CHAPTER III
METHOD OF RESEARCH

A. Research Design

In this research, the researcher focused on teaching students' speaking skill in descriptive text. Considering the purpose of the research and the nature of the problems, this research is a quantitative one. According to Michael J. Wallace, states, "Quantitative is broadly used to describe what can be counted or measures and can therefore be consider objective."[1]Also use the experimental research to identify this research.

According to Arikunto, experiment is the way to look for the cause of causal relationship between experimental class and control class.[2] It is to know the aims from using think pair share in teaching speaking skill. The experimental research divided into two groups; control group and experimental group. An experimental group receive a new treatment and control group receive a usual treatment.

According to Nunan, experiment is designed to collect data such a way that treats to the reliability and validity of the research is minimized.[3] In this study also use pre-test and post-test.

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[1] Michael J. Wallace, *Action Research for Language Teacher*...,, p. 38

[2] Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik,* (Jakarta: Rineka Cipta, 2010), p. 9

[3] David Nunan, *Research Method in Language Learning*, (Cambridge: Cambridge University Press, 1992), p. 47

Table 3.1

Table of Pre-test and Post test

Group	Pre-test	Dependent Variable	Post-test
E	O1	X	O2
C	O3	-	O4

It is adopted from Juliansah Noor.[4]

Where:

E	: the symbol for experimental class
C	: the symbol for controlal class
O1	: pre-test for experimental class
O2	: post-test for experimental class
O_3	: pre-test for control class
O4	: post-test for control class
X	: Treatment for experimental class.

Based on the design above, subjects of the research can be classified into an experimental group (top line) and control group (bottom line). The quality of subjects can be checked by pre-testing (0_1 and 0_3). Then, the experimental treatment (was taught by using think pair share technique) was applied into the experimental group. The treatment is symbolized as "X". While, the control group was teach without using TPS technique. The test was held in the form of speaking. The results of post-test (0_2 and 0_4) was computed statistically.

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[4]Juliansah Noor, *Metodologi Penelitian,*(Jakarta: Kencana, 2011), p.117.

B. Research Setting

a. Place of the Research

This study was conducted at MA Sunan Kalijaga Bawang Batang. The subject of this study is the students of tenth grade of MA Sunan Kalijaga Bawang in the academic year of 2015/2016. This research was conducted in second semester. To limitation of time, the researcher did not take all students as the subjects of the study, but draw a sample.

b. Time of the Research

The researcher conducted this research on second semester. It was begun on March 28th, 2016 until April 30th, 2016.

C. The Subject of the Research

This study was conducted in MA Sunan Kalijaga Bawang located at Jl. Sunan Kalijaga Bawang Batang 51274. The subjects of this study are the tenth grade students of MA Sunan Kalijaga Bawang Batang in the academic year 2015/2016. This study was conducted in second semester. To limitation of time, the researcher do not took all students as the subjects of the study, but draw a sample.

a. Population

The population of this research is the tenth grade students of MA Sunan Kalijaga Bawang Batang in the academic year of 2015/2016. The total population are 120 students divided into X 1, 2, 3 and 4. Every class consists of 30 students.

b. Sample

Sample means apart of population that will be observed. It is called sample research when we want to generalize the sample research result.[5] In this study, the researcher is selected two groups of students from the population as sample of research. There are two classes as sample, experimental class and control class.

c. Sampling

Technique in taking over sample is called sampling.[6]In this research, the object of the research was taken by using simple random sampling. It is equal chance to be chosen for each individual or unit in whole populations.

In this school, the students of the tenth grade are divided into 4 classes where each class consists of about 30 students. Therefore, the total number of the population is about 120 students. They were experimental class and control class as the participants of this study. The researcher took two classes, X.1 and X.2 as the sample. The two classes have been given the same material but with different way. X.1 as the experimental class has been taught by using Think Pair Share (TPS) Technique and X.2 as control class has been taught

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[5] Suharsimi Arikunto, *Prosedur Penelitian: Suatu Pendekatan Praktik..,,*p. 174

[6]Sugiyono, *Metode Penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif dan R&D),*(Bandung: Alfa Beta, 2008), p.118

without using Think Pair Share (TPS) Technique or using lecturing method.

