

## **CHAPTER III**

### **RESEARCH METHOD**

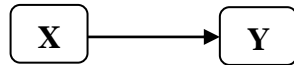
This chapter presents: (1) research design, (2) research variables, (3) operational definitions, (4) population and sampling, (5) data collection, (6) validity and reliability of the instrument, (7) data analysis, and (8) hypothesis testing.

#### **3.1 Research Design**

In this study, correlational research method was used to find out the correlation between speaking anxiety and speaking achievement. According to Creswell (2012), correlation is a statistical test to determine the tendency or pattern for two or more variables or two sets of data to vary consistently. The aim of this study to find out the correlation between speaking anxiety and speaking achievement, whether or not there is an influence between speaking anxiety and speaking achievement and draw interpretation based on the results of the study. Correlational research is used in term of explanatory and prediction research design to find out the correlation between variables, explain, and interpret the appeared result. A correlational study describes the degree to which two or more quantitative variables are related, and it does so by using a correlation coefficient.

The first procedure is the researcher identified speaking anxiety by using public speaking class anxiety scale and the second procedure is the writer obtained the students' speaking achievement by making speaking test. The next step is the researcher analyzed the correlation between variables through SPSS

based on the results of speaking anxiety and speaking achievement. The research design was as follows:



Where: X: Students Speaking Anxiety

Y: Students Speaking Achievement

In conducting the study, the researcher used a questionnaire to measure the students' speaking anxiety level variable symbolized as X and students' speaking achievement to find out the English speaking ability symbolized as Y variable.

### **3.2 Research Variables**

In correlational study there are certain characteristics. According to Cresswell (2012), a variable is a characteristic or attribute of an individual of an organizations that researchers can measure or observe and varies among individuals or organizations studied. There are two variables in a correlational study, the prediction and the criterion variable.

The variable that the independent variable is presumed to affect is called a dependent variable. Cresswell (2012) stated that a dependent variable is an attribute or characteristic that is dependent on or influenced by the independent variable. You may find them labeled in the literature as the outcome, effect, criterion, or consequence variables. In commonsense terms, the dependent variable depends on what the dependent variable does to it, how it affects it. It is possible to investigate more than one independent and also more than one dependent variable in a study. In this study, the predictor (independent variable) is

speaking anxiety, while the criterion (dependent variable) of this study is speaking achievement.

### **3.3 Operational Definitions**

In this study, there are two correlated variables, speaking anxiety and speaking achievement. Richards and Schmidt (2010) states that operational definition of a concept in form which can be observed and measured. To avoid misunderstandings, the researcher provided an operational definition will be used in the context of the study.

#### **3.3.1 Speaking Anxiety**

Speaking anxiety is a negative way of presenting human feelings. It is used to describe feelings of tension or worry, which are specifically associated with speaking classes. Students who experience anxiety sometimes feel afraid, embarrassed, ashamed, afraid and anxious in the teaching and learning process of speaking. To find out the students' anxiety, questionnaire developed by Yaikhong and Usaha (2012) was used.

#### **3.3.2 Speaking Achievement**

Practicing speaking in a controlled way in order to describe about the topic of the speaking test. An achievement exam assessed an individuals' knowledge or skill in a certain subject to obtain the students' ability to speak. The speaking test assessed students' capacity to articulate ideas, feelings, and opinions in public. The term speaking achievement refers to the students' speaking score from the textbook used by students in learning English during class learning by Widiati et al (2017). *Bahasa Inggris Kelas X*. Kementrian dan Kebudayaan. The indicators

used to score the results are vocabulary, grammar, pronunciation, and fluency by Brown (2004). The speaking function was performed to convey information or expressing one's thoughts and feelings in spoken language.

### 3.4 Population and Sampling

#### 3.4.1 Population of the Study

Population is the total number of subjects of the study that is researched by the researcher. According to Creswell (2012), population is a group of individuals who have the same characteristics. Population in statistics is any set of items, individuals, which share some common and observable characteristics and from which a sample can be taken.

