

CHAPTER III

RESEARCH METHOD

A. Research Design

The kind of this research is descriptive quantitative, because the data is in the form of number and analyzed statistically. Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity (Kothari, 2004, p.3).

The emphasis of Quantitative research is on collecting and analyzing numerical data; it concentrates on measuring the scale, range, frequency of phenomena, this type of research, although harder to design initially is usually highly detailed and structured and results can be easily collated and presented statistically (Neville, 2007, p.3).

Experimental studies are done in carefully controlled and structured environments and enable the causal relationships of phenomena to be identified and analyze. The variables can be manipulated or controlled to observe the effects on the subjects studied. For example, sound, light, heat, volume of work levels etc can be managed to observe the effects. (Neville, 2007, p.7).

According to Kothari (2004, p.5) experimental research is characterized by much greater control over the research environment and in this case some variables are manipulated to observe their effect on other variables.

The design of this research is experimental research, it deals with two kinds of variables, namely puppet as the media that represents the independent variable and Teaching Speaking skill which represent the dependent variable. For supporting this research, it is focused in the second grade at SMP Negeri 2 Batang Alai Selatan Central Hulu Sungai regency academic year 2015/2016.

The research design is presented as follow :

Table 3.1 *Control & Experiment group*

Class	Pre-Test	Treatment	Post- Test
A	O ₁	X	O ₂
B	O ₁	X	O ₂

Note :

A : Experiment Class

B : Controlled Class

O₁ : Pre- test

O₂ : Post- test

B. Research Setting

This study will conduct in SMP Negeri 2 Batang Alai Selatan Central Hulu Sungai regency. The subjects of this study the second grade students of SMP Negeri 2 Batang Alai Selatan Central Hulu Sungai regency in 2015/2016 academic year. This study will conduct in first semester.

C. Population and Sample

1. Population

The population of this research is taken from the second grade students of SMP Negeri 2 Batang Alai Selatan Central Hulu Sungai regency academic year in 2015/2016. It consist of 4 classes, namely class VIII A, VIII B, VIII C, and VIII D the number of students of 4 classes is

2. Sample

This research used purposive sampling technique which is the sample is taken with the consideration, where the researcher will take the sample without differing the class. There are two classes that are used as sample, one class as a control class and one class as an experiment class. The researcher chooses the class VIII A and VIII B that consist of 41 students.

Table 3.2 *Sample of the study*

No	Classes		Total
	Control Class	Experiment Class	

	VIII A	-	20
	-	VIII B	20

D. Research Instrument

In order to get accurate and valid data, the researcher needs instrument to measure the progress of the using Puppet in teaching Speaking skill. The instrument that is used is speaking test to retell the

1. Pre- test

The researcher give the students pre-test in the first meeting. In pre-test all of the second grade students at SMP Negeri 2 Batang Alai Selatan, control class and experiment class will have speaking test, it's purpose is know they ability before the teacher uses Puppet as teaching media. Students asked to respond the question from the teacher, gives some expression and the students respond it, or the students sing a song.

2. Treatment

In the treatment, there are four meetings, in each meeting the students are gives speaking material through Puppet, each meeting spends 80 minutes.

3. Post- test

The last step after treatment is post-test which is supplied to the students. In post-test, all of the second grade students at SMP Negeri 2 Batang Alai Selatan Central Hulu Sungai regency, control class and experiment class are give the same test with

pre-test This is to know the effectiveness by using Puppet and the students' improvement after the teacher use Puppet as media of teaching speaking.

The researcher analyze the result of the test and give score. According to Brown, there are five aspects of assessment in speaking. They are vocabulary, grammar, pronunciation, fluency and comprehension (Brown, 2010, pp.212-213).

Table 3.3 *Proficiency Scoring Categories*

Range Scores	Grammar
1 - 4	Error in grammar are frequent, but speaker can be understood by a native speaker used to dealing with foreigners attempting to speak his language.
5 - 8	Can usually handle elementary constructions quite accurately but does not have thorough or confident control of the grammar.
9 - 12	Control of grammar is good. Able to speak the language with sufficient structural accuracy to participate effectively in most formal and informal conversation on practical, social, and professional topics.
13- 16	Able to use the language accurately on all levels normally pertinent to professional needs. Errors in grammar are quite rare.
17 - 20	Equivalent to that of an educated native speaker.
1 - 20	Total based on level
Range Scores	Vocabulary

