

CHAPTER III

RESEARCH METHOD

3.1 Research Design

This type of research was quantitative research, experimental design. Quantitative research is explaining phenomena by collecting numerical data that is analyzed using mathematics-based methods (Aliaga and Gunderson, 2002: 81). In the experimental design, researcher used two different groups, namely the experimental class and the control class. In the experimental class, the researcher used literacy activities, while in the control class the researcher used conventional methods. At the end of the experimental class and control class were given a post test. In this research, the researcher used quasi experimental design, specifically the pre-test and post-test nonequivalent groups design. (Sugiyono, 2015: 116).

Table 3.1 Research Design

Group	Pretest	Treatment	Posttest
Experimental	O1	By Literacy activities	O2
Control	O3	By using conventional method	O4

3.2 Population and Sample

3.2.1 Population

The research population is the entire object being studied and analyzed. According to Arikunto (2013: 173) the population is the entire research subject. The populations of this study are VIII grade students of SMP PAB 19 Manunggal.

This research was conducted at SMP PAB 19 Manunggal. Precisely on Jalan Veteran Psr. IX Helvetia / Manunggal Village, Kec. Labuhan Deli Medan.

3.2.2 Sample

According to Suharsimi Arikunto (2013: 173) the sample is part or representative of the research. The research sample is part of the population taken as a source of data and can represent the entire population. The sample in this study was determined by total sampling and from the technique two classes consisting of 70 students are obtained, each of which is separated into an experimental class (teaching speaking with literacy activities) and a control class (teaching speaking using conventional methods).

Table 3.2 The Sample of the Study

No	Class	Sample
1	VIII-1	35
2	VIII-2	35
Total Number of Students		70

3.3 Treatment

The treatment was conducted after the pre-test is given. In the experimental class, the researcher focused on literacy activities for students' speaking ability, and in the control class, the researcher taught the material conventionally. The experimental and control classes used the same material with

different instruments. After the researcher did the treatment, the researcher gave a post-test for both classes.

Table 3.3 The Treatment in the Experimental Class

First Meeting	
- Opening	The researcher gave greeting to the students
- Main Activities	1. The researcher explained about Literacy 2. The researcher explained the use of literacy for speaking ability
- Closing	The researcher gave greeting to ends the lesson in the first meeting
Second Meeting	
- Opening	The researcher gave greeting to the students
- Main Activities	1. The researcher explained the components of speaking 2. The researcher explained the purpose of the speaking 3. The researcher divided students into several groups. Each group consisted of 5 students
- Closing	The researcher gave greeting to ends the lesson in the second meeting

Third Meeting

- **Opening**

The researcher gave greeting to the students

- **Main Activity**

1. The researcher gave a text (golden cucumber) for literacy activities to each groups
 2. The researcher asked the students to read it for 10 minutes
 3. The researcher explained the difficult words found in the text of the golden cucumber.
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- **Closing**

The researcher gave greeting to ends the lesson in the third meeting

Fourth Meeting

- **Opening**

The researcher gave greeting to the students

- **Main Activity**

1. The researcher explained how to pronounce English words properly.
 2. The researcher asked the students to memorize and retell the story
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- **Closing**

The researcher gave greeting to ends the lesson in the fourth meeting

Fifth Meeting

- **Opening**

The researcher gave greeting to the students

- **Main Activity**

The researcher asked students to come forward and retell the story
in front of the class.

- **Closing**

The researcher gave greeting to ends the lesson in the fifth meeting

Sixth Meeting

- **Opening**

The researcher gave greeting to the students

- **Main Activities**

The researcher asked students to come forward and retell the story
in front of the class.

- **Closing**

The researcher gave greeting to ends the lesson in the sixth meeting

Seventh Meeting

- **Opening**

The researcher gave greeting to the students

- **Main activity**

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The researcher asked students to come forward and retell the story
in front of the class.

- **Closing**

The researcher gave greeting to ends the lesson in the seventh meeting

Eighth Meeting

- **Opening**

The researcher gave greeting to the students

- **Main Activity**

The researcher asked students to come forward and retell the story
in front of the class.

- **Closing**

The researcher gave greeting to ends the lesson in the eighth meeting

Table 3.4 The Treatment In The Control Class

1. The researcher divided students into several groups. Each group consisted of 5 students
2. The researcher explained about speaking
3. The researcher explained the purpose of the speaking
4. The researcher gave a text (golden cucumber) to each groups
5. The researcher explained what the story is about The researcher asked the students to read it for 10 minutes.
6. The researcher explained the difficult words found in the story. The researcher explained how to pronounce the English words well. The researcher did not ask the student to memorize
7. The researcher asked the student to come forward and read the text loudly in front of the class
8. The researcher asked the student to come forward and read the text loudly in front of the class.

3.4 Research Instruments

The research instrument is one of the tools will be used by researcher to collect or obtain data in this study. Researcher used tests to measure students speaking ability in literacy activities using pre-test and post-test. According to Arikunto (2006), the research instrument is a device used by researcher while

collecting data to make his work becomes easier and to get better result, complete, and systematic in order to make the data easy to be processed.

1. Pre-test

The pre-test is a test given to the students from to measure their speaking ability before the treatment process. The experimental group and control group were given a pre-test before treatment. This used to analyze students' speaking ability in terms of pronunciation, grammar, vocabulary, fluency and comprehension.

2. Post-test

The post-test given to students after the treatment, this aims to determine the difference in their average scores.