The population of this study is the eleventh grade students of MA Al-Fatah Palembang. Which consists of four classes, the distribution of population is presented in table 1 below:

**Table 1**  
**Population of Study**

No.	Class	Number of Students
1	XI Mia I	19
2	XI Mia II	20
3	XI Iis I	19
4	XI Iis II	18
Total		76

*Source: MA Al-Fatah Palembang*

#### 3.4.2 Sample of the Study

Research targets taken from the population are referred to as samples. According to Creswell (2012), a sample is a subgroup of the target population that the researcher plans to study for generalizing about the target population. Sugiyono (2010) argued that the sample is a small part or sample drawn from the

population in other words the sample is part of the population, and the sample size for descriptive research to be represented by 10 percent of the population (at least 20% for very small populations) and for correlation research can be represented by 30 subjects. Therefore, Sugiyono (2018) state that probability sampling is a sampling technique that provides equal opportunities or opportunities for each element or member of the population to be selected as a sample. In this study to get the sample, the researcher used simple random sampling. Moreover, Sugiyono (2018) argued that simple random sampling is taking samples from the population which is done randomly without regard to the existing strata in the population can be done by lottery, using random numbers, and using computer packages. Furthermore, lottery was used by researcher to get the sample from the population randomly.

In this study, the researcher did the sampling technique through the above method randomly in the eleventh grades of MA Al-Fatah Palembang. Therefore, the distribution of sample is presented in table 2 below:

**Table 2**  
**Sample of the Study**

No.	Class	Number of Students
1.	XI Mia I	9
2.	XI Mia II	9
3.	XI Iis I	9
4.	XI Iis II	9
Total		36

*Source: MA Al-Fatah Palembang*

### 3.5 Data Collection

#### 3.5.1 Questionnaire

Questionnaire is similar with highly structured interview, with the exception that the respondent reads the question and marked the answer on paper, instead of responding verbally. To gain information about students' speaking anxiety, the researcher used a public speaking class anxiety scale (PSCAS) developed by Yaikhong and Usaha (2012) which was distributed to the students, which consists of 17 items in the PSCAS questionnaire and these items are related to speaking anxiety. For each items answer on a five-point scale, ranging from Strongly Agree to Strongly Disagree. Which positive and negative statements are made together in order to avoid the students' misunderstanding of the questionnaire. There were 4 positive statements and 13 items for negative statements in PSCAS questionnaire. The positive statements were arranged together and the negative statements were arranged together to avoid students' misunderstanding of the questionnaire. The positive and negative statements questionnaire is presented in Table 3 and the Likert-Scale of PSCAS questionnaire is presented in Table 4.

**Table 3**  
**Statement of PSCAS Questionnaire**

Statement	Number of Items
Positive	4, 8, 10, and 12
Negative	1, 2, 3, 5, 6, 7, 9, 11, 13, 14, 15, 16, and 17

*Source: Yaikhong and Usaha (2012)*

**Table 4**  
**Likert-Scale of PSCAS Questionnaire**

Negative Statements	Description Frequency	Positive Statement
1	Strongly disagree	5
2	Disagree	4
3	Neither agree and disagree	3
4	Agree	2
5	Strongly agree	1

*Source: Yaikhong and Usaha (2012)*

### 3.5.2 Speaking Test

To measure the individual skills of each student, a speaking test is needed. According to Fraenkel et. al (2012), achievement test measure an individuals' knowledge or skill in a given area or subject. To obtain the students' speaking achievement, the researcher used speaking test. Moreover, the term speaking test refers to the students' textbook while they are learning English during class by Widiati et al (2017), *Bahasa Inggris Kelas X*, Kementrian dan Kebudayaan. And the indicators used to score the results are vocabulary, grammar, pronunciation, and fluency proposed by Brown (2004). The questions tested was also the same questions which consist of the following language questions: self introduction, describing place, describing historical building, giving congratulation and compliment, giving information, describing people to others, introducing people to others, telling story, and apologizing. There was some criteria of the test such as: vocabulary, grammar, pronunciation, and fluency.

