Chapter Three

Research Methodology

In this chapter, the researcher presents the research design of this study, the population and sampling where the researcher did the study and who the participants of this study are, the data collection which is used by the researcher use to collect the data, and the data analysis that is used to process the data after it has been collected.

Research Design

Quantitative research was the type of this study because the researcher has to process the numeric data to conclude the result. Ary (2014) stated, "Quantitative research uses objective measurement in a controlled setting to gather numeric data that are used to answer question"(p. 24). This statement emphasized that quantitative was about gathering numerical data for some questions. Hence, another statement which also supported Ary's statement come Creswell. Creswell (1994) explained that quantitative research explains some phenomena by numerical data which were analyzed using mathematical methods. The data in this research was numerical which were pretest and posttest score. Based on those statements, this research was appropriate using quantitative research. Creswell (2012) stated that cause-effect design explained how a variable affects other variable. This research was wants to know the effectiveness of learning ILT toward students' TOEFL score achievement. Therefore, the researcher used cause effect design under quantitative research which was suitable for this research.

Population and Sampling

This study was conducted in UMY (Universitas Muhammadiyah Yogyakarta) which is located at Jl. Lingkar Selatan, Kasihan, Bantul, Yogyakarta. The researcher chose UMY as a place to do this study because the researcher was a student in this university and the objects of this study were also in this university. Thus, these made this research could be finished in a short period of time. In particular, this study was done at EED batch 2013. There was an obligatory subject for sixth semester students at EED UMY. The subject was ILT (International Language Testing). The observation for this study was done by the researcher during joined ILT class which was conducted on February - June 2016. This observation was used to describe the treatment or strategy which was given by the teacher to the students in ILT class clearly. The students who were joining in ILT class were shown below.

Table 1. ILT class students	
Class	Students
A	30
B	35
C	30
D	33
E	23
Total	151

According to Kadam (2010), "sample is a further subset of the target population which we would like to include in the study" (p. 55). The researcher used the population as the sample. In this research, the researcher used Total Population Sampling (TPS) which used the population as the sample, because the population met the criteria as sample. Etikan (2015) explained that TPS is a technique where the population includes the criteria of sample is included being conducted in the research. The criterion for the populations was students who were joining ILT class and also took the pre-test and post-test. The 151 students above belonged to the criterion. So, the researcher used all population data.

Instrument of the Study

The instrument test used in this research was the TOEFL test of LTC (Language Training Center) UMY. The test was TOEFL-like test. This TOEFL test was the own designed by PPB UMY based on the standard of TOEFL test. Skills tested in this TOEFL test were listening comprehension, structure and written expression, and reading comprehension. The listening comprehension section consist of 50 multiple choice questions with its time allocation in 30-40 minutes. In grammar and written comprehension section, there were 40 multiple choice questions and the available time to do this task is 25 minutes. Then reading comprehension section, there were 50 multiple choice questions with its time allocation in 55 minutes. This instrument used for the pre-test and post-test.

Data Collection Method

The researcher used secondary data methods of collecting the data in this research. Salkind (2010) stated secondary data is a data which were collected for other purpose by someone else. The purpose of joining ILT was to improve the

sixth semester students TOEFL scores achievements at EED of UMY in order to achieve the minimum score of TOEFL test. To find out if there was an improvement of TOEFL test score of the students, the ILT's lecturer used the pretest and posttest score as a reference. Pretest was in form of TOEFL test which was done by all students who took these courses. This test was done at LTC of UMY in the second meeting after the holding of a learning contract. While the post-test was in a form of the TOEFL test which was conducted at the end of this course, where students have got treatment to increase TOEFL score during join these courses. In the end of this course, there was posttest which already mentioned above. The researcher used the data of the pretest and posttest that has been done by all students who joining ILT. The data of the pretest and posttest were obtained by the researcher from lecturer of ILT. The researcher asked permission first for using to the lecturer. Then, the researcher and the lecturer made an appointment to give the data.

Data Analysis

The purpose of this research was to find out the sixth semester of students' TOEFL scores achievements and to find out the effectiveness of joining ILT class and students TOEFL test score achievement. Data analysis will be used to achieve all of these purposes by using descriptive statistic with "Table of TOEFL test score category" by Carson (1990) and used inferential statistic with T-Test. In order to analyze the data that has been collected, the researcher conducted a score categorization and T-test.

Score categorization. Score categorization was used to find out the six-semester of students achievements TOEFL scores. Here, the value of pretest and

posttest was categorized into table categorization TOEFL scores. In categorizing, the students' achievement of TOEFL test score was seen after joining ILT. The table of category TOEFL test score is shown as follows:

Table 2. TOEFL score category by Carson (1990)	
TOEFL Score	Category
310 – 420	Elementary
420 – 480	Low Intermediate
480 – 520	High Intermediate
525 – 677	Advanced

T-test. T-test was used to determine whether there is an effect of doing something towards self-skill or not. In this case, T-test was to find out the effect of joining ILT class towards students TOEFL test score achievement. Before calculated the data using T-test, the researcher have to check the normality and homogeneity first. In normality test, the researcher will get significance value of pre-test and post-test. Then the data will be normal if those significance value is higher than 0.05. In homogeneity test, the researcher will get significance value of based on mean, based on median, based on median and with adjusted df, and based on trimmed mean. If the value is higher than 0.05, it means that the variance data of the pre-test and post-test data was homogeneous. After the data was proven normal and homogeneous, so the data are ready analyze in t-test. In t-test the researcher will get the significance value to prove whether the hypothesis is

rejected or not. If the significance value is higher than 0.05 means that the

hypothesis is accepted and if lowest than 0.05 means that hypothesis is rejected.