D. Research Variables

Brown states that "a variable is something that may vary or differ. There are dependent, independent, moderator, control and intervening variable."[7] This research considers two types of variables; they are dependent and independent variable. According to Brown, "a dependent variable is the variable of focus or the central variable on which other variables will act if there is any relationship. The independent variable is the variable selected by the researcher to determine the relationship with the dependent variable."[8]

In this research, the variables are:

a. The independent variable (X)

Independent variable is variable has the influence or the cause of change or make the existences of dependent variable. So, the independent variable in this research is use of Think Pair Share technique in teaching speaking skill.

The indicators as follows:

a. The teacher uses think pair share technique

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[7]J.D. Brown, *Understanding Research in Second Language Learning: A Teacher's Guide to Statistics and Research Design*, (Cambridge: Cambridge University Press, 1988), p. 7

[8]J.D. Brown, *Understanding Research in Second Language Learning: A Teacher's Guide to Statistics and Research Design..,*, p. 10

b. The teacher explains the objective of the learning.

c. The teacher explains the role of think pair share technique.

d. The teachers ask students to do the task by think pair share technique

b. The dependent variable (Y)

Dependent variable is variable which is influenced or became effect of the independent variable.[9] Dependent variable in this research is students' speaking skill. The researcher can measure it based on students' score from the test and the indicators are:

1) Students' pronunciation

2) Students' grammar

3) Students' fluency

4) Students' vocabulary

5) Students' comprehension.

E. Technique of Collecting Data

Method of data collection is very important in a research. According to Arikunto data source in a research is basically source of which a researcher gets data, depends on the necessary and kind of information which is needed.[10]

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[9] Sugiyono, *Metode Penelitian Pendidikan (Kuantitatif, Kualitatif dan R&D)..,,* p. 61

[10] Suharsimi Arikunto, *Prosedur Penelitian: Suatu Pendekatan Praktik...,,* p. 193

a. Test

In this research the researcher did the test because it can to know how much are students' ability. Test is an instrument to collect the data response about the question in the instrument and the students has to their ability.[11] In another word, test means a question which used to measure competence, knowledge, intelligence and ability to talent which is possesses by individual or group to collect data.[12]

The researcher was gathered the data by analyzing the test. The researcher was gave the twice test (pre-test and post-test) in both experimental and control class. Also gave a test that consisted of oral test.

1) Pre-test

Before the teacher taught speaking by using Think Pair Share technique, students was given pre-test to experimental and control class in same way. It has given before the experiment was run. It held on March 28th 2016 (experimental class) and March 29th 2016 (control class).

2) Post-test

Post test was given to the experimental class and the control class. The test has been given in order to know

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[11]Purwanto, *Evaluasi Hasil Belajar*, (Yogyakarta: Pustaka Belajar, 2009), p. 65

[12] M. Chabib Thoha, *Teknik Evaluasi Pendidikan,* (Jakarta: PT. Raja Grafindo Persada, 2001), p. 43

students' understanding and score on speaking after they will be taught using Think Pair Share technique (experimental class on April 11th 2016) and without using think pair share technique (control class on April 14th 2016).

b. Scoring Technique

The researcher was given speaking test to the students to analyze their scores on pronunciation, grammar, vocabulary, fluency and comprehension. In giving scores to the students, the researcher uses analytic scale which categorized by some categories and the researcher follows and each item criteria for each category. This analytic score has five items and each item scores five. So, the maximum score is 25. But it was multiplied with 4, so the final maximum score be 100.

