

## **Chapter Three**

### **Methodology**

This chapter consists of methodology that is used in this research. This chapter also explains the design that researcher chooses for this research. In addition, the population and sample in this chapter shows the subject in this research. Moreover, this chapter tells the setting of the research. In addition, data collection method is explained to show the method that researcher used to collect the data. Lastly, this chapter reveals the data analysis. So, chapter three covers the methodology, research design, population and sample, setting, data collection method and data analysis.

#### **Research Design**

Quantitative research approach was used in this study. Quantitative research is appropriate for testing objective theories by examining the relationship among variables (Creswell, 2012). Another definition about quantitative research is stated by Abawi (2008). He mentioned that quantitative research is a process of inquiry based on testing a theory composed of variables, measured with numbers, and analyzed using statistical technique. The goal is to determine whether the predictive generalization of a theory hold true. In quantitative research method, the researcher should remain distant and independent of what is being researched. Based on the Creswell (2012), some quantitative research problems require that the researcher explains how one variable affects another by explaining a relation among variables to determine whether one or more variables might influence other variables. Since the aim of this research is to examine the relationship

between two variables, students' learning motivation and students' reading attitude, quantitative research design is appropriate to find the research questions.

This research used correlation research design. According to Creswell (2012), "A correlation is a statistical test to determine the tendency or pattern for two (or more) variables or two sets of data to vary consistently" (p. 338).

Correlation research design is suitable for this research because this study was conducted to know the correlation between two variables. The two variables are students' motivation as independent variable and students' reading attitude as dependent variable. Both of those variables involve and influence each other.

### **Research Population and Sample**

**Population.** Population can be called as general location which include object who have characteristic which is suitable with the study (Cohen, Manion, & Morrison, 2011). Population also means the whole of subject. This research was conducted at English Education Department of Universitas Muhammadiyah Yogyakarta. The reason for choosing EED of UMY is because there are reading courses at EED UMY such as basic reading and writing, academic reading and writing, and reading and writing for career development. In addition, EED UMY was chosen because it is accessible since the researcher studies in that department, so the researcher can be easier to collect the data.

The purposed population was students of English Education Department batch 2017. The reason of choosing batch 2017 was because they are the newest at EED UMY and have lack of experiences in reading English at EED UMY than another batch (2016, 2015 and 2014). It means that they are not familiar yet with

the studying system in EED UMY. The researcher assumes that several of the students came not only from language major but also from different major at their senior high school. Choosing English course for their undergraduate indicates that they have motivation either from the environment or from them self. Furthermore, the total numbers of students' batch 2017 are 222 students in six different classes.

**Sample.** “A sample is a subset of the individuals in a population, there is typically data available for individuals in sample” (Hanlon & Larget, 2011, p. 7). The researcher used simple random sampling as the sample strategy. In simple random sampling, “each member of the population under the study has an equal chance of being selected and the probability member of the population being selected is unaffected by the selection of other members of the population” (Cohen, Manion, & Morrison, 2011, p. 153). It means that each member of the population has the same probability of being selected as the sample. The reason of using this technique is the population under the research has an equal chance of being selected to participate in this research. In the other words, the researcher only chooses who ever from the population to be the sample. On the other hand, according to table sample size, confidence levels and confidence intervals for random samples (Cohen, Manion, & Morrison, 2011) with 222 population size, confidence level 95% and confidence interval 5% obtained 132 students as the minimum sample. So the minimum samples in this research are 132 students of EED UMY batch 2017. Therefore, after distributed the questionnaire to the respondent the researcher earned 136 data. So, there were 136 students of EED UMY were selected as the respondents of this research.

### **Data Collection Method**

To find out the correlation between students' motivation and students' reading attitude at EED UMY, the researcher collected the data using questionnaire. The questionnaire was self-administered. It means the researcher distributed the questionnaire to the respondents directly (face to face). Firstly, the researcher asked lectures permission to come in her/him class to distribute the questionnaire. After getting the lecture permission, the researcher came in to the class to greet, give instruction and give the questionnaire to the respondents. After the respondents finished filling the questionnaire, the researcher said thank you to the respondents and lecturer then left the class.

