

# CHAPTER III

## RESEARCH METHODOLOGY

### A. Research Design

The method that used by the writer was quantitative research. The quantitative research is a process to find the information that related to the objective of the research, Margono (2010, p.50). In this research, the writer used *Quasi-Experimental design* because this research needed an experiment to get the result that the writer needs. In this design, the writer used *Nonequivalent Control Group Design* it was similar to *pretest-posttest control group* but the difference was control group and experiment group were not chosen randomly. The writer used this design because the writer would like to compare the result between two groups, one group as the experimental and the other as the control group.

To ease in calculating the data, IBM SPSS Statistic 22 Program, a statistical software used to solve business and research problems, it was applied to help the writer in conducting the data.

The design of this *Quasi-Experimental* research can be described as follow:

E (X1)	O <sub>1</sub>	X	O <sub>2</sub>
C (X2)	O <sub>3</sub>		O <sub>4</sub>

Where:

E (X1) : Experimental group

C (X2) : Control group

X : Treatment with Students Team Achievement Division (STAD)

O<sub>1</sub> : Pre-test for experimental group

O<sub>2</sub> : Post-test for experimental group

O<sub>3</sub> : Pre-test for control group

O<sub>4</sub> : Post-test for control group

## **B. Research Setting and Time**

### **1. Research Setting**

This research conducted in twelfth grade students at MA. An-Najah Islamic Boarding School Martapura, Taruna Praja street, Landasan Ulin, Banjar, South Kalimantan. The writer took the twelfth students as the sample of this research because it will help them to prepare the higher education in the next level. Many Universities in Indonesia have been applied cooperative learning method in their teaching which emphasizes on group working.

### **2. Research Time**

In this research, the writer collected and conducted the data about two months. It started from 03 August 2017 until 03 October 2017. To collect the data for finding, the writer administered the instrument.

### C. Population and Sample

To get better understanding about population and sample of the research, both were discussed here.

#### 1. Population

According to Arikunto (2006, p.130), population is a set or collection of all elements possessing one or more attributes of interest. Population is the whole subject of research. It was determined to be analyzed and calculated. The population in this research was students of twelfth grade at MA. An-Najah Islamic Boarding School in academic year 2017/2018 with total 77 students.

**Table 3.1 Population of the Twelfth Grade Students  
at MA. An Najah Islamic Boarding School**

<b>The number of students</b>	
XII IPS 1	26 students
XII IPS 2	26 students
XII IPA	25 students
<b>Total</b>	<b>77 students</b>

#### 2. Sample

Sample is part of characteristic which had by the population. The writer used *purposive sampling technique*. According to Sugiyono (2013, p.118) *purposive sampling* is a technique of determining the sample with a certain consideration. Based on the definition, the writer used two classes

of XII IPS which have the same characteristics. The writer then named the class as X1 and X2, X1 as the experiment variable and X2 as the control variable with total more or less 52 students.

**Table 3.2 Sample of the Twelfth Grade Students**

**at MA. An-Najah Islamic Boarding School**

<b>Class</b>	<b>Number of Students</b>
XII IPS 1	26 students
XII IPS 2	26 students
<b>Total</b>	<b>52 students</b>

#### **D. Variable of Research**

According to Hatch and Faraday in Sugiyono (2013, p.60), theoretical research variable can be defined as an attribute of a person or another object. There were two kinds of variable which was used in this research, variable X (independent variable) and variable Y (dependent variable).

Variable X (independent) was a variable that affect or be a cause of variable Y (dependent), while variable Y (dependent) was affected or which become due, due to the variable X.

This research had two variables, they were *Student Team Achievement Division (STAD)* and *students' speaking skill*. *Student Team Achievement Division (STAD)* as variable X, and *students' speaking skill* as variable Y.

## **E. Research Instrument**

The instrument that used by the writer in this research was an oral test which was taken from the students' handbook. While implementing the test, the teacher used *role-play activity* in order to get students communicate with others in their group. Role playing is a popular pedagogical activity in cooperative learning classes which designed to get a quick spoken sample from students to verify their speaking skill with their group. In this role-play both the teacher and the writer trained to evaluate on how well students performed with their group so that they become somewhat creative in their linguistic output. This activity allowed some rehearsal time so that students can map out what they are going to say. It also has the effect of lowering anxieties as students can even for a few moments.

