Chapter Three

Research Methodology

This chapter discusses how the research was conducted and the data was gathered. In addition, this chapter discusses research design, research setting, research population, sample and sampling technique, data collection technique, data collection procedure, and data analysis. Research design discusses type of research design used in this research. Research setting presents where and when the researcher was conducted. Research population presents the target population. Research sample mentions and explains the sampling technique used by the researcher. Data collection technique presents the instrument used in this research. Data collection procedure presents how the researcher was administer the questionnaire. The validity and reliability also included in this chapter. In data analysis, the researcher explains steps on how to analyse the data.

Research Design

The purpose of this research are to find out the level of reading interest, to discover the difficulties in reading English texts, and to investigate the correlation between reading interest and difficulties in reading English texts. Based on the purposes of the research, this research used quantitative method. The quantitative method used for describing a research problem through description issues. Describing a trend means that the researcher can answer the research problem after doing research which the researcher seeks to establish the overall tendency of responses. According to Creswell (2012), in quantitative research, the

researcher classifies a research problem based on trends in the field. The structure of final report consists of introduction, literature, method, result, and discussion (Creswell, 2008).

In addition, this research used descriptive statistics and correlation design. The descriptive statistics used to answer the first and second research questions. The first research question about the students' level of students' reading interest in reading English texts. The second research question about the level of students' reading difficulty in reading English texts. This research. Jackson (2009) stated that descriptive design describes situation without making accurate prediction and determining cause and effect. In addition, the correlational design used to answer the third research questions of this research. The third research question about the correlation between EFL students' reading interest and difficulty level in reading English texts. According to Creswell (2012), the researcher used the correlation design to describe the correlation or association between two or more variables in the correlation research design. The type of correlational design used explanatory research design. Creswell (2012) argued that the explanatory design consists of a simple association between two variables or more than two.

Research Setting

This research was conducted at English Language Education Department of one private university in Yogyakarta. There are two reasons why the researcher chooses this department as a research setting. The first reason is because the students are required to read a lot of book. The book is related to the theory of

education where the language is a little complicated for students. This happens because some students feel unfamiliar with the words or language style. The last reason is related to the researcher's convenience, because the researcher is a student in this university.

Research Population and Sample

The research population of this research is students of English Language Education Department at one private university in Yogyakarta batch 2016. The total populations of students' batch 2016 are 94 students. The researcher selected students batch 2016, because the students have experience to read lot of textbook in English in reading English textbook during their study time at ELED of one private university in Yogyakarta.

In conducting this research, the researcher used total sample. Therefore, the total sample in this research is 94 respondents. Thus, all of the student's batch 2016 as the respondents in this research. This type of sample method is carried out by giving equal opportunities to all elements or member to be selected as sample or respondents. According to Arikunto (2006) the total sampling is sampling that is equal to the number of the population.

Data Collection Technique

The data collection technique of this research is questionnaire. According to Wilson and Mc Lean (1994) cited in Cohen et al(2011), questionnaire is a

useful tool for collecting data information, numerical data, providing structured, can be carried out without the presence of the researcher, and easy to analyse.

The type of questionnaire used structured questionnaire. The questionnaire consists of two parts. The first questionnaire about students' interest in reading English texts. The second questionnaire about the level of difficulty in reading English texts. The first questionnaire contains 13 items, and second questionnaire contains 9 items. The first questionnaire used rating scale disagree (1), disagree (2), agree (3), and strongly agree (4). The second questionnaire used rating scale (1), never (2), rarely (3), sometimes (4), often.

Data Collection Procedure

The researcher used first questionnaire which is about the level of students' interest in reading English texts. The first questionnaire is adopted from Al-Nafisah and Al-Shorman (2011). The second questionnaire is about the level of students' difficulty level in reading English texts. The questionnaire is constructed by the researcher. The researcher constructed the second questionnaire based on the existing literature. The researcher have distributed questionnaire to respondents through google form via social media such as WhatsApp and Line. The link of google form:

(https://docs.google.com/forms/d/e/1FAIpQLScCeKUGJj0QUAUi_0N5J6ixGUp
[G6GkXr55znRFfQ5dWCL3F7Q/viewform](https://docs.google.com/forms/d/e/1FAIpQLScCeKUGJj0QUAUi_0N5J6ixGUpG6GkXr55znRFfQ5dWCL3F7Q/viewform)).

The researcher distributed the questionnaire to respondent via WhatsApp and Line. The researcher contacted one of member of batch 2016 to add the

researcher into their group class Line and WhatsApp. Then, the researcher contacted one by one students of English Language Education Department batch 2016 to fill the questionnaire. The researcher contacted 94 students to fill the questionnaire. In addition, the researcher took five days to fulfil 94 respondents in filling out the questionnaire.

Validity and Reliability

The items of questionnaire were checked by doing validity and reliability test. The validity test aims to identify whether the data valid or not, and the reliability test is used to check whether the data is reliable or not. The explanations are presented below:

Validity. Validity is one of the important tests in research. According to Cohen, Manion, and Morrison (2011), validity is test used to measure the accuracy of the data in research. To test the validity, the researcher doing expert judgment to the questionnaire. The researcher asked to three lecturers as expert. Then, the expert judgment gave score to the each items of questionnaire. The scale of score consist four, 1 = "not relevant", 2 = "quite relevant, 3 = "relevant", 4 = "very relevant".