### **Research Instrument**

**Questionnaire.** The research instrument to collect the data in this study was questionnaire. According to Cohen, Manion, and Marison (2011), questionnaire is useful instrument to collect survey information, providing structured, often numerical data, and usually can be to the point to analyse the data. In addition, the type of questionnaire used in this research was four point Likert type scale. This research consists two parts questionnaire. The first parts of the questionnaire were adopted from Agustrianty, Cahyono and Laksmi (2016) entitle Indonesian EFL Students' Motivation in English Learning and Their Literacy Skills Across Gender. The researcher took 25 questions and translated those questions into Indonesian language to make it easier for the respondents to understand. The questionnaire consists mainly of closed ended questions. It means the respondents only choose the best one on the items which is suitable with the

answer. In addition, the questionnaires are based on the indicators of intrinsic and extrinsic motivation. The researcher used following scale in the questionnaire.

1= Strongly Agree (SA)

2= Agree (A)

3= Disagree (D)

4= Strongly Disagree (SD)

The second part of the questionnaire was adopted from a paper written by Annamalai and Muniandy (2013) which entitled is Reading Habit and Attitude among Malaysian Polytechnic Students. The questionnaire consists of 15 questions which are closed ended questions. The similar to the first part of the questionnaire, the second part also used four point likert type scales. In addition, this questionnaire has three categories which are reading activity and enjoyment, anxiety and difficulty, and modality. Additionally, Annamalai and Muniardi (2013) adopted the questionnaire for their research from the research conducted by Smith (1991) namely Adult Survey of Reading Attitude (ASRA). In addition, all the instrument can be seen in the appendices.

1= Strongly Agree (SA)

2= Agree (A)

3= Disagree (D)

4= Strongly Disagree (SD)

**Validity.** To make sure the validity of the questionnaire, the researcher used expert judgment. Expert judgment means that the researcher asked for two lecturers of EED UMY to check the content validity and readability. Expert judgments check whether the questions suitable with the research, and also check

the grammatical errors. To be able to measure whether the index agreement validity can be used among the others index, here is the formula of validity used in this research as the measurement (Retnawati, 2016) :

$$V = \frac{\sum s}{n(c-1)}$$

V= rater agreement index of the validity items

S = scores determined each rater subtracted with the lowest scores

n = number of rate

c = number of categories

The criteria validity of the instrument is:

Table 3.1 <i>The criteria of validity according to Aiken</i>	
Score V value	Criteria
>0.8	High validity
0.4-0.8	Valid
<0.4	Low validity

Table 3.1 showed that instrument item is high validity if the V value is higher than 0.8. Then the instrument is valid if the V of value is 0.4-0.8. Moreover the instrument is low validity if the V value is lower than 0.4. If the V value is lower than 0.4, so the question item will not be used and will be deleted. Then, validity of items questionnaire would be shown in the following table:

Table 3.2 <i>The validity result of rating score for students' motivation in learning English language</i>					
	Rater 1	Rater 2	Total	Validity	Category
Q1	4	4	8	1	Valid
Q2	4	4	8	1	Valid
Q3	4	4	8	1	Valid

Table 3.2 *The validity result of rating score for students' motivation in learning English language*

	Rater 1	Rater 2	Total	Validity	Category
Q4	4	4	8	1	Valid
Q5	4	4	8	1	Valid
Q6	4	4	8	1	Valid
Q7	4	3	7	0.8	Valid
Q8	3	4	7	0.8	Valid
Q9	3	4	7	0.8	Valid
Q10	4	4	8	1	Valid
Q11	4	4	8	1	Valid
Q12	4	4	8	1	Valid
Q13	4	4	8	1	Valid
Q14	4	4	8	1	Valid
Q15	4	4	8	1	Valid
Q16	4	4	8	1	Valid
Q17	4	4	8	1	Valid
Q18	4	4	8	1	Valid
Q19	4	4	8	1	Valid
Q20	3	4	7	0.8	Valid
Q21	4	4	8	1	Valid
Q22	1	4	5	0.5	Valid
Q23	2	4	6	0.6	Valid
Q24	4	4	8	1	Valid
Q25	4	4	8	1	Valid

Table 3.2 showed the validity index of 25 items. The validity index was 0.4 to 0.8 and 0.8 to 1.0. So, the validity index of items were valid and high. In the other words, the items were valid to use for this research.