### **1. Test**

Test which was given by the writer in this research was used to collect the data of the students' speaking skill to get a quick sample spoken from students to verify their speaking skill with their group. The test in this research was taken from the students' handbook, it was an oral test. This assessment was divided into 5 aspects to simplify the identification of the students' speaking skill; they are pronunciation, grammar, vocabulary, fluency, and comprehension.

## **F. Source of Data**

The data was taken from the sources as follows:

1. Respondents: the twelfth grade of IPS consist of 52 students which divided into two classes both were experimental and control class. In this research the writer used *quasi-experimental* design.
2. Informants: students, and English teacher of MA. An-Najah Islamic Boarding School.

## **G. Data Collection Procedure**

Procedure of this research to collect the data as follows:

1. Test

Test which was given by the writer in this research was used to collect the data of the students' speaking skill to get a quick sample spoken from students to verify their speaking skill with their group. The test in this research was taken from the students' handbook, it was an oral test. While conducting the data, both the teacher and the writer used two tests, they were: *Pre-Test* and *Post-Test*.

The scoring rubric for assessing the students' performance in speaking skill was adapted from David P. Harris. This assessment divided into 5 aspects to simplify the identification of the students' speaking skill; they are pronunciation, grammar, vocabulary, fluency, and comprehension.

a. Pre-Test

*Pre-Test* in this research was given by the writer to know the first result of students' speaking skill from both experimental and control class. For the experimental class it was used to know the result before they treated by Student Team Achievement Division (STAD) and for control class, the technique that has been applied by the teacher in teaching learning process was used as usual.

The test was taken from the students' handbook, both the teacher and the writer provided an appropriate test to students. The teacher divided the students in small group consists of 4 or 5. Role-play was used as an activity in this research due to its function, role play emphasizes on group working. So that, the students can share their knowledge together as well as they solved the problem. This activity gave them more opportunity to communicate and practice the language actively in their group.

The title of the performance task of this *pre-test* was "Daily Communication Activities". In this chance, students were free to choose the setting of the dialogue that they are going to perform in front of the class with their group members. The consideration in choosing this performance task based on their previous material, they had studied a lot of expressions and dialogues which related to the

task performance of *pre-test*. Maximum time for this *pre-test* was 8 minutes.

b. Post-Test

*Post-Test* in this research was given by the writer to know the result of students' speaking skill from both experimental and control class. For the experimental class it was used to know the result after they treated by Student Team Achievement Division (STAD) which emphasizes on group working in every teaching time.

The test was taken from the students' handbook, both the teacher and the writer provided an appropriate test to students. The teacher divided the students in small group consists of 4 or 5. Role-play was used as an activity in this research due to its function which emphasizes on group working rather than compete individually. So that, the students can share their knowledge together as well as they solved the problem. This activity gave them more opportunity to communicate and practice the language actively in their group.

The performance task of this *post-test* for both experimental and control class was about "Narrative Text". Narrative text was used to entertain the readers, it also includes: myths, fairytales, science fiction, and romance novel. In this chance, students were free to choose what kind of narrative story that they are going to perform in front of the class with their group members. The consideration in



choosing this performance task based on their previous material. Students had studied about “Narrative Text”, they also had discussed about this material in the classroom. The maximum time for this *post-test* was 10 minutes.

