used to measure whether two variables or more co-vary (Creswell, 2012). Furthermore, the researcher did this study to find out whether students' achievement and students' TOEFL-like score at English Education Department of a private university in Yogyakarta are correlated or not.

Research Setting

This study was conducted at English Language Education Department of a private University in Yogyakarta. The researcher chose this place as the research setting because of two reasons. First, the researcher is studying at English Language Education Department a private university in Yogyakarta, and then it would be easier to collect the data. Second, the samples had joined international language testing class, so it would be easier because the students had experienced in TOEFL. It was because the researcher wanted to find out the students' TOEFL-like score of English Language Education Department a private university in Yogyakarta. Therefore, the researcher collected the data during period of November-December 2017.

Research Population and Sample

The researcher selected the respondents of this study before collecting data. The researcher decided population to determine research sample as representative of research population. Then, the researcher determined number respondents using sampling strategy that suitable with this study in order to obtain reliable research data.

Research population. Population is a group of society in our observation such as individuals, groups, institutions, country. Population is a group of individual units with some community (Cohen, et al., 2011). In this study, the researcher used the whole populations. The populations were all students at ELED of a private university in Yogyakarta batch 2014. The total of student at ELED of a private university in Yogyakarta batch 2014 were 152 students. Then in this study, the researcher narrowed the study into a smaller population, which was a target population. The target population or called sampling is a list of individuals in a population that researcher can reach (Creswell, 2012). The target populations of this study were students at a private university in Yogyakarta batch 2014. The researcher chose students of batch 2014 because they had joined TOEFL class. The researcher took all of the respondents who attended the sixth semester of university students at English Language Education Department of a private University in Yogyakarta batch 2014 as the population. The population of the research consisted of 152 students which were divided into 4 classes, A class, B class, C class, and D class.

Research sample. Creswell (2012) asserted that sample consists of individuals who are going to be studied. The researcher studied all students of ELED of a private university in Yogyakarta batch 2014. The total numbers of batch 2014 students who did key-in in the fourth semester were 132 students of the population as the sample of the study. Therefore, the researcher chose the total sampling because the researcher wanted to get rich data for the research

Research instrument

In collecting the data, the researcher used research instrument to obtain the information that needed by the researcher. Furthermore, research instrument also helped the researcher in order to make job easier. The instrument for data collecting method used score document. The list of score document as the value from the students' achievement and students' TOEFL-like score.

Document. Students' GPA score and students' TOEFL-like score were taken from score document. The researcher used students' GPA score of even six semester. Moreover, the researcher used post-test TOEFL-like score from ILT class because of researcher's time limitation for collecting data. According to Sugiyono (2011), document score refers to document which include all of activities or moments in the past. He also mentioned that document could be formed of written text, picture, or monumental arts from a personal life. Arikunto (2006) mentioned that documentation is looking for or collecting the data which include written text, transcript, books, newspaper, magazine, note, rapport, or agenda. Therefore, this instrument was used to complete the data from pre-existing written document.

Data Collection Method

The researcher collected the required information from the main sources in writing this research. The data collection method was based on the score documentation. The score documentation used the data of GPA and TOEFL-like score.

The researcher conducted this research in four steps. First step the researcher asked for the permission to supervisor, administration staff and lectures from English Language Education Department of a private university in Yogyakarta. After obtaining permission, the researcher existed the data that was extracted from students' cumulative grade point average (GPA) to the administration staff. Then, the third step was to ask for the post-test of TOEFL-like score to lecturers who taught International Language Testing. The last, the reseacher tested the correlation between two variable used SPSS aplication.

Data Analysis

The purposes of this research were to know the correlation between students' achievement and students' TOEFL-like score. The result of scoring was expanded from score documentation. To make an easy measurement for data of score documentation, the researcher identified these data using measurement of SPSS program. Miles (2006) clasified that the statistic data could be measured by SPSS program which consist of frequency, testing reliability, validity, and also includes mean, median and mode.

