Chapter Three

Methodology

This chapter deals with the methodology used for this research. This chapter consists of seven sections. There are research design, research setting, research population and sample, instrument of the research, validity and reliability, data collection procedure, and data analysis. Those sections are explained as follow.

Research Design

The researcher want to explore about the correlation between students' anxiety and students' achievement in speaking class at English Language Education Department of Islamic private university in Yogyakarta. The researcher used quantitative method, specifically correlation research design. According to Borrego, Douglas, and Amelink (2009), quantitative method is suitable for the deductive approach, in which a theory or hypothesis justifies the variables, the purpose statement, and the direction of the narrowly defined research questions. By using quantitative method, the result of this research was particular number that defines the correlation between two variables which are students' anxiety and students' achievement in speaking class.

A correlation research design investigates the use of correlation statistical test to describe and measure the degree of association (or the relationship) between two or more variables or sets of score (Creswell, 2012). The researcher uses two variables

which are students' anxiety and students' achievement. Therefore, the correlation research design is suitable for this research.

Research Setting

This research took place at English Language Education Department (ELED) at one of Islamic private university in Yogyakarta. The researcher chose ELED because anxiety in speaking class happened in this department. Before conducting the research, the researcher did an informal conversation with English Language Education Department students about their feeling in speaking class. There is a course called Listening and Speaking for Formal setting which gave to the student in the first of semester. Since this course be found a speaking skill and the course is contains role-play, business phone call, business meeting presentation, and the last is master ceremony video. The outcome of this course is student can speak well in English language, because of that anxiety can arise in this course. The researcher choose English Language department in that Islamic university as a research setting because that department was appropriated with this research, because there is Listening and Speaking for Formal setting course.

The researcher was conducted this research in May 2019.

Research Population and Sample

This section is divided into two sub sections. There are research population and research sample.

Research Population. The population of this research is the students of English Language Education Department at one of Islamic private university in Yogyakarta batch 2018. Based on Creswell (2012) a population is a group of individuals that have the same characteristics and can be identified by the researcher. The total of population of this research is divided into 6 classes which are A class, B class, C class, D class, E class, and F class. So, the researcher chose student who are in batch 2018 to be the population of this research, because the student had passed their first semester and also had took the Listening and Speaking for Formal Setting course. The researcher believes that the chosen population is appropriate for this research. The researcher looked up for this information from the administration staff in that English Language Education Department. The researcher found out that there are 265 students on batch 2018.

Research Sample. The research sample is based on several certain criteria in this research. Firstly, the sample is from batch 2018 students which are in their second semester. The participants should have enrolled to Listening and Speaking for formal setting and pass from that course. It means that the students have the four of components in speaking score. This means that the participants who are in the same population but did not pass the course cannot be the participants for this research. The populations of batch 2018 students at English language education department are 265. The researcher used total sampling because the researcher wanted to get rich data. Therefore, the total sampling of this research is 265 students.

Instruments of the Research

The researcher used two instruments to gather the data. There were questionnaire and document score from the speaking class. These instruments were used to gathered data from participants.

Questionnaire. The questionnaire was used to gather the information about students' anxiety. Questionnaire is an instrument for collecting the data information with a pilot structured, usually numerical data and can be distributed with the presence of the researcher or not (Cohen, Manion, & Morrison, 2011). Therofore, the researcher was needed numerical data to assess the correlation between students' anxiety and students' achievement in speaking class. The researcher used questionnaire to access the students' anxiety level. The researcher used the questionnaire in Indonesian language. It eases the participant to understand the content of the questionnaire.

The researcher used structured questionnaire. The questionnaire based on Foreign Language Classroom Anxiety Scale from Horwitz (1986). The researcher adopted the questionnaire from Horwitz (1986) and the totals of original questionnaire are 33. Furthermore, the researcher just used 32 after do the expert judgment for the questionnaire. The Horwitz questionnaire is about anxiety in learning foreign language, but anxiety also can arise when students learn English language in speaking class based on the researcher informal conversation with the English students' batch 2018. However, the researcher translated and adapted

Horwitzs's (1986) questionnaire, so that it is appropriate for this research. The

questionnaire is attached in the appendix 1 page 48 of this research. Based on Cohen,

Manion, and Morrison (2011), structured questions propose a range of responses that

participants might choose and it focuses more on the point of the questions. The

researcher used four Likert scales for the responses in this questionnaire design.

Cohen, Manion, and Morrison (2011) stated that likert scales is used to build in a

degree of sensitivity and differentiation of responses whilst still generating numbers.

The score of the response mode of the questionnaire is described below.