Table 3.2

Analytic Scoring of Speaking

Aspects	Score	Description
Pronunciation	5	Have few traces of foreign accent.
	4	Always intelligible, though one is conscious of a definite accent.
	3	Pronunciation problem 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 so severe as to make speech virtually unintelligible.	
Grammar	5	Makes few (if any) noticeable errors of grammar and word order.	
	4	Occasionally makes grammatical and/or word order errors which do not, however obscure the meaning.	
	3	Make frequent errors of grammar and word order which occasionally obscure meaning.	
	2	Grammar and word order errors make comprehension difficult. Must often rephrase sentences and/or restrict himself to basic patterns.	
	1	Errors in grammar and word order so, severe as to make speech virtually unintelligible.	
Vocabulary	5	Use of vocabulary and idiom is virtually that of a native speaker.	
	4	Sometime uses inappropriate terms and/or must rephrase the idea because of lexical inadequate.	

	3	Frequently uses the wrong words; conversation somewhat limited because of inadequate vocabulary.
	2	Misuse of word and very limited vocabulary make comprehension quite difficult.
	1	Vocabulary limitations so extreme as to make conversation virtually impossible.
Fluency	5	Speed as fluent and effortless as that of a native speaker.
	4	Speed of the speech seems to be slightly affected by language problem.
	3	Speed and fluency are rather strongly affected by language problems.
	2	Usually hesitant; often forced into silent by language limitations.
	1	Speech is so halting and fragmentary as to make conversation.
Comprehension	5	Appears to understand everything without difficulty.
	4	Understand nearly everything at normal speed, although occasionally

	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 with frequently repetitions.
	1	Can't be said to understand even simple conversation virtually impossible.

Based on "*Testing English as Second Language*"[13]

F. Technique of Data Analysis

There were two kinds of test that held in experimental research, they were pre-request test, and hypothesis test. So there could be two process of analyzing the data collected from test.

a. Pre-request Test (Pre-test)

Before the researcher determined the statistical analysis technique used, the researcher examined the normality and homogeneity test of the data.

a) Normality test

Normality test used to know the normality of the data that is going to be analyzed whether both groups have normal

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[13] David P. Haris, *Testing English as a Second Language..*,, p. 84

distribution or not. The Normality test with Chi-square is done to find out the distribution data. Step by step Chi-square test is as follows:[14]

Figure 3.1

Formula of Normality Test

$$\chi^2 = \sum_{i=1}^{k} \frac{(O_i = E_i)^2}{E_i}$$

Where:

χ^2 = Chi-kuadrat

O_i = Frequency that was obtained from data

E_i = Frequency that was hoped

Calculation result of χ^2 is compared with χ_{table} by 5% degree of significance, If $\chi^2_{count} > \chi^2_{table}$ the data is not normal distribution and if $\chi^2_{count} < \chi^2_{table}$. So, the distribution list is normal.[15]

b) **Homogeneity Test**

Homogeneity test is used to know whether experimental class and control class, that are taken from population have same variant or not. According to Nunan, a test should be given to both classes of students before the

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[14]Sudjana, *Metode Statistika,* (Bandung: Tarsito, 2005), p.273

[15]Sudjana, *Metode Statistika...*, p. 273.

experiment just to make sure that the both classes really are the same.[16] The formula of the homogeneity test is:[17]

$$F = \frac{Biggest \quad Variance}{Smallest \quad Variance}$$

Hypothesis:

H_o : homogeneity variant: $\sigma_1{}^2 = \sigma_1{}^2$

H_a : non homogeneity variant: $\sigma_1{}^2 \neq \sigma_1{}^2$

If the calculation result of F is lower than F table by 5% degree of significance so Ho is accepted, it means both groups have same variant.

c) **Hypothesis Test**

To respond the objectives of the study, the researcher examined the data in the following steps. Firstly, the test was done in both groups, experimental and control group. Secondly, the result of the test was scored by using analytic scale. Thirdly, the means score of the two groups were determined. Finally, the two means were compared by applying t-test. t-test was used to differentiate if the result of students' taught using Think Pair Share technique and those taught without Think Pair Share technique was significant or not.