1 - 4	Speaking vocabulary inadequate to express anything but the most elementary needs.
5 - 8	Has speaking vocabulary sufficient to express himself simply with some circumlocutions.
9 - 12	Able to speak the language with sufficient vocabulary to participate effectively in most formal and informal conversations on practical, social, and professional topics. Vocabulary is broad enough that he rarely has to grope for a word.
13- 16	Can understand and participate in any conversation within the range of his experience with a high degree of precision of vocabulary.
17 - 20	Speech on all levels is fully accepted by educated native speakers in all its features including breadth of vocabulary and idioms, colloquialisms, and pertinent cultural references.
1 - 20	Total based on level
Range Scores	Comprehension
1 - 4	Within the scope of his very limited language experience can understand simple questions and statements if delivered with slowed speed, repetition, or paraphrase.
5 - 8	Can get the gist of most conversations of non-technical subjects (i.e., topics that require no specialized knowledge).
9 - 12	Comprehension is quite complete at a normal rate of speech.
13- 16	Can understand any conversation within the range of his experience.
17 - 20	Equivalent to that of an educated native speaker
1 - 20	Total based on level

Range Scores	Fluency
1 - 4	(No specific fluency description. Refer to other four language areas for implied level of fluency.)
5 - 8	Can handle with confidence but not with facility most social situations, including introductions and casual conversation about current event, as well as work family, and autobiographical information.
9 - 12	Can discuss particular of competence with reasonable ease. Rarely has to grope for words.
13- 16	Able to use the language fluently on all levels normally pertinent to professional needs. Can participate in any conversation within the range of this experience with a high degree of fluency.
17 - 20	Has complete fluency in the language such that his speech is fully accepted by educated native speaker.
1 - 20	Total based on level
Range Scores	Pronunciation
1 - 4	Errors in pronunciation are frequent but can be understood by a native speaker used to dealing with foreigners attempting to speak his language
5 - 8	Accent is intelligible though often quite faulty
9 - 12	Error never interfere with understanding and rarely disturb the native speaker. Accent may be obviously foreign.
13- 16	Errors in pronunciation are quite rare
17 - 20	Equivalent to and fully accepted by educated native speakers.
1 - 20	Total based on level

Table 3.4 *The interpretation of the learning outcome*

Range Score	Performance
80- 100	Very Effective
70 - 79	Effective
60 - 69	Fair
50 - 59	Less Effective
0 - 49	Not Effective

(Arikunto, 2009, p.44)

To know the students speaking ability by using Puppet, the writer uses score of mean got by the formula below (Murdan, 2012, p. 47):

$$M = \frac{\sum x}{N}$$

Explanation:

M : The average of students score

$\sum x$: Total score

N : The number of students

E. Data Collection Procedure

1. Test

The researcher uses pre-test and post-test to measure the students improvement in speaking skill. The forms of tests are spoken test. From pre-test, the researcher can get score directly the specific learning. The researcher will conduct oral test through

spoken and will assess the students in fluency, pronunciation, grammar, vocabulary, comprehension. This analytic score has five items and each item scores 1 to 20. So, the maximum score will be 100

a. Pre-test

Before start of teaching speaking by using Puppet as the media, a pre-test is conducted by the students in speaking test.

b. Post- test

The students are test to know their speaking ability after the teacher uses Puppet as the media in teaching speaking. The students are gives the speaking test to know their improvement.

2. Questionnaire

The researcher uses the questionnaire to find out how effectiveness using this technique. Questionnaire more systematic, containing list of students opinion and response. Questionnaire is intend to see and to know about the condition students. Based on it the researcher will know the problem that is happened to the students and their difficulties in speaking.

The data from questionnaire are grouped based on students opinion and students response that can be take as a answer in questionnaire. The result of questionnaire is analyzed such as below:

$$= \frac{\text{The Sum of the Students who choose Yes or No}}{\text{The Sum of the Students}} \times 100\%$$

3. Interview

In This technique, the writer makes communication and interview with some related persons, such as: the English teacher, the Headmaster and the administration staff directly to obtain data that are related to the primary or the secondary data.

4. Documentary

Another data is needed to help the researcher in this research. In addition to do that, data will be collect through documentary the general description about SMP Negeri 2 Batang Alai Selatan, like Headmaster, teacher, administration staff, and facilities of SMP Negeri 2 Batang Alai Selatan Central Hulu Sungai regency.