Because the test is an oral test, the researcher divides the score into five criteria. In scoring the test, the researcher applies the theory of Brown (2004:171) for assessment speaking. There are five indicators to be assessed in this research which are grammar, vocabulary, comprehension, fluency, pronunciation and each of them has different assessment to do. The details of assessment components will be explained below :

Table 3.5 Rubric of Scoring Speaking Test

Aspect	Percentage	Score	Grade	Max score
Grammar	15%	15-13	Excellent to very good	15
		12-10	Good to average	
		9-7	Fair to poor	
		6-4	Very poor	
Vocabulary	20%	20-18	Excellent to very good	20

		17-14	Good to average	
		13-10	Fair to poor	
		9-7	Very poor	
Comprehension	20%	20-18	Excellent to very good	20
		17-14	Good to average	
		13-10	Fair to poor	
		9-7	Very poor	
Fluency	20%	20-18	Excellent to very good	20
		17-14	Good to average	
		13-10	Fair to poor	
		9-7	Very poor	
Pronunciation	25%	25-22	Excellent to very good	25
		21-19	Good to average	
		17-11	Fair to poor	
		10-5	Very poor	

3.5 Reliability and Validity of Instruments

3.5.1 Reliability of Instrument

Reliability refers to extend to which the test is consistent in its score and gives us an indication of how accurate the test score are (Hatch and Farhady, 1982: 244). The concept of reliability comes from the ideas that no measurements is perfect even if we use the same scale, there will always be differences.

Inter-rater reliability was applied in this study in order to ensure the reliability of the score and to avoid the subjectively of the researcher. To achieve the reliability in assessing the students' speaking performance, the researcher uses a speaking criteria based on Harris (1974), where the focus of speaking skills assessed are; pronunciation, grammar, vocabulary, fluency, and comprehension.

The second rater is the English teacher who has experience in assessing students' speaking, with the aim of getting a consistent and fair assessment. The statistical formula for calculating the reliability is as follows:

$$R = 1 - \frac{6 \cdot \sum d^2}{N(N^2 - 1)}$$

Where:

R: Reliability

N: Number of Students

D: The Different of Rank

After finding the inter-rater coefficient, the researcher will then analyze the coefficient of reliability with the standard of reliability according to Slameto (1998: 147) in Hayanti (2010: 38) as follow:

A very low reliability (range from 0.00 – 0.19)

A low reliability (range from 0.20 – 0.39)

An average reliability (range from 0.40 – 0.59) A high reliability (range from 0.60 – 0.79)

A very high reliability (range from 0.80 – 0.100)

For example: After calculating the data, the result of the reliability can be seen as the following tables:

TABLE 3.6 Reliability

Reliability	Pretest	Posttest	Criteria
	0.94	0.96	Very high reliability

From the calculating and the criteria of a reliability above, it can be concluded that the reliability of the rater is high, which it means that the way of the first's rater gives the score is the same as the researcher. They have almost the same scoring system.

3.5.2 Validity of Instrument

According to Arikunto (2010:211) stated validity is a measurement that indicates the level of validity instrument. In this research, the researcher used content validity. To test the content validity, the researcher used Pearson Moment Products with the formula adopted from Arikunto (2010) as followed:

$$r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{\{N \sum X^2 - (\sum X)^2\}\{N \sum Y^2 - (\sum Y)^2\}}}$$

r_{xy} = The product of the total amount variable X and Y

N = The number of data pairs X and Y

$\sum X$ = The total of variable Y

$\sum Y$ = The total of variable X

$\sum X^2$ = The squared total amount of variable X

ΣY^2 = The squared total amount of variable Y

3.5.3 Content Validity

Content validity is the extent to which a test measures a representative sample of the subject matter content, the focus of content validity is adequacy of the sample and simply on the appearance of the test (Hatch and Farhady, 1982:251). .In content validity, the test is a good reflection of what has been taught and the knowledge which the teacher wants his students to know. It can best be examined by the table of specification (Shohamy, 1957: 74). Below are the table of specification:

Table 3.7 Aspects of Speaking

No	Aspect of Speaking	Theories
1	Grammar	Grammar is needed for the students to arrange a correct sentence in creating a conversation. It is one of the ability of the students to manipulate and to distinguish appropriate grammatical for appropriate ones (Heaton, 1978: 5).
2	Pronunciation	Pronunciation refers to the ability to produce easily comprehensible articulation (Syakur, 1987). It refers to the intonation patterns (harris, 1984).
3	Vocabulary	Vocabulary means the appropriate diction which is used in communication (Syakur, 1987).
4	Fluency	Fluency refers to the ease and the speed of the flow of the speech (Harris, 1974: 81). It also can be defined as the students' ability to speak fluently and accurately. Signs of fluency include areasonably

		fast speed of speaking and a small number of pauses (Brown, 1974: 4).
5	Comprehension	It defines that comprehension for oral communication which requires a subject to respond to speech as well as to be initiated (Syakur, 1987).

3.6 Technique of Data Collection

Data was collected from students of class VIII of SMP PAB 19 Manunggal. Researcher collect data by using pre-test and post-test of the experimental class and control class. The pre-test and post-test results from both classes were compared to see the significant difference of students' speaking ability with literacy activities. In collecting data, researcher used pretest, treatment, and posttest.

3.7 Technique of Data Analysis

The researcher used Statistical Package for the Social Science (SPSS) for analyzing the data. Alan Bryan and Duncan Cramer (2005:21) stated SPSS is a manipulating, analyzing, and presenting data program which used in the social and behavior science. After the data was collected from the pre-test and post-test, the researcher analyzed the data with the T-test formulation. The analysis of the data using the Ttest formulation is in the following:

$$t = \frac{ma - mb}{\left(\frac{da^2 + db^2}{na + nb - 2}\right) \left(\frac{1}{na} + \frac{1}{nb}\right)}$$

t = Total

M_a = The mean of experiment group

M_b = The mean of control group

d_a = The standart deviation of experiment group

d_b = The standart deviation of control group

N_a = The total number sample of experiment group

N_b = The total number sample of control group