Table 3.3 <i>The validity result of rating score for students' reading attitude</i>					
	Rater 1	Rater 2	Total	Validity	Category
Q1	4	4	8	1	Valid
Q2	4	4	8	1	Valid
Q3	4	4	8	1	Valid
Q4	4	4	8	1	Valid
Q5	4	4	8	1	Valid
Q6	4	4	8	1	Valid
Q7	3	4	7	0.8	Valid
Q8	1	4	5	0.5	Valid
Q9	4	1	5	0.5	Valid
Q10	4	3	7	0.5	Valid
Q11	4	3	7	0.8	Valid
Q12	4	3	7	0.8	Valid
Q13	4	3	7	0.8	Valid
Q14	4	4	8	1	Valid
Q15	4	1	5	0.5	Valid

Table 3.3 showed the validity index of 15 items. The validity index was 0.4 to 0.8 and 0.8 to 1.0. So, the validity index of items were valid and high. However, for some reasons the question number 9 and 15 were not used, because those numbers have similar meaning with other question and were not used in this



research. Therefore, among 15 items, this research only used 13 items which were categorized as valid item.

**Reliability.** Reliability was the stability of the test score. All of items in the questionnaire will be tested to prove the reliability. An alternative calculation of reliability can be found in cronbach's alpha. "The cronbach alpha provides a coefficient of inter item correlation. It is to calculate the average of all possible split half reliability coefficients" (Cohen, Manion, & Morrison, 2011, p. 640). The formula for alpha is:

$$\alpha = \frac{nr_{ii}}{1+(n-1)r_{ii}}$$

n=the number of items.

Here is the split half coefficient and the alpha coefficient that can be used according to Cohen, Manison, and Marrison (2011, p. 640):

Table 3.4 <i>The criteria of Reliability of Cronbach's Alpha</i>	
Cronbach's Alpha	Criteria
>0.90	Very high reliable
0.80-0.90	High reliable
0.70-0.79	Reliable
0.60-0.69	Low reliable
<0.60	Very low reliable (unacceptable)

In this research, there were 38 items of questionnaire that were distributed to 136 respondents. Then, the interval of Cronbach's Alpha of the questionnaire's items was 0.860 which means that the questionnaire's items were high reliable. Therefore, the reliability of items was in highly reliable criteria.

### Reliability Statistics

Cronbach's Alpha	N of Items
,860	38

**Normality.** Before analysing the correlation between students' motivation in learning English and their reading attitude at EED of UMY, the normality test was done. Thode (2002) defined that normality test is one of the most common assumption made in the development and use of statistical procedures. To know the normality, the researcher used One Sample-Kolmogorov-Smirnov test with SPSS. The significance value of the instrument is 0.05 ( $\alpha=5\%$ ). The normality test was used to know whether the distribution of the data normal or abnormal. The data are normal if the number of questionnaires given to each stratum applies proportionally to the number of subjects on each stratum (Hartono, 2008). So, the distribution of the data would be normal if the data significant was higher than 0.05.

### One-Sample Kolmogorov-Smirnov Test

Table 3.5 One-Sample Kolmogorov-Smirnov Test for Normality			
		Students' motivation in learning English language	Students' reading attitude
N		136	136
Normal Parameters(a,b)	Mean	2.94	2.82
	Std. Deviation	.311	.422
Most Extreme Differences	Absolute	.061	.085
	Positive	.061	.085
	Negative	-.054	-.055
Kolmogorov-Smirnov Z		.715	.989
Asymp. Sig. (2-tailed)		.685	.282

a. Test distribution is Normal.

b. Calculated from data.