The result of expert judgment processed using Aiken test. The Aiken test is used to measure data accuracy of this research. The Aiken test formula is presented below:

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

V = Validity index of the instruments   n = number of raters

$s = r - I_0$ c = numbers of categories

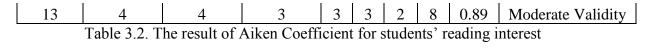r = score of category $\sum$ = the sum of s for the n raters

I_0 = the lowest score

Criteria	Validity
Low	<0,4
Medium	0,4 – 0,8
High	>0,8

Table 3.1. The validity criteria (Retnawati, 2016, p. 19)

Based on table above, the items of questionnaire is included in the high

criterion if the score of validity is >0,8. Besides that, the items of questionnaire is

included in the low criterion if the score of validity is <0,4. The researcher can

conclude if the score of validity is less than 0,4, the items in questionnaire are not

valid. The result Aiken Test of questionnaire presented below:

ITEMS	EXPERT 1	EXPERT 2	EXPERT 3	S1	S2	S3	$\sum$s	V	Validity Category
1	4	4	4	3	3	3	9	1.00	High Validity
2	4	4	4	3	3	3	9	1.00	High Validity
3	4	4	3	3	3	2	8	0.89	Moderate Validity
4	4	4	4	3	3	3	9	1.00	High Validity
5	4	4	3	3	3	2	8	0.89	Moderate Validity
6	4	4	3	3	3	2	8	0.89	Moderate Validity
7	4	4	3	3	3	2	8	0.89	Moderate Validity
8	4	4	4	3	3	3	9	1.00	High Validity
9	4	4	4	3	3	3	9	1.00	High Validity
10	4	3	4	3	2	3	8	0.89	Moderate Validity
11	4	4	4	3	3	3	9	1.00	High Validity
12	4	4	4	3	3	3	9	1.00	High Validity

| 13 | 4 | 4 | 3 | 3 | 3 | 2 | 8 | 0.89 | Moderate Validity |

Table 3.2. The result of Aiken Coefficient for students' reading interest

questionnaire.

Experts: Lecturer who has given score

S   : High category score was given by researcher minus minimum score

∑s   : Total sum S1, S2, S3.

V   : Validity score of instrument.

Based on table conclude that there are seven items have high validity. The

items that have a high validity are number 1, 2, 4, 8, 9, 11, 12. I addition, there is

six items that have a moderate validity. The items that have a moderate validity

are number 3, 5, 6, 7, 10, and 13. Therefore, the researcher used all of items

questionnaire because all of items were valid.

ITEMS	EXPERT 1	EXPERT 2	EXPERT 3	S1	S2	S3	∑s	V	Validity Category
1	4	4	4	3	3	3	9	1.00	High Validity
2	4	4	4	3	3	3	9	1.00	High Validity
3	4	4	4	3	3	3	9	1.00	High Validity
4	4	3	4	3	2	3	8	0.89	Moderate Validity
5	4	3	4	3	2	3	8	0.89	Moderate Validity
6	4	4	4	3	3	3	9	1.00	High Validity
7	4	4	4	3	3	3	9	1.00	High Validity
8	4	4	4	3	3	3	9	1.00	High Validity
9	4	4	4	3	3	3	9	1.00	High Validity

Table 3.3. The result of Aiken coefficient for students' reading difficulties

questionnaire.

Experts: Lecturer who has given score

S   : High category score was given by researcher minus minimum score

∑s   : Total sum S1, S2, S3.

V   : Validity score of instrument.

Based on table there are six items that have a high validity, number 1, 2, 3, 6, 7, 8 and 9. Then, there are five items that have a moderate validity. The items number 4 and 8. In conclusion, the researcher used all of items in questionnaire because all of items were valid.

Reliability. According to Cohen, Manion, and Morisson (2011), reliability used to check consistency and reliability of instruments' items that used in the research. The researcher used SPSS program (Cronbach's Alpha analysis) to identify the reliability of instrument in this research. According to Cohen, Manion, and Morrison (2011), the criteria of reliability of Cronbach's Alpha are presented below:

Criteria	Cronbach's Alpha
Very high reliable	>0.90
Highly reliable	0.80 – 0.90
Reliable	0.70 – 0.79
Marginally/minimal reliable	0.60 – 0.69
Unacceptably low reliability	<0.60

Table 3.4. Reliability criteria of Cronbach's Alpha (Cohen, Manion, & Marrison, 2011, p. 640)

Based on the reliability criteria, if the reliability score is >0.70, the items is reliable. In addition, if the reliability score is <0.60, the items are not reliable. The result of Cronbach Alpha of questionnaire presented below.

Reliability Statistics

Cronbach's Alpha	N of Items
.818	13

Table 3.5. The result of reliability statistic for reading interest

questionnaire.