Table 3.1

Response mode of the questionnaire (Likert scale)

No.	Scale	Score of scale
1.	Strongly Disagree	1
2.	Disagree	2
3.	Agree	3
4.	Strongly Agree	4

Document Score. The researcher used the final score from the Listening and

Speaking for Formal Setting course as the instrument to gather the data for the second

variable. The score on Listening and Speaking for Formal Setting course is used to

measure students' achievement in speaking class. According to Sugiyono (2011),

document score is a document that covers all activities or moments in the past. The

researcher chose the final score because the populations are in the speaking course on the second semester and they had passed the first semester, also the researcher just used speaking score of the student. Then, the researcher gathered the data from the three lecturers who taught Listening and Speaking for Formal Setting course. The researcher asked permission to the three of lecturers who taught that course for gather the score for this research. The maximum score in this data is 70%, because the 10% is listening skill and 20% is soft skill. The 70% score was divided into 4 parts, which are 15% for role-play, 15% for business phone call, 20% for business meeting presentation, and the last 20% for mast ceremony video. So the researcher just took 70% score for this research. The researcher gathered this information from the three lecturers who taught listening and speaking for formal setting course.

Validity and Reliability

The researcher checks the validity and reliability of the questionnaire before analyzing the data.

Validity. Validity is one of the important procedures in a quantitative approach. Therefore, validity is a part of assessing the instrument. Validity aims to provide the appropriate instrumentation and appropriate statistical treatments of the data. In line, Cohen, Manion, and Morrison (2011) stated that validity in quantitative research aims to measure appropriate instrument and appropriate statistical treatment of the research. Therefore, the researcher did the validity. The researcher was guided by three expert judgments to analyze the validity of the instruments. The researcher

used likert scale score for the expert judgment to validate the content of item in this questionnaire and the score shown in that table 3.2. Before the researcher gives the instrument to the expert judgments, the researcher adapted the instrument as needed for this researcher.

Table 3.2
Response mode of expert judgment (Likert scale)

No.	Scale	Score of scale
1.	Not relevant	1
2.	Less relevant	2
3.	Sufficiently relevant	3
4.	Very relevant	4

The researcher also will adopt the source of validity from Retnawati (2016), the Aiken formula is shown as below:

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

V = Validity index of instrument

S = The sum of *s* for the *n* raters

r = The rating by an expert or rater

$s = r - I_0$

$I_0 =$ The lowest possible rating

n = Number of raters

c = Number of categories that raters choose

According to Retnawati (2016), the range of coefficient is 0 up to 1, the score is between 0.4 – 0.8 or higher, it means that the result of Aiken test is valid, and if the result of Aiken test is < 0.4 it shows that the item is not valid. The researcher took the result of the Aiken test for this research. The Aiken test showed in the table bellow.

Test Items	Expert_1	Expert_2	Expert_3	s1	s2	s3	Sum s	V	Category
		Table 3.3 Aiken test result							
001	4	4	4	3	3	3	9	1.00	High validity
002	4	4	4	3	3	3	9	1.00	High validity
003	4	4	4	3	3	3	9	1.00	High validity
004	4	4	4	3	3	3	9	1.00	High validity
005	3	1	4	2	0	3	5	0.56	Medium validity
006	4	4	4	3	3	3	9	1.00	High validity
007	4	4	4	3	3	3	9	1.00	High validity
008	3	4	4	2	3	3	8	0.89	High validity
009	4	4	4	3	3	3	9	1.00	High validity
010	4	4	4	3	3	3	9	1.00	High validity
011	1	1	4	0	0	3	3	0.33	Low validity
012	4	4	4	3	3	3	9	1.00	High validity
013	4	4	4	3	3	3	9	1.00	High validity
014	4	4	4	3	3	3	9	1.00	High validity
015	4	4	4	3	3	3	9	1.00	High validity
016	3	4	3	2	3	2	7	0.78	Medium validity
017	4	4	4	3	3	3	9	1.00	High validity
018	4	4	4	3	3	3	9	1.00	High validity
019	3	4	3	2	3	2	7	0.78	Medium validity
020	4	4	4	3	3	3	9	1.00	High validity
021	4	4	4	3	3	3	9	1.00	High validity
022	3	4	4	2	3	3	8	0.89	High validity
023	1	4	4	0	3	3	6	0.67	Medium validity
024	3	4	3	2	3	2	7	0.78	Medium validity
025	4	4	3	3	3	2	8	0.89	High validity
026	4	4	4	3	3	3	9	1.00	High validity
027	4	4	4	3	3	3	9	1.00	High validity
028	3	4	3	2	3	2	7	0.78	Medium validity
029	4	4	4	3	3	3	9	1.00	High validity
030	4	4	4	3	3	3	9	1.00	High validity
031	4	4	4	3	3	3	9	1.00	High validity
032	3	4	4	2	3	3	8	0.89	High validity
033	4	4	4	3	3	3	9	1.00	High validity

Based on Aiken test for the questionnaire that is showed the table 3.3, there were 26 items that have *high validity*, 6 items that have *medium validity*, and then just only one that have *low validity*. So from that, 32 questionnaires were valid used to gather the data for this research because, the questionnaire number 11 have low validity and it means that item cannot used to gather the data.

