

## **Chapter Three**

### **Research Methodology**

This chapter presents the methodology used in this study. Firstly, the researcher describes the research method used in the study. Secondly, the researcher explains the time and place that she conducted her study. Thirdly, the researcher mentions the population and sample of the research. Fourthly, the researcher explains the instrument used in the study. Fifthly, the researcher describes the data collection method. Last, the researcher explains the data analysis used in the study.

### **Research Design**

This research tried to find out the effect of TOEFL Preparation Course on Students' TOEFL Score Achievement at the Language Training Center (LTC) of Universitas Muhammadiyah Yogyakarta (UMY). The researcher chose quantitative design as her research design because the quantitative design collects statistical data from a large group of people using instruments with present questions and responses (Creswell, 2012). This statement is also in line with the idea from (Ary, et al., 2013) who stated that quantitative research uses objective measurement in a control setting to gather numerical data in order to answer question. From those references, the researcher concluded that a quantitative research design is a research design which generates numerical data or information in order to be converted into numbers. Because this research attempted to find out the specific value of how one variable affects the other variable by analyzing numerical data which present students' TOEFL pre-test

score and TOEFL post –test score so that quantitative design was suitable to be the research design in this study.

A method under quantitative research design which was appropriate and effective to determine whether one variable may have influenced another variable is cause-effect design. This research design explains how a variable affects other variable (Creswell, 2012). By choosing this research design, the researcher collected and analyzed the data statistically from the students' TOEFL pre-test score and TOEFL post –test score to find out the effect of TOEFL preparation course on students' TOEFL score achievement.

### **Research Setting**

This research was conducted at the Language Training Center (LTC) of Universitas Muhammadiyah Yogyakarta (UMY) in March 2017. The LTC of UMY became the research setting because it provided a TOEFL preparation course for students who wanted to prepare their TOEFL test. This course gave test-taking strategies that students can learn and practice to prepare them for their TOEFL test. The researcher conducted the research not only because TOEFL preparation course was one of the variables of this study but also because the researcher wanted to know how TOEFL preparation course at the LTC of UMY succeeds in improving students' TOEFL score. Besides, the LTC of UMY has been conducting the TOEFL preparation course for long time and has not been investigated yet about its implementation. Moreover, there have been many students from many majors joining the TOEFL preparation course so that the researcher could gain many data to be investigated from this course.

## **Research Population and Sample**

**Research population.** A population is a group of individual units with some community (Cohen, et al., 2011). It means that a population is a collection of individuals or objects that have a common and binding characteristic or trait. The students of TOEFL preparation at the LTC of UMY were not only undergraduate students but also postgraduate students and lecturers. Therefore, the research population in this study was all students and lecturers of UMY who have joined a TOEFL preparation course at the LTC of UMY.

**Research sample.** The sample is a smaller group or subset of the total population and it is selected using certain criteria (Cohen, et al., 2011). It is also a further part of the target population in which the researcher collects and analyzes to make inferences to the study (Prashant, 2010). The sample in this study was taken by using purpose sampling in collecting the sample. Purposive sampling is a sampling technique with certain consideration (Cohen, et al., 2011). The selection of a group of subjects in a purposive sampling based on certain characteristics seemed to have bearing on closely with the characteristics of the population that is already known in advance. In other words, the sample unit contacted adapted to certain criteria applied based on objective research.

There were some criteria applied based on the objectives of this research. First, as TOEFL preparation course has been conducted for many years, the research only took the data sample from the last two years, from February 2015 to February 2017. Second, because there were many classes that have the different number of meetings of the TOEFL preparation course, the researcher only took

the class which had 16 meetings. Third, since the ones who joined the TOEFL preparation course were not only undergraduate students but also postgraduate students and lecturers of UMY, the researcher specified the sample. The sample used in this research was only the undergraduate students because the number of undergraduate students who joined the TOEFL preparation course was greater than the number of postgraduate students and lecturers so that the researcher could get many data. Fourth, because the research was to find out the effect of joining a TOEFL preparation course, the sample used in this study was the students who joined either pre-test or post-test. Therefore, from those reasons, the researcher got 170 students who could be the sample of this research.

