

Chapter Three

Methodology

This chapter discusses the methodology used by the researcher in this study. In chapter three, it discusses the research design, research setting, research participants, data collection method, data collection instrument, data collection procedure, and data analysis. Several theories are also included in this chapter to support the methodology in this study.

Research Design

This research used a quantitative method to research this case. The researcher used quantitative method because it could serve the purposes of this study. The level of students in learning anxiety and the level of their achievement in speaking could be researched using mathematical calculation as demanded by quantitative research approach. Moreover, the last purpose of this study was to investigate the correlation between students learning anxiety and their speaking achievement.

The purposes of the research mentioned above guided the researcher to choose certain research design which was a correlational design. The researcher used this design because was the most appropriate design used to answer the research questions provided. According to Creswell (2012), in correlational research design, investigators use the correlational statistical test to describe and measure the degree of association (or relationship) between two or more variables or sets of scores. Hence, the correlational design helped this research to find out the results of the research.

In correlational design, there were some design types. The types of the correlational design were the explanatory design and the prediction design. The explanatory is a design which investigates to explain more about the used variables. Creswell (2012) stated that explanatory correlation design consists of two variables with simple association. From the statement mentioned, the researcher had to explain the two variables or more. In prediction correlation design, the design was to give prediction of the associations of some variables. Creswell (2012) mentioned that the purpose of prediction research design was to find out the variables which would predict an outcome. Therefore, considering the nature of this study aimed to correlate the current research variable, and the researcher decided to use explanatory correlational research design.

Population and Sample

In population and sample, it explained about population, sample, and sampling used in this study. The population was the total population. According to Hanlon and Larget (2011) population is units of interest, and typically, there was not available data for almost all people in a population. Then, the sample is a small part of the population. Besides, sampling is a way to get the sample. The researcher used convenience sampling as a sampling method.

Research population. This researcher conducted this research at an Islamic Private University in Yogyakarta. The target or populations in this research were 96 students of English Language Education Department (ELED) batch 2016 at an Islamic private university in Yogyakarta. Creswell (2012)

mentioned that the population is the group of people having one characteristic that distinguishes from other groups.

For the reason of choosing this major, the students in this major had learnt English-speaking skills so that they had achievement at the skill of which they became the focus of this study. As another reason, when the students learnt a language which was not their own language, they faced problems. That way, the problem could be the students' anxiety. Therefore, choosing this population was very suitable for this study.

Research sample. The researcher used convenience sampling in this research. According to Dörnyei (2007), convenience sampling is a type of nonprobability and non-random sampling a target population that has the criteria such as easier to access and more effective. Choosing convenience sampling could ease the researcher to distribute and save the time in collecting the data.

The sample of this research was ELED students' of batch 2016. The students' batch 2016 consisted of about 96 students. Then, the researcher decided to take minimum sample from the table on random sizes. If the students in batch 2016 were 96 students, the respondent became 77 students that as the research sample. The target samples were students who study at ELED of a private university in Yogyakarta. Then, the sample was taken from the students who had already taken a speaking class.

In addition, the total of the sample could be taken from Slovin's formula. The formula was $n = \frac{N}{1 + Ne^2}$ n = Number of samples, N = Total of population and e = Error tolerance equal to 5%. In this research, the total population was 96.

Then, the researcher got the minimum sample size which was 77 students. The calculation was showed at below.

$$n = 96 / (1 + 96 * 0.05^2)$$

$$n = 96 / (1, 24) = 77$$

Instrument of the Study

This research adopted the questionnaire and score as the tools to get the data. The questionnaire and score were used to get the data in order to answer the research questions. Besides, the researcher used the questionnaire as the way to collect the data for the first variable and the score of speaking skill as the second variable. Cohen (2011) as cited in Wilson and McLean (1994) stated that questionnaire is a widely used and useful instrument for collecting survey information, providing structure and numerical data, being able to be administered without the presence of the researcher, and being comparative straightforward to analyses.

The research used the questionnaire because it was more flexible to collect the data, and it did not waste the participants' time. These questionnaires answered the first questions. The type of questions in this research was rating scales. Then, the questionnaire was a more modern way because it could be filled in online which could save the cost for both researcher and participants.