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[16]David Nunan, *Research Method in Language Learning...*, p.27.

[17]Sugiyono, *Statistika Untuk Penelitian* (Bandung: Alfabeta, 2012), p.140

t-test is used to examine average whether experimental group and control group have been decided having different average.[18] t-test is used to analyze the data of this research. It is used to measure or to compare the mean scores of the two groups.[19]

Proposed hypothetical test in average similarity as follows:

$$Ho \quad : \quad \mu_1 \quad = \quad \mu_2$$

$$Ha \quad : \quad \mu_1 \quad \neq \quad \mu_2$$

If $\sigma_1^2 = \sigma_2^2$ (has same variant), the formula is:

In measuring the research data, each experimental design has its own formula to analyze the data. In order to measure its significance, t-test was used.

When analyzing both result of control and experimental groups through their mean, the formula used is follows:[20]

[18]Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik...,,* p.311

[19]Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik...,,* p.205

[20] Suharsimi Arikunto, *Prosedur Penelitian: Suatu Pendekatan Praktik...,*, p. 274

Figure 3.2

Formula of t-test

$$t = \frac{\bar{x}_1 - \bar{x}_2}{s\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

Where:

Figure 3.3

Formula of Standard Deviation

$$s = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}}$$

Where:

s = standard deviation both of groups

$\bar{x}_1$ = the mean score of the experimental group

$\bar{x}_2$ = the mean of the control group

n_1 = the number of experimental group students

n_2 = the number of control group students

s_1^2 = the standard deviation of experimental group

s_2^2 = The standard deviation of control groups

      Then, the result concluded, If-t $_{table} \leq t$ $_{count} \leq t$ $_{table}$, so that Ho accepted and Both Experimental class and Control class had same average.[21]

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[21]Sudjana, *Metode Statistika...,* p.239

b. Analyzing Phase End (Post-test)

To analysis post test score was used to test the truth which stated that the average of student who taught speaking descriptive text by using think pair share technique higher than the average of student who taught speaking descriptive text by using think pair share technique

The data analysis was the score of post-test speaking descriptive text of experimental and control class. The steps to examine the hypothesis are:

a) **Normality Test**

Normality test used to know the normality of the data that is going to be analyzed whether both groups have normal distribution or not after getting treatment. The step was same as the normality test on the initial data.

b) **Homogeneity Test**

Homogeneity test is used to know whether experimental class and control class, that are taken from population have same variant or not after getting treatment. The steps of homogeneity test are the same as the homogeneity test on the initial data.

c) **Hypothesis Test (Right-hand Test)**

Hypothetical test in average similarity with the right test (independent t-test) is as follows:

H_o : $\mu_1 \leq \mu_2$

H_a : $\mu_1 > \mu_2$

μ₁ : average data of experimental group

μ₂ : average data of control group

If $\sigma_1^2 = \sigma_2^2$ (has same variant), the formula is:[22]

$$t = \frac{\bar{x}_1 - \bar{x}_2}{s\sqrt{\dfrac{1}{n_1} + \dfrac{1}{n_2}}}$$

Where:

$$s = \sqrt{\frac{(n_1 - 1)\,s_1^2 + (n_2 - 1)\,s_2^2}{n_1 + n_2 - 2}}$$

Where:

s = standard deviation both of groups

$\bar{x}_1$ = the mean score of the experimental group

$\bar{x}_2$ = the mean of the control group

n_1 = the number of experimental group students

n_2 = the number of control group students

s_1^2 = the standard deviation of experimental group

s_2^2 = The standard deviation of control groups

Testing criteria that apply Ho is accepted if $t_{count} > t_{table}$

With determinate df = $(n_1 + n_2 - 2)$ and the significant α = 5% (1-α).

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[22]Sudjana, *Metode Statistika...*,, p. 239