F. Data Analysis Procedure

1. Data Processing

a. Editing

This technique is used to examine all of the collected data to make sure wheter the are already complete or not. The editing also includes selecting the needed data from those are available.

b. Coding

The researcher classifies the data that have been edited, in accordance with their types by making certain codes on all collected data.

c. Classifying

Systematic arrangement in groups or categories according to established criteria

d. Data Interpretation

Range Score	Performance
80- 100	Very Effective
70 - 79	Effective
60 - 69	Fair
50 - 59	Less Effective
0 - 49	Not Effective

e. Tabulating

This technique is used to arrange and to put certain data into tables. The researcher tabulates all the collected data based on the frequency computing of each certain answer by the following formula (Sudijono, 2009, p. 43):

$$P = \frac{F}{N} \times 100\%$$

Explanation:

P : Percentage Number

F : Frequency that still looking the percentage

N : Number of cases (students)

2. Data Analysis

Technique of data analysis comes from the interpretation of the data collection. The researcher analysis them descriptive and

quantitative analysis with number to obtain the data. In processing the data, the researcher uses descriptive analysis. It is to explain the condition in raising indicator achievement of teaching learning process using Puppet in improving speaking skill.

The writer analyzes them descriptively and quantitatively. The writer makes the conclusion by using "t" test formula of Murdan (2012, p. 164-178). The writer will process the scores by calculating deviation between pre-test and post-test of experimental and control group.

- a. Looking for Mean score of experimental class :

$$M_x = \frac{\sum x}{N}$$

Note :

M_x = Mean score of experiment class

$\sum x$ = Total score accumulative of experiment class of second grade SMP Negeri 2 Batang Alai Selatan

N = Number of experiment class subject of second grade SMP Negeri 2 Batang Alai Selatan

- b. Looking for Mean score of control class :

$$M_y = \frac{\sum y}{N}$$

M_y = Mean score of control class

$\sum y$ = Total score accumulative of control class of second grade SMP Negeri 2 Batang Alai Selatan

N = Number of experiment class subject of second grade SMP Negeri 2 Batang Alai Selatan

c. Looking for Standar Deviation for experiment class :

$$SD_x = \sqrt{\frac{\sum fx^2}{N}}$$

Note :

SD_x = Standar deviation of the experimental class of second grade SMP Negeri 2 Batang Alai Selatan

$\sum fx^2$ = Accumulative quadrant of experiment class of second grade SMP Negeri 2 Batang Alai Selatan

d. Looking for Standar Deviation for control class :

$$SD_y = \sqrt{\frac{\sum fy^2}{N}}$$

Note :

SD_y = Standar deviation of the control class of second grade SMP Negeri 2 Batang Alai Selatan

$\sum fy^2$ = Accumulative quadrant of control class of second grade SMP Negeri 2 Batang Alai Selatan

e. Looking Standard Error of Mean for experimental class:

$$SEM_x = \frac{SD_x}{\sqrt{N-1}}$$

Note :

SEM_x = Standard Error of Mean of experimental class of second grade SMP Negeri 2 Batang Alai Selatan

1 = Value of Constant

f. Looking Standard Error of Mean for control class:

$$SEM_y = \frac{SD_y}{\sqrt{N-1}}$$

Note :

SEM_y = Standard Error of Mean of control class of second grade SMP Negeri 2 Batang Alai Selatan

g. Looking for Standar Error for comperative Mean experemintal and control class by using the formula as follow :

$$SE M_x - M_y = \sqrt{SEM_x^2 + SEM_y^2}$$

Note :

$SE M_x - M_y$ = Standar Error for comperative Mean experemintal and control class of second grade SMP Negeri 2 Batang Alai Selatan

SEM_x^2 = Standard Error Quadrant of Mean experemintal class of second grade SMP Negeri 2 Batang Alai Selatan

SEM_y^2 = Standard Error Quadrant of Mean
control class of second grade SMP
Negeri 2 Batang Alai Selatan

h. Looking for t test, by using the formula as follow :

$$t \text{ test} = \frac{M_x - M_y}{SEM_{x-y}}$$

Note :

t test = Value of Observation

i. Giving Interpretation for “t” with consulting t table:

Looking for Degree of Freedom :

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

Note :

df/db = Degree of freedom

N_x = Number of experiment subject of second
grade SMP Negeri 2 Batang Alai Selatan

N_y = Number of control subject of second grade
SMP Negeri 2 Batang Alai Selatan

2 = Degree value of freedom for variables.

Consulting Score of “df/db” with “t table”:

t table : Value of Critic “t”

In significant degrees t table 5 % = 2,02

In significant degrees t table 1 % = 2,71