

## CHAPTER III

### RESEARCH METHOD

#### A. The Research Design

This research is an experimental research that consists of two variables. They are independent variable (X) that refers to the use of Picture Strip Story technique, and (Y) refers to students' Speaking Ability as dependent variable. Louis Cohen, Lawrence Manion and Keith Marrison state that an experiment involves making a change in the value of one variable—called the independent variable – and observing the effect of that change on another variable – called the dependent variable.<sup>1</sup> In addition, an experiment is the quantitative approach that provides the greatest degree of control over the research procedures.<sup>2</sup>

This research was designed as a quasi experimental research which was intended to find out the effect of using Picture Strip Story technique toward students' speaking ability. Quasi-experiments are experimental situations in which the researcher assigns, but not randomly, participants to groups because the experimenter cannot artificially create groups for the experiment.<sup>3</sup> This quasi experimental design is focused on Nonequivalent Control Group Design. In conducting this research, the writer used two classes. The first class was used as experimental class (X) which was treated

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<sup>1</sup>Louis Cohen, Lawrence Manion and Keith Marrison, *Research Methods in Education Sixth Edition* (New York: Routledge, 2007), p. 272

<sup>2</sup>L. R. Gay. *Educational Research Competences for Analysis and Application, Sixth Edition* (New Jersey: Prentice Hall, 2000).p. 15

<sup>3</sup> John W. Creswell, *Educational Research: Planning Conducting and Evaluating Quantitative and Qualitative Research* (New Jersey: Pearson Education Ltd, 2008), p. 645

by Picture Strip Story technique and another class as a control class (Y) was treated without picture strip story technique. Both of two classes were given pre-test and post-test, but only the experimental class was treated by using picture strip story. In brief, this research was designed by the following table:<sup>4</sup>

**Table III.1**  
**The Research Design**

Group	Pre-test	Treatment	Post-test
E	Test 1	X	Test 2
C	Test 1		Test 2

Where:

- E = experimental group
- C = control group
- T1 = pre-test in experimental and control group
- X = Receive particular treatment
- T2 = post-test in experimental and control group

### **B. The Location and Time of the Research**

This research was conducted from September to October 2013 at the second grade students at MA AL-Ihsan Buluh rampai located on Jln. Manggis, Buluh Rampai, Seberida of Indra Giri Hulu Regency academic year 2013/2014.

### **C. The Subject and the Object of the Research**

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<sup>4</sup>ibid, p.314

1. The Subject of the Research

The subject of this research was the second grade students at MA Al-Ihsan Buluh Rampai academic year 2013/2014.

2. The Object of the Research

The object of this research was Picture Strip Story Technique and speaking ability.

**D. The Population and Sample**

The population of this research was the second grade students at MA-Al-Ihsan Buluh Rampai in 2013/2014 academic years which consisted of two classes, the technique used to take the sample was total sampling. The description of the sample can be seen as follows:

**Table III.2**  
**The Population and Sample**

No.	Class	Population	Sample
1.	Science Class	20	20
2.	Social Class	20	20
Total Sampling		40	40

**E. The Technique of Collecting Data**

## 1. Test

The researcher used *test* to collect the data. The data were *oral presentation test*.

Oral presentation test was used to collect the data about students' speaking ability. Oral presentation tests divided into two:

### a. Pre- test

Pre-test was used to collect the data about students' speaking ability before getting treatment for experimental class and before getting no treatment for control class. The test was administered to the second grade students at MA AL-Ihsan Buluh Rampai.

### b. Post- test

Post-test was used to collect the data about students' speaking ability after getting treatment for experimental class and after getting no treatment for control class. The test was administered to the second grade students at MA AL-Ihsan Buluh Rampai.