To score the students' speaking achievement, Oral Proficiency Scoring Categories by Brown (2004) was used. Next, the results of the speaking achievement were categorized based on the grading system and categorization as presented in Table 5 and 6.

**Table 5**  
**The Grading System of the Students' Speaking Test**  
**Oral Proficiency Scoring Categories by Brown (2004)**

Aspects	Score	Description
Vocabulary	1	Speaking vocabulary inadequate to express anything but the most elementary needs.
	2	Has speaking vocabulary sufficient to express himself simply with some circumlocutions.
	3	Able to speak the language with sufficient vocabulary.
	4	Can understand and participate with a high degree of precision of vocabulary.
	5	Speech on all levels is fully accepted
Grammar	1	Error in grammar are frequent but can be understood.
	2	Can usually handle elementary construction quite accurately but doesn't have through of confidence of grammar.
	3	Control of grammar is good.
	4	Able to use of language accurately and error in grammar are quite rare.
	5	Equivalent.
Pronunciation	1	Errors in pronunciation are frequent but can be understood.
	2	Accent is intelligible though often quite faulty.
	3	Errors never interfere with understanding and rarely disturb.
	4	Error in pronunciation is rare
	5	Equivalent to and fully accepted
Fluency	1	No specific fluency description.
	2	Can handle with confidence but not with social situation.
	3	Rarely has to grope words
	4	Able to use the language fluency on all level
	5	Has complete fluency in the language.

*Source: Brown, H. D. (2004)*

**Table 6**  
**The Categorization of Students' Speaking Test**

No.	Score Interval	Category
1	16-20	Very good
2	11-15	Good
3	6-10	Fair
4	0-5	Poor

*Source: Brown, H. D. (2004)*



## **3.6 Validity and Reliability of the Instrument**

### **3.6.1 Validity**

Validity is used as the development and evaluation of a test. According to Fraenkel et al. (2012), validity is the most important idea to consider when preparing or selecting an instrument for use. Validity refers to the appropriateness, meaningfulness, correctness, and usefulness of the inferences a researcher makes. The accuracy of the inferences or interpretations made from the test scores.

#### **3.6.1.1 Validity of PSCAS Questionnaire**

The validity of the instruments in research is very important. The main purpose of the development of a PSCAS was to construct a one-dimensional measure of speaking component in the public speaking class, a factor analysis was employed to help select item to be included. The preliminary PSCAS yielded an internal consistency of 0,84 using Croanbach's alpha and it was factor-analyzed to establish the construct and the final version. The factor analysis revealed that the PSCAS included the components of communication apprehension, test anxiety, fear of negtive evaluation, and comfort in using English in a public speaking class.

In this research, the researcher used ready made Public Speaking Class Anxiety Scale (PSCAS) by Yaikhong and Usaha (2012). A factor analysis was used to identify underlying variables, or factors, which account for the pattern of correlations within a set of observed variables. A factor analysis was commonly used for data reduction to identify a small number of factors explaining most of the varience which were observed in a much larger number of variables.

### **3.6.1.2 Validity of Speaking Test**

In research, it is necessary to have validity to be used as a measuring tool to measure the variables that was measured in research. Fraenkel et al. (2012) stated that content validity refers to the nature of the content include within the instrument and the specification the researchers uses to formulate the content. A content validity is very important since it is an accurate measure of what it is supposed to measure.

The researcher used content validity to find out the validity of the speaking test by having expert judgment. There are two experts evaluated the test whether it was appropriate or not. They are on English lectures of UIN Raden Fatah Palembang. There are five evaluated items: topic, rubric, content, time allocation, and instruction of determining the appropriateness based on the scale (very inappropriate, inappropriate, moderate, appropriate, very appropriate). Moreover, the result of speaking test validity which were evaluated by two experts of English lectures at UIN Raden Fatah Palembang, based on the result showed that the category was appropriate level.