Reliability. According to Cohen, Manion, and Morrison (2011), reliability test is used to concern the precision and accuracy of instrument. Furthermore, Cronbach's Alpha used to show the criteria of reliability of questionnaire items. The researcher not used reliability because the questionnaire is proved, the researcher just adapted and translated from Horwitz (1986).

Data Collection Procedure

The researcher collected the data with self-administered questionnaire with the presence of the researcher. The presence of the researcher is helpful, when the participants feel unclear with the question or statement in that questionnaire (Cohen, Manion, & Morrison, 2011). The researcher asked permission from three of lecturers who taught the Listening and Speaking for Formal Setting course, and also asked help for to the participants. Then, the researcher distributed the questionnaires to the participants through the Google form. The researcher shared the link of Google form and the participants accessed through their smartphones. The online questionnaire can be accessed through the link from Google form http://bit.ly/2HoxGDn. The researcher asked the three of lecturers who taught that course for the final score from

the speaking skill in Listening and Speaking for Formal Setting course to get students final score.

However, after the researcher gathered the data with the presented through classes the researcher collected 180 participants. The researcher distributed the link of Google form through 6 classes and some of students from those classes are not come. However the researcher still follows up to the students who did not come to the class to fulfill the questionnaire through link in their whatsapp group class. Based on Cohen. et. al (2011), if the number of sample size is 300, then the confidence interval 5% is 168.Therefore, the 180 students was already fulfilled the confidence interval 5% for 265 sample size.

Data Analysis

The researcher used descriptive and inferential statistic to analyze the data of this research. The researcher also used statistic application which was Microsoft Excel and SPSS (Statistical Package for the Social Sciences). The first and second research question, "How is the students' anxiety in speaking class?" and "How is the students' achievement in speaking class?" were analyzed by using descriptive statistic. Based on Cohen, Manion, and Morrison (2011), Descriptive statistics can be applied to explain and provide the frequency, data, and percentage included. The third research question is answered by using inferential statistic. The researcher also used the interval formula to divide the categories. The interval formula is from Rahmawati, Fajarwati, and Fauzia (2013). The formula is shown below.

$$Interval = \frac{\text{Max value} - \text{Min value}}{\text{n Category}}$$

n category   = The Number of category

Maximum value = The maximum score of variable

Minimum value = The minimum score of variable

The researcher created anxiety level categories. The categories are shown below:

Table 3.6

Students' anxiety level

No	Interval	Category
1	32 – 56	Very Low
2	57 – 80	Low
3	81 – 104	High
4	105 – 128	Very High

The table 3.6 shows the category of students' anxiety level. First, if the interval is between 32 – 56, it means that the level of anxiety is *Very Low*. Second, if the interval is between 57 – 80, it means that the level of anxiety is *Low*. Third, if the interval is between 81 – 104, it means that level of anxiety is *High*. Last, if the interval is between 105 – 128, it means that level of anxiety is *Very High*.

Table 3.7

Students' achievement in speaking class

No	Interval	Category
1	0 – 17.5	Very Low
2	17.6 – 35.0	Low
3	35.1 – 52.5	High
4	52.6 – 70.0	Very High

The table 3.7 shows the category of students' achievement in speaking class. First, if the interval between is 0 – 17.5, it means the category of students' achievement in speaking class is *Very Low*. Second, if the interval is between 17.6 – 35.0, it means the category of students' achievement in speaking class is *Low*. Third, if the interval is between 35.1 – 52.5, it means the category of students' achievement in speaking class is *High*. Last, if the interval is between 52.6 – 70.0, it means the category of students' achievement in speaking class is *Very High.*

The researcher used Pearson's product-moment or correlation coefficient (*r*) to measure the third research question "What is the correlation between students anxiety and students achievement in speaking class?". According to Cohen, Manion, and Morrison (2007) "Pearson's product-moment correlation coefficient (r) is ranging statically from -1.0 to +1.0" (p.347). The correlation coefficient of -1.0 means negative correlation between two variables, while nearer to +1.0 means positive

correlation between two variables. The coefficient of correlation is explained as

follow.

Table 3.8	
Correlation Coefficient Interpretation	
Standard $r_{x,y}$	Interpretation
0.00 – 0.20	Very Weak Correlation
0.21 – 0.35	Weak Correlation
0.36 - 0.65	Moderate Correlation
0.66 – 0.85	Strong Correlation
>0.86 – 1.00	Very Strong Correlation