**Table 3.3 Instrument of The Research**

Instrument for Pre-Test	Instrument for Post-Test
<p><b>“Daily Communication Activity”</b></p> <ul style="list-style-type: none"> <li>▪ Students were free to choose the setting of the dialogue</li> <li>▪ Students were divided in small group consists of 4 or 5</li> <li>▪ Students discussed the material in their own group before perform it in front of the class</li> <li>▪ Maximum time for each group was 8 minutes</li> </ul>	<p><b>“Narrative Text”</b></p> <ul style="list-style-type: none"> <li>▪ Students were free to choose the kind of narrative story</li> <li>▪ Students were divided in small group consists of 4 or 5</li> <li>▪ Students discussed the material in their own group before perform it in front of the class</li> <li>▪ Maximum time for each group was 10 minutes</li> </ul>

**Table 3.4 Rubric for Assessing Speaking**

**Adapted from David P. Harris**

Aspect	Score	Definition
	5	Has view traces of foreign accent
	4	Always intelligible, though one is conscious of

Pronunciation		definite accent
	3	Pronunciation problems necessitate concentrated listening and occasionally lead to misunderstanding.
	2	Very hard to understand because of pronunciation problems, must frequently be asked to repeat.
	1	Pronunciation problems to severe as to make speech virtually unintelligible.
Grammar	5	Makes few (if any) noticeable errors of grammar or word order
	4	Occasionally makes grammatical; and/or word order errors which do not, however, obscure meaning.
	3	Makes frequent errors of grammar and word order which occasionally obscure meaning.
	2	Grammar and word order error make comprehension difficult. Must often rephrase sentences and/or restrict him to basic patterns
	1	Error in grammar and word order to severe as to make speech virtually unintelligible.
Vocabulary	5	Use vocabulary and idioms is virtually that of a native speaker
	4	Sometimes use inappropriate terms and must rephrase ideas because of lexical inadequacies.
	3	Frequently uses the wrong words; conversation somewhat limited because of inadequate vocabulary.
	2	Miss use of words and very limited vocabulary make comprehension quite difficult.

	1	Vocabulary limitations so extreme as to make conversation virtually impossible.
Fluency	5	Speech as fluent and effortless as that of native speaker
	4	Speech of speech seems to be slightly affected by language problems.
	3	Speed and fluency are rather than strongly affected by language problems.
	2	Usually hesitant; often forced into silence by language limitations
	1	Speech is so halting and fragmentary as to make conversation virtually impossible.
Comprehension	5	Appears to understand everything without difficulty
	4	Understand nearly everything at normal speed, although occasional repetition maybe necessary.
	3	Understand most of what is said at-slower-than-normal speed with repetition.
	2	Has great difficulty following what is said. Can comprehend only 'social conversation' spoken slowly and with frequent repetition.
	1	Cannot be said to understand even simple conversation English.

Maximum score : 25

Total score :

Students' Score X 100 = 25 X 100 = 100

Maximum Score

25

## H. Data Analysis Procedure

### 1. Validity of the Test

Validity concerns on what we are going to measure is probably the single most important aspect of measurement. In this research, the writer calculated the validity of *an oral test* which was taken from the students' handbook. To analyze the data the writer used SPSS statistic 22 program by using *Pearson's product moment. Analyze – Correlate – Bivariate – Pearson – Two-tailed – Flag significant correlations – OK*. Product moment ( $\alpha$ ) = 5% = 0.05

**Table 3.5 Distribution Value  $r_{table}$**

**Significance 5% dan 1%**

N	The level of Significance		N	The level of Significance	
	5%	1%		5%	1%
<b>3</b>	0.997	0.999	<b>38</b>	0.320	0.413
<b>4</b>	0.950	0.990	<b>38</b>	0.316	0.408
<b>5</b>	0.878	0.959	<b>40</b>	0.312	0.403
<b>6</b>	0.811	0.917	<b>41</b>	0.308	0.398
<b>7</b>	0.754	0.874	<b>42</b>	0.304	0.393
<b>8</b>	0.707	0.834	<b>43</b>	0.301	0.389
<b>9</b>	0.666	0.798	<b>44</b>	0.297	0.384
<b>10</b>	0.632	0.765	<b>45</b>	0.294	0.380
<b>11</b>	0.602	0.735	<b>46</b>	0.291	0.376
<b>12</b>	0.576	0.708	<b>47</b>	0.288	0.372
<b>13</b>	0.553	0.684	<b>48</b>	0.284	0.368
<b>14</b>	0.532	0.661	<b>49</b>	0.281	0.364
<b>15</b>	0.514	0.641	<b>50</b>	0.279	0.361