### **3.6.2 Reliability**

In research, the consistency of a sequence of measurements or a succession of measuring instrument. According to Fraenkel et al. (2012), reliability refers to the consistency of scores or answers from one administration of an instrument to another and from one set of items to another, reliability refers to the consistency or stability of the test scores.

### 3.6.2.1 Reliability of PSCAS Questionnaire

The questionnaire in this study is originally developed by Yaikhong and Usaha (2012) in their study entitled “A Measure of EFL Public Speaking Class Anxiety: Scale Development and Preliminary Validation and Reliability”. To establish the internal consistency of a PSCAS Cronbach’s alpha was used. Gravetter and Wallnau (1996) argued that the calculating of reliability of the questionnaire items using coefficient ( $\alpha$ ) is appropriate when the items are not scored right versus wrong. Moreover, Fraenkel et al. (2012) assumed that the internal consistency coefficient of the questionnaires completed by 76 second year students in the B Ed. (English) program turned out to be .84, considered acceptable based on the broadly acceptable reliability coefficient of .70. In short, the PSCAS questionnaire is considering reliable to be used in this study.

### 3.6.2.2 Reliability of Speaking Test

The reliability of speaking test was obtained. While, it measured as the results of two expert judgments. The result showed that speaking test with topic, content, and rubric is very appropriate, and instruction and time allocation were appropriate. It can be assume that speaking test was reliable. The distribution of reliability of speaking test was presented in table 7 below:

**Table 7**  
**Inter-rater Reliability**  
**Correlations**

		Rater1	Rater2
Rater1	Pearson Correlation	1	.534**
	Sig. (2-tailed)		.001
	N	36	36
Rater2	Pearson Correlation	.534	1
	Sig. (2-tailed)	.001	
	N	36	36

\*\* . Correlation is significant at the 0.01 level (2-tailed).

From the table of inter-rater reliability above, it was found that the significant of inter-rater reliability was 0,001. It could be stated that the obtained data were categorized reliable since it is lower than 0,05.

### **3.7 Data Analysis**

After distributing the questionnaire and speaking test, the researcher checked and analyzed the data.

#### **3.7.1 Data Description**

##### **3.7.1.1 Distribution of Frequency Data**

In distribution of frequency data, the researcher used SPSS to get the results from the PSCAS questionnaire and students' speaking achievement.

##### **3.7.1.2 Descriptive Statistic**

In descriptive statistics there are the number of samples, maximum score, mean, standard difference, and standard error of the mean. Descriptive statistics was obtained from PSCAS questionnaire scores and speaking achievement. Afterwards, SPSS used to get the results of descriptive statistical analysis.

##### **3.7.1.3 Pre-requisite Analyses**

###### **3.7.1.3.1 Normality of the Test**

Normality of the test was used to see if the distribution of all data were normal, the data from questionnaire and test. The data can be classified into normal when the p-output was higher than 0,05. Kolmogorov-Smirnov formula was applied to see the normality. The distribution of normality of the test is presented in table 8 below:

**Table 8**  
**Normality Test**  
**One-Sample Kolmogorov-Smirnov Test**

		PSCAS	SPEAKING
N		36	36
Normal Parameters <sup>a,b</sup>	Mean	55,0278	7,3194
	Std. Deviation	10,00139	1,13486
Most Extreme Differences	Absolute	,116	,126
	Positive	,116	,126
	Negative	-,074	-,115
Test Statistic		,116	,126
Asymp. Sig. (2-tailed)		,200 <sup>c,d</sup>	,160 <sup>c</sup>

a. Test distribution is Normal.

b. Calculated from data.