The result of reliability based on table, the Cronbach Alpha of 13 items

questionnaire is .818. Based on reliability table .818 is high reliable. So, all of

items can be used.

Reliability Statistics

Cronbach's Alpha	N of Items
.707	9

Table 3.6. The result of reliability statistic for reading difficulty questionnaire.

Based on table the score of reliability statistics is .707, this means that

items of questionnaire is reliable. The researcher used all of items in

questionnaire.

Data Analysis

This research used two data analysis. They are descriptive statistic and

inferential statistic. In descriptive statistic, the researcher describes and presents

the data. Descriptive statistic includes frequencies, standard deviation, central

tendency (mean, median, and modes), maximum and minimum score (Cohen,

Manion, & Morrison, 2011). The researcher used descriptive statistic to analyse

the first and the second research questions. The first research question about the

level of students' reading interest and the second research question about the students' difficulty level in reading English texts. The third research question about the correlation between EFL students' reading interest and difficulty level in reading English texts analysed by inferential statistics. There is some steps to analyse the data by researcher. The first step, the researcher moves the data from google form to Ms. Excel. The, the researcher doing Aiken test to validity check of questionnaire. The second step, the researcher doing reliability test to check reliability of questionnaire. The researcher used Cronbach's' Alpha statistics in SPSS to analysed the reliability questionnaire. The third step, the researcher used SPSS to find out descriptive statistics to answer the level of EFL students' reading interest as a first research question. Besides, the researcher also used SPSS to answers the level of EFL students' difficulty level as a second research questions. The last step, the researcher used inferential statistic in SPSS to analyse the last research question about the correlation between EFL students' reading interest and difficulty level in reading English text. In addition, the inferential statistic also discussed about normality test. The normality test used One-Sample Kolmogorov-Smirnov Test in SPSS.

Additionally, class interval is also used to determine class width, class size, and class length of this research. According to Supranto (2006), the formula to determine class width is presented below:

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

$$C = \frac{4 - 1}{3} = \frac{3}{3} = 1$$

C = Class width, class size, class length

X_n = Maximum value

X_1 = Minumum value

K = The number of class

This formula is used to answer the first research question and the second research question. The result of class interval based on formula. The class interval is presented below:

No	Interval	Categories
1.	3.1 – 4	High
2.	2.1-3	Intermediate
3.	1-2	Low

Table. 3.7. The categories about the level of students' interest and the level of students' difficulty in reading English texts

Based on table 3.3, if the interval is 3.1 – 4, it means high category. If the interval is 21.1 -3, it is in intermediate category. If the interval is 1-2, it is in low category. Besides that, the rating scale of questionnaire consists of four points. The rating scale is presented in table below:

No	Rating Scale	Score
1.	Strongly Agree	4
2.	Agree	3
3.	Disagree	2
4.	Strongly Disagree	1

Table. 3.8. The rating scale of students' reading interest

No	Rating Scale	Score
1.	Often	4
2.	Sometimes	3
3.	Rarely	2
4.	Never	1

Table. 3.9 The rating scale of the students' difficulty in English reading text

The third research question aims to find out the correlation of two variables. To investigate the correlation, the researcher used inferential statistics. The inferential statistic there are normality test, linear test and Pearson' product moment – correlation coefficient. According to Santoso (2012) the normality test to check the data normal or not.

Normality Test. The normality test used Test Normality Kolmogrov-Smirov in SPSS (Santoso, 2012). Santoso (2012) added that the If the value of data >0.05 data is normal, and if the value of data <0.05 the data is not normal. If the result of the data is normal, the researcher has to do correlation test. The result of normality test presented below.

One-Sample Kolmogorov-Smirnov Test

		Reading Interest	Reading Difficulty
N		94	94
Normal Parameters[a]	Mean	38.59	26.81
	Std. Deviation	4.719	3.180
Most Extreme Differences	Absolute	.125	.104
	Positive	.125	.104
	Negative	-.070	-.087
Kolmogorov-Smirnov Z		1.207	1.005
Asymp. Sig. (2-tailed)		.108	.265
a. Test distribution is Normal.			

Table 3.10. The result of Normality test for questionnaire.

Based on table, the value of normality test for first questionnaire is .108 and the second questionnaire is .265. In conclusion, the value of both questionnaire are >0.05, the result is normal.

According to Creswell (2012) correlational design is to explain about correlation among variable. According to Cohen and Manion as cited in Creswell (2012), the degree of association is divided into four ranges which is presented in table below:

No	Range	Degree of Association
1.	.86 and above	Very strong correlation
2.	.66- .85	Strong correlation
3.	.36 – .65	Weak correlation
4.	.20 – .35	Very weak correlation

Table 3.11. Degree of association (Cohen & Manion as cited in Creswell, 2012)

Based on the table 3.6, if the range is 0.86 or above it, it means that the two variables have very strong correlation. If the range is 0.66 – 0.85, it means that the two variables have strong correlation. If the range is 0.36 – 0.65, it means that the correlation of two variables is weak. If the range is 0.20 – 0.35, it means that the correlation of two variables is very weak.