<b>16</b>	0.497	0.623	<b>55</b>	0.266	0.345
<b>17</b>	0.482	0.606	<b>60</b>	0.254	0.330
<b>18</b>	0.468	0.590	<b>65</b>	0.244	0.317
<b>19</b>	0.456	0.575	<b>70</b>	0.235	0.306
<b>20</b>	0.444	0.561	<b>75</b>	0.227	0.296
<b>21</b>	0.433	0.549	<b>80</b>	0.220	0.286
<b>22</b>	0.432	0.537	<b>85</b>	0.213	0.278
<b>23</b>	0.413	0.526	<b>90</b>	0.207	0.267
<b>24</b>	0.404	0.515	<b>95</b>	0.202	0.263
<b>25</b>	0.396	0.505	<b>100</b>	0.195	0.256
<b>26</b>	0.388	0.496	<b>125</b>	0.176	0.230
<b>27</b>	0.381	0.487	<b>150</b>	0.159	0.210
<b>28</b>	0.374	0.478	<b>175</b>	0.148	0.194
<b>29</b>	0.367	0.470	<b>200</b>	0.138	0.181
<b>30</b>	0.361	0.463	<b>300</b>	0.113	0.148
<b>31</b>	0.355	0.456	<b>400</b>	0.098	0.128
<b>32</b>	0.349	0.449	<b>500</b>	0.088	0.115
<b>33</b>	0.344	0.442	<b>600</b>	0.080	0.105
<b>34</b>	0.339	0.436	<b>700</b>	0.074	0.097
<b>35</b>	0.334	0.430	<b>800</b>	0.070	0.091
<b>36</b>	0.329	0.424	<b>900</b>	0.065	0.086
<b>37</b>	0.325	0.418	<b>1000</b>	0.062	0.081

## 2. Reliability of the Test

According to Brown (2007, p.447) reliable test was used to know the reliability of the test instrument (consistent and dependable), it means that the test will give the similar result for different occasions.

The writer used SPSS statistic 22 program by using *alpha cronbach*.

*Analyze – Scale – Reliability Analysis – Alpha – OK.*

0,00 – 0,20 : Very low reliability

0,20 – 0,40 : Low reliability

0,40 – 0,60 : Enough reliability

0,60 – 0,80 : High reliability

0,80 – 1,00 : Very high reliability

## 1. Pre-requirement Test

After analyzing the validity and reliability of the test, the writer analyzed pre-requirement test which consist of normality, homogeneity and also hypothesis test.

### 1. Test of Normality

Test of Normality was used to analyze the distribution of data. Based on the degree of significance 0.05 the data considered normally distributed if the significance level ( $p$  value  $> 0.05$ ), if the significance level ( $p$  value  $< 0.05$ ) then the data is not normally distributed. To calculate the data the writer used SPSS statistic 22 program by using *Kolmogorov Smirnov technique. Analyze – Nonparametric Test – Legacy Dialog – Sample K.S – Test Variable List – Normal – OK.*

## 2. Test of Homogeneity

Test of Homogeneity was used to show that two or more groups of sample data from the population have the same variant. Based on the degree of significance 0.05 the variants are homogeneous if the significance level ( $p$  value  $> 0.05$ ), on the other hand if the significance level ( $p$  value  $< 0.05$ ) then the variants are not homogeneous. To calculate the data the writer used SPSS statistic 22 program. *Analyze – compare mean – one way ANOVA.*

## 3. Hypothesis Testing

The hypothesis which conducted by the writer in this research were:

$H_0 : \mu_1 = \mu_2$  : There is no significant result of students' speaking skill who taught by implementing Students Team Achievement Division (STAD).

$H_a : \mu_1 \neq \mu_2$  : There is significant result of students' speaking skill who taught by implementing Students Team Achievement Division (STAD).

In this hypothesis test, the writer used SPSS statistic 22 program by using *Independent Sample T-Test* to test the significance of differences two mean from two distributions, which consist of Experimental and Control class. *Analyze – Compare Means – Independent Sample T Test – Define Group – Type 1 in group 1 and type 2 in group 2 – OK.*