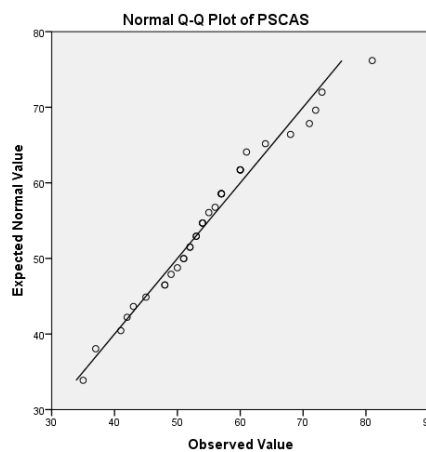
c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

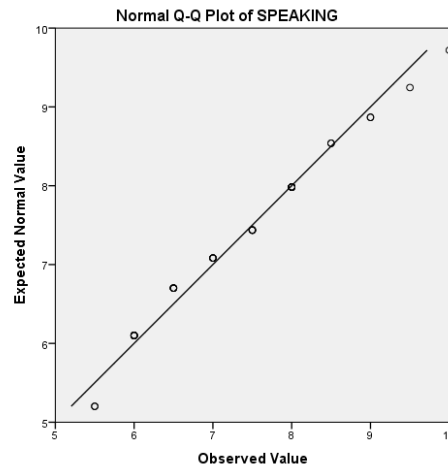
From the table of normality test above, it was found that the significant of normality test from students' speaking anxiety was 0,200 and their speaking achievement was 0,160. From the scores, it could be started that the obtained data were categorized normal since it is higher than 0,05.

The normal Q-Q plot of each variable is illustrated in the following figures:

**Figure 1. Distribution of Speaking Anxiety Data**  
**Normal Q-Q Plot of Speaking anxiety**



**Figure 2. distribution of Speaking Achievement Data  
Normal Q-Q Plot of Speaking Achievement**



### 3.7.1.3.2 Linearity of the Test

In measuring the data linearity, test for linearity was applied to measure whether students' PSCAS questionnaire score and students' speaking test data were linear or not. The data analysis is found whenever the p-output was higher than 0,05, and F-value was lower than F-table. The distribution of linearity of the test is presented in table 9 below:

**Table 9  
Linearity Test  
ANOVA Table**

			Sum of Squares	df	Mean Square	F	Sig.
SPEAKING * PSCAS	Between Groups	(Combined)	31,347	23	1,363	1,191	,387
		Linearity	2,196	1	2,196	1,919	,191
		Deviation from Linearity	29,151	22	1,325	1,158	,408
	Within Groups		13,729	12	1,144		
Total			45,076	35			

Based on measuring linearity test of PSCAS questionnaire and speaking achievement scores, it was found that the two variables were linear since it was higher than 0,05. The result showed that the F-value (1,15) was lower than F-table (2,48) and the significant level was 0,40. The distribution showed that the significance level was higher than 0,05. It means that the variables were linear. To sum up all the data were linear for each correlation and regression.

### **3.8 Hypothesis Testing**

#### **3.8.1 Correlation Analysis**

In finding the correlation between speaking anxiety and English speaking achievement of the eleventh grade students of Madrasah Aliyah Al-Fatah Palembang, Pearson Product Moment Coefficient would used to find out the correlation between variables. Then, the significance of the correlation coefficient was determined by comparing the data of the coefficient  $r$  data in the level of significance of five percent in the table of product moment ( $r$  table). In addition, the correlation coefficient could be significant if the  $r$  table in the level of significance of 5 percent showed less than  $r$  data.

#### **3.8.2 Regression Analysis**

In order to know the contribution of speaking anxiety to English speaking achievement of the eleventh grade students of Madrasah Ali yah Al-Fatah Palembang, regression analysis was planned to be computed. In the correlation study, the analysis estimated a statistical process of the correlations between variables or between one or more predictor variables and the criterion variable. The result of the analysis indicated the percentage of the predictor variables that

contributed to the criterion scores. In addition, all the statistically calculation above could be completed by SPSS (Statistical Package for Social Science) computer program version 23. Moreover, the contribution of regression in this study was not continued because the results of speaking anxiety and English speaking achievement showed that there was no significant correlation between variables.