Table 3.5 showed the normality test of students' motivation in learning English language and students' reading attitude at EED of UMY. The Kolmogorov-Smirnov Z and the significant of the two variables were 0.715 and 0.989 and 0.685 and 0.282. This means that the Kolmogorov-Smirnov Z and the significant of the two variables higher than 0.05. In the other word, the distribution of the data was normal.

### **Data Analysis**

This research has three research questions. The first question is "how is the students' motivation at EED UMY", the second question is "how is students' reading attitude at EED of UMY", and the third question "is there any significant correlation between students' motivation and students' reading attitude at EED UMY". There were two types of data analysis for quantitative design used in this study. There were descriptive statistic and inferential statistic.

To answer research question number one, which is "how is the students' motivation at EED UMY" descriptive statistic was used. Descriptive statistic is used to determine the frequencies, central tendency (mean, median, and modes), and dispersal (standard deviation and range) (Cohen, Manion, & Morrison, 2011). In addition, this research also provides the class length of the class. According to Supranto (2006), class length will show the class interval. The researcher categorized the class length as the following:

$$c = \frac{X_n - X_1}{K} \longrightarrow c = \frac{4-1}{3} = 1$$

c= assumption the number of (class width, class size, class length)

k= the number of class

X<sub>n</sub>= maximal observation value

X1= minimal observation value

Table 3.6 <i>Category of students' motivation in learning English</i>	
Interval	Category
3.1 – 4	High
2.1 – 3	Moderate
1 – 2	Low

Table 3.6 showed the interval and the category of students' motivation in learning English. Students' motivation in learning English will be categorized as low if the interval is 1 – 2. Next it will be categorized as moderate if the interval is 2.1 – 3. The last, students' motivation in learning English will be in the category high if the interval class is 3.1 – 4. Based on these intervals and category, the researcher can recognize the level of students' motivation in learning English.

To answer the research question number two, which is “how is students' reading attitude at EED of UMY” descriptive statistic was used as same as the first question. The class length of reading attitude can be seen below:

Table 3.7 <i>Category of students' reading attitude</i>	
Interval	Category
2.51 – 4	Positive
1 – 2.50	Negative

Table 3.7 showed the categories and the interval of students' reading attitude. The first interval is 2.51 to 4. Students' reading attitude in this interval was in positive categories. The second interval is 1 to 2.50. This means students' reading attitude was in categories negative. Thus, these categories and intervals showed the level of students' reading attitude.

Then to answer the last question, which is “is there any significant correlation between students' motivation and students' reading attitude at EED

UMY” inferential statistic was used. Inferential statistic is used to measure the hypothesis whether the hypothesis is accepted or rejected (Creswell, 2012).

Furthermore, this research used formula by Pearson Product Moment to measure variable of X and Y ( (Sugiyono, 2012, p. 228)

$$r_{xy} = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$r_{xy}$  = coefficient correlation between variable x and y

$\sum XY$  = the sum of the product of paired X-Y-scores

“R is symbolized of correlation and the level of correlation stated number between -1 and +1. If  $r = -1$ , the both of variables have correlation but negative, if  $r = +1$ , the both of variables have correlation but positive, and if  $r = 0$ , the both of variables have not correlation” (Latief, 2010, p. 111). Categories of the correlation of both of variables can be seen in the table below according to Sugiyono (2012):

Table 3.8 <i>The Correlation Coefficient</i>	
Value of Interval	Correlation
0.00 – 0.199	Very low
0.20 – 0.399	Low
0.40 – 0.599	Enough
0.60 – 0.799	High
0.80 – 1.00	Very high

Table 3.8 presents the range score of correlation coefficient. The interval value was divided into five categories. First category is very low correlation which is included the range score around 0.00 to 0.199. Secondly, range score 0.20 to 0.399 are included into low correlation. Third, 0.40 to 0.599 are included into enough correlation. Fourth, 0.60 to 0.799 are included into high correlation. The last, 0.80 to 1.00 are categorized as very high correlation.