In addition, Cohen, Manion, and Morrison (2011) maintained that are very useful devices for the researcher, budling in a degree of sensitivity and differentiation of response whilst of generating number. The tool for gathering the

data was questionnaire. The questionnaire included 18 questions. The questionnaires were distributed to the respondents from ELED of an Islamic Private University batch 2016. For measuring the score, the researcher used students' scores speaking skill.

To distribute the questionnaires to the respondents, the researcher used Google form. Before the questionnaire was distributed, the researcher measured the validity first. The validity was measured using expert judgment. The experts were taken from the lecturers. From the statement mentioned, it was done before spreading the questionnaire to the participants. Then, the researcher checked the validity to each question. Checking the validity for the questionnaires provided was to make sure that the questions were related to the research question and in line with the title. Hence, in the questionnaire of this research, the researcher used scales such as Strongly Disagree (SD), Disagree (D), Agree (A), and Strongly Agree (SA).

However, the researcher made the questionnaires using Indonesian language. Also, the researcher wanted to make the questionnaire easier to fill and make sure the respondents understood. The respondents used Indonesian language as the first language. Then, the researcher used Indonesian language to decrease invalid data as well. Moreover, the questionnaires were adapted from some researchers who had conducted the topic analysis. The questionnaires were adapted from Lee (2011) entitled "Differences in the Learning Anxieties Affecting College Freshman Students of EFL" and Cui (2011) entitled "Research on High School Students' English Learning Anxiety".

Validity and Reliability

Validity. Validity was one of the rules before contributing the questionnaires. Cohen, Manion, and Morrison (2011) mentioned that quantitative data validity might be improved through careful sampling, appropriate instrumentation, and appropriate statistical treatments of the data. To check the instrument validity, the researcher looked for three expert judgments to evaluate the validity of questionnaire items. Therefore, the expert judgments were chosen by the researcher from lecturers of ELED of an Islamic Private University.

Besides, the experts were selected based on their capability in doing the research towards this research topic. For collecting the data, the researcher used the valid items. The statement explained how the validity works. The validity was to ensure every instrument question in the questionnaire related to this research so that the validity of the questionnaires had two stages. In the first stage, each instrument question was given to the expert judgment from some lecturers. Then, the results of the expert judgment were put in Excel to look for the true results of the questionnaires. Thus, the researcher calculated the Aiken values using Aiken Test. The way to know the question was valid or not. The item was considered as valid, it is shown below.

Table 1
<i>Type of Response</i>
Four-Point Rating Scale
1. Not Relevant

2. Quite Relevant
3. Relevant
4. Very Relevant

The result of validity test showed that the score of the result from Aiken test in Microsoft Excel was $< 0,4$ the validity test was low. Then, the score was $< 0,8$ was high validity.

Table 2									
Result of Validity Test									
Items	Validator1	Validator2	Validator3	S1	S2	S3	sum	V	
1	4	3	4	3	2	3	8	0,89	High
2	4	4	3	3	3	2	8	0,89	High
3	4	3	4	3	2	3	8	0,89	High
4	4	3	3	3	2	2	7	0,78	medium
5	4	4	4	3	3	3	9	1,00	High
6	4	4	3	3	3	2	8	0,89	High
7	3	4	4	2	3	3	8	0,89	High
8	4	4	4	3	3	3	9	1,00	High
9	3	4	4	2	3	3	8	0,89	High
10	4	3	3	3	2	2	7	0,78	medium
11	4	3	4	3	2	3	8	0,89	High
12	3	4	3	2	3	2	7	0,78	medium

13	4	4	3	3	3	2	8	0,89	High
14	4	4	3	3	3	2	8	0,89	High
15	4	4	4	3	3	3	9	1,00	High
16	4	4	4	3	3	3	9	1,00	High
17	4	4	4	3	3	3	9	1,00	High
18	4	3	4	3	2	3	8	0,89	High

The results showed that all the questions were valid with the score 0, 78 for three questions, 0, 89 for ten questions, and 1.00 for five questions. The results found were used medium and high category.