Then, the writer took the total score from the result of the Speaking ability test. The classification of the students' score is shown below:<sup>5</sup>

1. 80 – 100 % = Very Good
2. 66 – 79 % = Good
3. 56 – 65 % = Enough
4. 40 – 55 % = Less
5. 30 – 39 % = Bad

## 2. The Validity and Reliability of Test

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<sup>5</sup> Suharsimi Arikunto. *Dasar-dasar Evaluasi Pendidikan (Edisi Kedua)* (Jakarta: Bumi Aksara, 2009). p.245

### **a. The Validity**

The test used for testing students' speaking ability had to have reliability and validity. The test to be valid if it measures accurately what it is intended to measure.<sup>6</sup> There are four types of validity, They are content validity, construct validity, concurrent validity, and predictive validity.<sup>7</sup> To know the validity of the test, the reseacher used content validity. Content validity is partly a matter of determining if the content that the instruments contains is an adequate sample of the domain of content it is supposed to represent.<sup>8</sup> Thus, the test was given based on the material studied by the students. The material of the test was taken from the textbook used by the second grade students of MA AL-IHSAN Buluh Rampai.

### **b. The Reliability**

According to Gay and Airisian, reability is the degree to which a test consistetly measures whatever it is measuring.<sup>9</sup> There are five types of reliability: stability, equivalence, equivalence and stability, internal consistency, and rater agreement. In this research, to know the reliability of the test, the researcher used inters rater reability, because the researcher had two raters in order to score the students' speaking ability. Inter judge

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<sup>6</sup>Artur Hughes. *Testing for language Teachers* (Cambridge: Cambridge University, 1989),p. 26

<sup>7</sup>suharsimi arikunto.Op.Cit, p. 79

<sup>8</sup>Jack R. Fraenkel, Norman E. Wallen. *How to Design and Evaluate a Research in Education*. (New York: McGraw-Hill Companies Inc. 2006), p. 153

<sup>9</sup>L.R Gay and Peter Airisian, *Loc.Cit.* p.169

reliability can be obtained by having two (more) judges independently score to be compared to the score of both judges. Then, the score from rater 1 was correlated with the score from rater 2 by using *Pearson Product Moment correlation formula* through SPSS 16.0 program. Then, to know the level of the correlation, the  $r_o$  was proceeded through *Spearman-Brown Prophecy formula* as follows:<sup>10</sup>

$$r_{tt} = \frac{nr_{A,B}}{1+(n-1)r_{A,B}}$$

Where,

$r_{tt}$  = inter-rater reliability

$n$  = the number of raters whose combined estimates the final mark for the examines

$r_{A,B}$  = the correlation between raters, or the average correlation among all raters if there are more than two.

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<sup>10</sup> Grant Henning, *A Guide to Language Testing; Development, Evaluation, and Research*, (Boston: Heinle & Heinle, 1987), p.85

The writer used the categories of reliability that can be seen from the following table:

**Table III.3**

**Correlations**

		Rater1	Rater2
Rater1	Pearson Correlation	1	.302
	Sig. (2-tailed)		.196
	N	20	20
Rater2	Pearson Correlation	.302	1
	Sig. (2-tailed)	.196	
	N	20	20

From the output above, it could be seen that r calculation is 0,302 correlated to r table, df= 38% and 1%. Because df=38 was not found from the r table, so the researcher took df=40 to be correlated either at level 5% or 1%. At level 5% r table is 0,304, while at level 1% r table is 0,393. Thus, the r observation is obtained higher than r table, either at level 5% and 1%. So the researcher concluded that there is a significant correlation between score of rater 1 and score of rater 2. In other words, the speaking test was reliable.

## F. The Technique of Data Analysis

The researcher scored the students' speaking ability according to categories developed by Hughes. According to Hughes, there are some components that should be considered in giving students' speaking ability score: they are accent, Grammar, Vocabulary, Fluency, and comprehension.<sup>11</sup> So, Hughes describes the rating as follows:

**Table III.4**  
**Speaking Assessment**

### a. Accent

Category	Requirement
6	Native Pronunciation,with no trace of"foreign accent
5	No conspicuous mispronunciations,but would not be taken for a native speaker
4	Marked"foreign accent"and occasional mispronunciations which do not interfere with understanding
3	"Foreign accent"requires concentrated listening,and mispronunciations lead to occational misunderstanding and apparent errors in grammar or vocabulary
2	frequent gross error and very heavy accent make understanding difficult,require frequent repetition
1	pronunciation frequently unintelligible