### **Instrument of the Research**

The instrument is a tool for collecting the data that plays very significant part in a research. In this research, the researcher used documentation to gather the data. Sugiono (2009) stated that documentation is a data collection technique which presents information and records an event that has already passed. The form of documentation can be texts, images, notes, transcripts, books, newspapers, magazines, inscriptions, minutes of a meeting, agenda, and others (Aritkunto, 2010). The data taken from the Language Training Center (LTC) of UMY were in soft copy and hard copy with the approval by the superior of the LTC of UMY. The researcher used the documents as a tool to gather the data of students' TOEFL score in pre-test and post-test that the researcher needed to investigate. The TOEFL scores were the result of students' TOEFL-like test that had been conducted by the LTC of UMY.

Indeed, the researcher only used the data of students who joined TOEFL preparation course during the last two years. It consisted of a list of respondents' names, major, TOEFL score of pre-test and post-test. The researcher got the data from administration staffs at the LTC of UMY.

### **Data Collection Method**

Data collection method is used to collect information that is then analyzed and interpreted. To gather the data, this research employed secondary data method. Salkind (2010) defined secondary data as data collected for other purposes by somebody else. The secondary data collection was conducted by collecting information of students' TOEFL score joining the TOEFL preparation course. Since the purpose of this study was to investigate the effect of joining the TOEFL preparation course on students' TOEFL score achievement, the researcher just took the data of TOEFL test that had already been conducted at the LTC of UMY instead of doing an experiment in collecting the data.

The collected data were the TOEFL pre-test and TOEFL post-test conducted by the LTC of UMY as parts of the TOEFL course. The TOEFL pre-test was given to the students in the first meeting to measure the students' TOEFL score before they were given some treatments in the TOEFL preparation course at the LTC of UMY. While the post-test was given in the last meeting in order to measure the students' TOEFL scores after the treatments.

The researcher's procedure to collect the data was described in several steps. First, the researcher asked permission to the superior of the LTC of UMY to conduct the research. Second, after obtaining the permission, the researcher began

to visit any staff at the LTC of UMY who was responsible for the storage and the TOEFL course data processing. Third, the researcher took the soft-copy data containing pre-test and post-test score. Then, the researcher checked the soft-copy for analysis with hard-copy data that contained the attendance list of student courses and also the number of its meetings. All were done to obtain accurate and relevant data required in this research. Indeed, the researcher got data of 170 students.

### **Data Analysis**

The purposes of this research were to know the students' TOEFL score achievement and to know the effect of joining TOEFL preparation course on students' TOEFL score. This data was analyzed by comparing the means of pre-test score and post-test score, using paired the T-test, checking the normality and homogeneity, and calculating the effect size between the pre-test score and post-test score. By comparing the means, the researcher identified the differences between the students' pre-test score and post-test score after joining the TOEFL preparation course. The researcher also analyzed the data by using paired T-test to ensure the hypothesis of this research. Then, the calculation of the effect size determined the results of joining TOEFL preparation course toward students' TOEFL score.

In addition, the researcher employed descriptive statistic to answer the first research question. The "Level of Proficiency" by Sabarun (2012) was also used in this research to categorize students' TOEFL score. To answer the second research question, the researcher used inferential statistics. Inferential statistic was

used to inference and predict based on the data gathered (Cohen, et al., 2011). The effect of joining TOEFL preparation course through students' TOEFL score was investigated through comparing between pre-test score and post-test score. T-tests were employed for the mean score comparison. SPSS software which applies the statistical formula and carries out computations was used in the process of analyzing the data.

To analyze the collected data, the researcher conducted a TOEFL proficiency level and T-test.

***Level of Proficiency.*** TOEFL level of proficiency was used as a reflection of the students score. It is also to measure how far students achieve the score. The table of TOEFL proficiency level description is shown as follows:

<b>Table 3.1</b>	
<b><i>TOEFL proficiency level</i></b>	
Score	Grade
> 550	Advance
501- 550	Pre-Advanced
426- 500	Post-intermediate
351- 425	Intermediate
200- 350	Pre-intermediate
< 200	Elementary
<i>Source: Sabarun (2012)</i>	

**T-test**. T-test was used to determine whether there is a statistically significant difference between the means of two groups (Cohen, et al., 2011). The researcher employed paired T-test to ensure the hypothesis of this research. In this case, the two tested groups were students' TOEFL pre-test and post-test score. The formula of the effect size that was used to calculate a statistic as written as follows:

$$\begin{aligned}
 r &= \sqrt{\frac{t^2}{t^2 + df}} \\
 &= \sqrt{\frac{13.593^2}{13.593^2 + 169}} \\
 &= \sqrt{\frac{184.77}{353.77}} \\
 &= \sqrt{0.522} \\
 &= 0.72
 \end{aligned}$$

Notes:

r = effect size,

t = t-value,

df = degree of freedom