Reliability. Cohen, Manion, and Morrison (2011) mentioned that “reliability is essential synonym for dependability, consistency and replicability over time, over instruments, and over groups of respondents”. Reliability was also used to ensure the researcher about every question. In this reliability, the researcher found out the results of reliable questions. Besides, the reliability used statistical calculation using computer software. In the software, the researcher wanted to find the reliability use Cronbach Alpha statistical technique. Morrison (2011) mentioned that there were five categories of reliability. Hence, each category is displayed below.

Table 3	
<i>Category of Reliability</i>	
Value	Category
>0.90	Very highly reliable

0.80-0.90	Highly reliable
0.70-0.79	Reliable
0.60-0.69	Marginally/minimally reliable
<0.60	Unacceptably reliability

Data Analysis

This research utilized a correlational design. The correlation design provided three questions. The researcher answered the research questions with description statistics and inferential statistics. The descriptive statistics answered the question number one and two. Cohen, Manion, and Morrison (2011) stated that descriptive statistics are done on what the participants say and describe. Besides, the researcher can analyze and interpret what the descriptions mean. Based on the statements mentioned, the descriptive statistic searches the mean of the data obtained from the participants.

The first part was about the students' learning anxiety.

$$\text{Range} : \frac{\text{Maximum} - \text{Minimum}}{n(\text{Category})}$$

$$: \frac{4-1}{4} = \frac{3}{4} = 0.75$$

1.00 – 1.75 = very low

1.75 – 2.50 = low

2.50 - 3.25 = high

3.25 – 4.00 = very high

Table 4

Interval Students' Learning Anxiety

Value	Category
1.00 – 1.75	Very Low
1.75 – 2.50	Low
2.50 – 3.25	High
3.25 – 4.00	Very High

Table 4 above showed the value and categorized students' learning anxiety level. The category was included into three interval values. The first value was 1.00 to 1.75. The level anxiety of student in this value was very low in the category. The last value was 3.25 to 4.00. From the statements mentioned, the level of the anxiety was very high. Then, the students' level anxiety was shown in these categories and value.

Besides, the speaking score was interval data. Besides, the data had to be converted into ordinal data as the requirement of Spearman rho correlation analysis. Then, the speaking score were categorized into 6 groups to make them ordinal. The table showed the scale of the level of speaking achievement. Likewise, the second part was about the students' level student speaking achievement. For more detailed information, the level of speaking achievement is shown on the table 5 below.

<i>Table 5</i>			
<i>The level speaking achievement</i>			
<i>Score</i>	<i>Conversion scale</i>	<i>Grade</i>	<i>Predicate</i>
<i>0 – 49.99</i>	<i>0.00 – 1.00</i>	<i>D</i>	<i>Failed</i>
<i>50.00 – 59.99</i>	<i>1.00 – 2.00</i>	<i>C</i>	<i>Poor</i>
<i>60.00 – 64.99</i>	<i>2.00 – 2.50</i>	<i>BC</i>	<i>Avarage</i>
<i>65.00 – 74.99</i>	<i>2.50 – 3.00</i>	<i>B</i>	<i>Good</i>
<i>75.00 – 79.99</i>	<i>3.00 – 3.50</i>	<i>AB</i>	<i>Very Good</i>
<i>80.00– 100.00</i>	<i>3.50– 4.00</i>	<i>A</i>	<i>Excellent</i>

On the other hand, the last research question was analyzed using inferential statistic. For the inferential statistic based on probability, the researcher can infer to population parameter from sampling and statistical technique (Cohen et al., 2011). The statement mentioned was used to see the correlation between the variables. That way, the researcher used Statistical Application and Microsoft Excel to analyze the data. Also, the researcher used SPSS and Pearson Product moment coefficient for correlation research to investigate the correlation between variable one and variable two. The Pearson product moment indicated how far away of all the data point were in line and fit which could measure of the strength a liner association between two variables. Thus, the correlation score is shown in the table 6 below.

Table 6

Correlation Score

Coefficient range	Strength of association
0.86 – above	Very Strong
0.85 – 0.66	Strong
0.65 – 0.36	Moderate
0.35 - 0.20	Low