### b. Grammar

Category	Requirement
6	No more than two errors during the interview
5	few errors,with no patterns of failure
4	Occational error showing imperfect control of some patterns but no weakness that causes misunderstanding
3	Frequent errors showing some major patters uncontrolled and causing occational irritation and misunderstanding
2	Constant errors showing control of very few major patterns and frequently preventing communication
1	Grammar almost entirely inaccurate except in stock phrases

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<sup>11</sup>Artur Hughes.Op.Cit. p. 111

### c. Vocabulary

Category	Requirement
6	vocabulary apparenly as accurate and extensive as that of an educated native speaker
5	professional vocabulary broad and precise,general vocabulary adequate to cope with complex practical problems and varied social situation
4	professional vocabulary adequate to discuss special interest,general vocabulary permits discussion of any non-technicsl subject with some circumlocations
3	choice of words sometimes innacurate,limitations of vocabulary prevent discussion of some common professional and social topics
2	vocabulary limited to basic personal and survival areas(time,food,transportation,family,etc)
1	vocabulary in adequate for even the simplest conversation

### d. Fluency

Category	Requirement
6	speech on all professional and general topics as effortless and smooth as a native speaker
5	speech is effortless and smoothh,but perceptively non-native in speed and evenness
4	speech is occationally hesitant,with some unevenness caused by rephrasing and grouping for words
3	speech is frequently hesitant and jerky,sentences may be left uncompleted
2	speech is very slow and uneven except for short or routine sentences
1	speech is so halting and fragmentary that conversation is virtually impossible

### e. Comprehension

Category	Requirement
6	understands everything in both formal and colloquial speech to be expected of an educated native speaker
5	understands everything in normal educated conversation except for very colloquial or low-frequency items, or exceptionally rapid or slurred speech
4	understands quite well normal educated speech when engaged in a dialogue, but requires occasional repetition or rephrasing
3	understands careful, somewhat simplified speech when engaged in a dialogue, but may require considerable repetition and rephrasing
2	understands only slow, very simple speech on common social and touristic topics; requires constant repetition and rephrasing
1	understands to little for the simplest type of conversation

The score levels given to the students were about from level 1 to level 5, because level 6 was only given to the native speaker. The speaking result was evaluated by using five components and each component had score or level. Each component had 20 as the highest score and the total of the components was 100. In this research, the data of the research were picked from students' pretest and posttest score of Quasi-experimental research. The writer analyzed the data by using t-test. To know whether the result of the research was statistically significant. The data were analyzed by using the formula as follows:<sup>12</sup>

$$t_0 = \frac{M_x - M_y}{\sqrt{\frac{SD_x^2}{N-1} + \frac{SD_y^2}{N-1}}}$$

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<sup>12</sup>Hartono, *Statistik untuk Penelitian*, (Yogyakarta: Pustaka Pelajar, 2011), p. 208

Where:

$t_o$  = the  $t_{\text{observation}}$

$M_x$  = the mean of Variable X

$M_y$  = the mean of Variable Y

$SD_x$  = Standard Deviation of Variable X

$SD_y$  = Standard Deviation of variable Y

N = the number of cases

After computing  $t_{\text{test}}$ , it is necessary to obtain the degree of freedom that is used to determine whether the  $t_{\text{table}}$  is significant or not. The  $t_{\text{observed}}$  value is consulted with the value of  $t_{\text{table}}$  by using degree of freedom. The formula of degree of freedom is as follows:<sup>13</sup>

$$df = (N_x + N_y) - 2$$

where:

df : degree of freedom

$N_x$  : the number of students in experimental group

$N_y$  : the number of students in control group

Finally, when the writer knew the result, the writer concluded that if  $t_o < t_{\text{table}}$ ,  $H_o$  is accepted. It means that there is no effect of Picture Strip Story Technique toward Speaking ability of the second grade students at MA-Al-Ihsan Buluh Rampai. If  $t_o > t_{\text{table}}$ ,  $H_a$  is accepted. It means that there is a significant effect of Picture Strip Story Technique toward Speaking ability of the second grade students at MA-Al-Ihsan Buluh Rampai.

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<sup>13</sup>Hartono, Loc. Cit, p.212