Chapter Three

Methodology

This chapter consists of four parts. Those are research design, population and sample, data collection method and techniques of data analysis. Research design explains about the method and the design that was used in this research. The researcher also explains the reason for choosing those methods. Then in the population and sample, the researcher shows the participants in this study. After that, the researcher explains the method that was used to collect the data. At the end, this chapter also explains about the technique in analyzing the data.

Research Design

The researcher used a quantitative method and based on Creswell (2012), "quantitative method identified a research problem based on trends in the field or in the need to explain why something occurs" (p.13). The research problems in this study were about teacher leadership at EED of UMY and its relation to the students' learning achievement at EED of UMY. In order to know the relation between those variables, the researcher used correlational design and based on Creswell (2012), "the correlation design demands the researcher to measure the degree of association or relation between two or more variables using the statistical procedure of correlational analysis" (p.21). Anderson and Keith (1997) also stated that correlational design will allow the researcher to predict an outcome. The researcher predicted an outcome because there was a relation between teacher leadership and students' learning achievement at EED of UMY. After the researcher saw the correlation, the researcher checked the correlation

coefficient that provided meaningful information about the strength of association between two variables.

Research Setting

This study was conducted at English Education Department of UMY. The researcher chose English Education Department because the researcher wanted to check the degree of teacher leadership at EED of UMY and its relation with students' learning achievement. Then, this study wanted to share the importance of teacher leadership for all students at EED of UMY because the students at EED of UMY were taught to be a teacher in the future. If it starts from now, they already understand the importance of teacher leadership. When they become teachers, they will be teachers who have leadership skill. They also can influence the others to influence their students' learning achievement. The last reason was the researcher still study at EED of UMY too, so it was easier for her to collect the data.

This study was conducted on July 2017. The researcher starts to collect the data through questionnaire on July 11, 2017. Then after a few days, the researcher got all of the data. After completing the data, the researcher starts to analyze the data and finished the research at the end of July 2017.

Sample and Population of the Study

In this research, the researcher chose the population of this study. From those people in a population, the researcher used a sampling technique to choose the sample or the respondent. The sample was useful to get the information for this research.

Population. According to Creswell (2012) population is the group that consists of individuals who have one characteristic that can differentiate them from the other groups. The populations of this research were 151 students' batch 2014. They were selected to be the population in this study because they fulfill all of the characteristics that the researcher needed. Those characteristics were engaged in English Education Department of UMY more than three years and accessible to collect the data. They should engaged in EED of UMY more than three years so they more understand about their teachers' characteristics and their teachers' teaching style. Students' batch 2015 and 2016 were not selected because they were not engaged in EED of UMY more than three years. In addition, students' batch 2011, 2012 and 2013 were not accessible to collect the data because most of them already graduate from EED of UMY.

Sample. In order to choose the sample, the researcher used probability sampling. In probability sampling, people in the population have the same chance to be a sample. The researcher used simple random sampling to choose the sample. Before it, the researcher determined the sample size using formula from Notoadmodjo (2010), which is:

$$n = \frac{N}{1 + N.d^2} = \frac{151}{1 + 151.(0.1)^2} = 60$$

n   = Large sample

N   = Large population

d   = level of confidence / accuracy desire (0.1)

Based on the formula, the sample size of this study was 60 students at English Education Department of UMY batch 2014. Because of that the minimum sample of this was 60 but when the researcher distributes the questionnaire, the researcher got 62 respondents, so the samples of this study were 62 students at EED of UMY batch 2014.

Data Collection Method and Procedures

Data collection method in this study used questionnaire and grade-point average (GPA) document. The questionnaire is used to collect the data about teacher leadership at EED of UMY. Then, GPA was used to know students' learning achievement at EED of UMY.

Questionnaire. In order to collect the data about teacher leadership, the researcher was used questionnaire. The questionnaire as the research instruments in this study was based on the Kentucky Teacher Leadership Framework (2015). The mission of Kentucky Teacher Leadership Framework was elevating teachers as an expert and leader in and beyond the classroom. Kentucky Teacher Leadership Framework wants teachers to be teachers who have leadership skills so they can transform their classrooms and their schools, activate teacher growth and achieve equity and excellence for students. Based on that mission, the framework was about describing a set of dispositions, core beliefs, knowledge base, requisite skills and unique roles for teachers in teacher leadership. The researcher took requisite skill and unique roles for teachers and put it as the statement in the questionnaire to check the teacher leadership at EED of UMY.