The first technique was descriptive statistics to describe students' achievement that answered the first and the second research questions. The second

technique was inferential statistic using Pearson Product Moment Correlation (r) that used SPSS program version 20 to find the third research question about the correlation between students' achievement and students' TOEFL-like score.

The first research question about how is the students' achievement at ELED of a private university in Yogyakarta was analyzed using descriptive statistics. According to Cohen, et al., (2011) the researcher will use descriptive statistics to describe and present the data by indicating central tendency (means, modes, medians). Then, the researcher categorized students' achievement into three levels using Supranto's (2000) formula. The formula written as follows:

$$C = \frac{X_n - X_1}{k}$$

Where:

c = The range prediction (class width, class size, class length)

k = The number of class that researcher wants

X_n = The maximum score of variable

X_1 = The minimum score of variable

The maximum score of the data of students' achievement was 3.95, and its minimum score was 1.55. The researcher categorized the level of students' academic achievement into three categories using Supranto's formula (2000).

Then, the categories were good, moderate, and poor. After calculating those score, the result showed that the range score of each category was 0.80. The detail category of students' achievement was as seen in the table below:

In detail, the category of students' achievement was shown as follows:

<i>Table 3</i>	
<i>Category of Students' Achievement</i>	
Scale	Description
3.16-3.96	High
2.36 – 3.16	Moderate
1.55 – 2.35	Low
<i>Supranto's formula (2000).</i>	

In detail, students who have GPA score with the range of 1.55 – 2.35 belong to poor category. Then, the students who have GPA score with the range of 2.36 – 3.16 belong to moderate category. The last, the students who have GPA score which is higher than 3.17 belongs to good category.

Furthermore, the second research question of this research about how is students' TOEFL-like score at ELED of a private university in Yogyakarta was analyzed using descriptive statistics. The researcher described students' TOEFL-like score by seeing the mean, and then the researcher also categorized students' TOEFL-like score into three levels that used Supranto's formula above with minimum score was 363, the maximum score was 603, and interval value was 80. There were low, moderate and high categories.

Table 4	
<i>Category of Students' TOEFL-like score</i>	
Scale	Description
> 523	High
444-523	Moderate
363-443	Low
<i>Supranto's formula (2000).</i>	

The second analysis technique is inferential statistic. Cohen, et al., (2011) asserted that inferential statistics is a research process to find out the outcome based on data gathered. Before it, the researcher tests normality and linearity of the data. Because of this research is explanatory correlation design, the researcher use Pearson Product Moment Correlation (r) to find the correlation between students' achievement and students' TOEFL-like score using SPSS program version 20.

According to Cohen, Manion and Morrison (2011), inferential statistics is research's attempting to find out the outcome based on data gathered. Before it, the researcher tests normality and linearity of the data. Normality test is used whether the participants are from the same proficiency. Moreover, the researcher also tests the linearity of the variables. Test of linearity aims to observe the variables which have a significant linear or not. Furthermore, this research is focused to measure the correlation between university students' achievement and students' TOEFL-like score. Then, the researcher identifies these two variables

using Pearson Product Moment Technique which are correlated at $\rho < 0.05$. The researcher also categorized the coefficient correlation based on Sugiono (2011) stated the following five criteria of correlation level:

0.00 – 0.199	Very Low
0.20 – 0.399	Low
0.40 – 0.599	Moderate
0.60 – 0.799	Strong
0.80 – 1.000	Very Strong

In detail, coefficient correlation with the range of 0.00 – 0.199 belong to very low category. Then, coefficient correlation with the range of 0.20 – 0.399 belong to low category. After that coefficient correlation with the range of 0.40 – 0.599 belong to moderate category. Moreover, coefficient correlation with the range of 0.60 – 0.799 belong to strong category. The last, coefficient correlation with the range of 0.80 – 1.000 belong to very strong category.