The questionnaire used Indonesian language to help respondents understand each statement in this questionnaire. In this study, the researcher used

closed and direct questionnaire. According to Arikunto (2010), closed

questionnaire is "a questionnaire that has provided the answer, so that the

respondents only choose the answer" (p.195). Then, "Direct questionnaire is

respondent answer about themselves" (Aritkunto, 2010, p.195). It means that the

respondents only answer the questions with the provided answer. Each item in

this questionnaires use 4 rating scale which were Strongly Agree (SA), Agree (A),

Disagree (D) and Strongly Disagree (SD). The score criteria of questionnaire

items were as follow:

Table 2

Items Scoring

Options	Value
Agree (A)	4
Strongly Agree (SA)	3
Disagree (D)	2
Strongly Disagree (SD)	1

The researcher distributes the questionnaire used "Google Form" to

students' batch 2014. This research used "Google Form" because it was easier for

the researcher to collect the data from students' batch 2014. Through the

questionnaire, the respondents were asked to fill the questionnaire about their

opinion about teacher leadership at EED of UMY. The researcher distributed the

questionnaires on July 2017. The questionnaire was shared to several group of

students' batch 2014 and after distributes the questionnaire, this research got 62 respondents as the sample of the study.

Document. In order to collect the data about the students' grade point average (GPA), the researcher asked the respondents to fill their GPA in the questionnaire. Then, the researcheralsoaskedthe GPA' document from EED officeto make sure the data.

Validity. After the researcher made the questionnaire, the researcher checked the instrument validity. This was important to know whether the instrument is valid or not because based on Cohen et al,. (2011), "Validity is an important key to effective research" (p.179). In order to know the validity, the researcher consulted every item in the questionnaire with the expert, it was called expert judgments. Expert judgments were designed to get score and advice from an expert for every item in the questionnaire. There are two experts. The expert gives a score of the compatibility of every item with the research purposes, theory, and the language aspects. **.**

After the researchers obtained the score from the expert, the researcher found the content validity by using Aikens' V formula as follows:

$V = \Sigma S / (n(c-1))$

$S = R - l0$

V = Index of content validity

lo = Minimum validity score

c = Maximum validity score

R = Experts' score

Based on Aikens' V formula (Gregory, 2007), if the index of the items (V) is less than 0.4 (V < 0.4), the item is invalid. On the other hand, if the index of the items (V) is higher than 0.4 (V> 0.4), the items is valid. The results of the content validity using Aikens' V formula are presented below:

Table 3

The results of content validity

Items	V	Statement	Items	V	Statement
Item 1	1	Valid	Item 12	1	Valid
Item 2	1	Valid	Item 13	1	Valid
Item 3	1	Valid	Item 14	1	Valid
Item 4	1	Valid	Item 15	1	Valid
Item 5	1	Valid	Item 16	1	Valid
Item 6	1	Valid	Item 17	0.3	Invalid
Item 7	0.3	Invalid	Item 18	1	Valid
Item 8	1	Valid	Item 19	1	Valid
Item 9	1	Valid	Item 20	1	Valid
Item 10	1	Valid	Item 21	1	Valid
Items 11	0.8	Valid	Item 22	1	Valid

Based on the table, from 22 item questionnaire, 20 items were declared valid. Then, two items number 7 and 17 were declared invalid. Based on the results, the researcher eliminated the invalid items. So, the questionnaire of this research consists of 20 items.

Reliability. Reliability was used to check the items are reliable or credible to be used in a research or not. In order to find out the reliability, the data was analyzed the data using Cronbach Alpha. The data or the research instrument was reliable if the Cronbach alpha coefficient is higher than or equal to 0.60 (Sekaran, 2006). After that, according to Sekaran (2006), there were three levels of reliability which are:

Table 4

Reliability Criteria

The Criteria of Reliability (if alpha)	
Category	Score
0.8 – 1.0	Good
0.6 – 0.799	Reliability is received
< 0.6	Not Good

After the researcher analyzed the data, the result is presented below:

Table 5

Reliability Statistics

Cronbach's Alpha	N of Items
.900	20

Based on the table above, the cronbach alpha was 0.900 which is higher than 0.600 ($\alpha > 0.600$). Thus, the questionnaire of this research was reliable and based on the criteria of reliability it was included in good criteria.

Data Analysis

In data analysis, there are two types of analysis that were used. This research used descriptive statistics and inferential statistics. In descriptive statistics, the researcher checks the frequencies. Moreover, Creswell (2012) argued that "descriptive statistic indicate general tendencies in the data (mean, minimum, maximum), the spread of scores (variance and range)" (p.182). Descriptive statistics were used to answer the research questions about "How is the teacher leadership and the students' achievement at English Education Department".

After the descriptive statistic, the researcher also did the inferential statistics. In the inferential statistics, there was the assumption of normality that should be checked. Normality was used to know the data of each variable was normal or not. From the normality test, if the sig was greater than 0.05, it means that the data was normal. Whereas, if the sig was less than 0.05, it means that the data was not normal. After the researcher checked the normality, the researcher applied Pearson Product Moment in SPSS to correlate between the two variables. There was standard guideline to measure the strength of association between two variables as showed below (Cohen &Manion, 1994; Creswell, 2012).

Table 6

Correlational Score Table

Value	Description
0.00– 0.20	Very Low
0.21 – 0.35	Low
0.36 – 0.65	Moderate
0.66 – 0.85	Strong
0.86 – 1.00	Very Strong