

CHAPTER III

RESEARCH METHODOLOGY

Chapter 3 deals with research methodology that consists of setting of the research, subject of the research, sample and technique of sampling, research design, procedure of collecting data, try-out of the instruments, method of data collection and method of analyzing the data.

1.1. Setting of the Research

This experimental research was conducted in SMP Walisongo Pecangaan Jepara which is located on Jl. Raya Pecangaan, Jepara-Kudus, Pecangaan Kulon, Pecangaan Kabupaten Jepara, Jawa Tengah.

1.2. Subject of the Research

1.2.1. Population

According to Mubarok (2015: 31), population is a unit of the object or subject that has certain qualities and characteristics which are studied by the researchers then be deducted. The population of this research was the eighth grade students of SMP Walisongo Pecangaan. Actually, Eighth grade of SMP Walisongo consists of four classes. They were VIIIA, VIIIB, VIIIC and VIIID. The total numbers of the eighth grade students in SMP Walisongo were 111.

1.2.2. Sample and Sampling Technique

Many definitions of sampling, Arikunto (2006:131) states that “sample is part of population that has the same characteristics with the population itself.” In determining the size of the sample, Arikunto (2006:134) also explains that:

“If the population is 100 respondents or less, it is better to take the whole population as sample. If the population is more than 100 respondents, the researcher can take 10-15 % or more than 25 % of the population based on the capability of the researcher.”

Meanwhile, according to Mubarok (2015:32), sample is part of the quality and characteristics of the population. Samples taken must be truly representative

because the conclusions drawn from these samples will be generalized to the population.

The writer took the class VIIIB and VIIIC as the sample. The students of VIIIB as the experimental group and the VIIIC as the control group, the total of sample were 57 students.

1.3. Research Design

This research was conducted a quantitatively research which the writer used true experimental (pre-test – post-test and control group design). The designs were called true because the writer was conducted two classes with different methods. Arikunto (2013:9) states that “Experiment is the way to find out correlation of cause and effect (causal relationship) between two factors which is raised by the researcher in purpose by reducing or eliminating any distracting factors”. While “True Experimental Research is types of experiment is considered good because it fulfill the rules.” As was said by Arikunto (2013:125).

Meanwhile, Mubarak (2015:89) explains that:

“The design is said true experimental design because the researchers can control all external variables that affect the experimentation. The main characteristic of true experimental design is simple used either for the experimental group or the control group was taken randomly from population. It can be said that the presence of a control group and a randomly selected sample becomes the main character of this design”.

The experiment of this research was conducted in two classes and it was taught with different methods. Audio-lingual method was used in experimental group and control group was taught with the other method. The experimental group would be given the treatment by using Audio-lingual method and the control group was taught by discussion method.

Before doing the research, the students of experimental and control groups were given a pre-test that aimed to know the basic students’ ability in speaking skill. After research processed, the writer gave post-test both of them and the achievement of students was compared.

The design of this research was as follow (Mubarak 2015:90).

E	O ₁	x	O ₂
C	O ₃		O ₄

Where,

- E : experimental group
- C : control group
- O1 : pre-test for the experimental group,
- O2 : post-test for the experimental group,
- O3 : pre-test for the control group,
- O4 : post-test for the control group,
- X : treatment using Audio-lingual method

In this research consist of two observations. Firstly, the observation was done before experiment (O1) called pre-test. Secondly, the observation was done after experiment (O2) called post-test.

1.4. Procedure of Collecting Data

Collecting the data was important thing for the study. To get the data which related to the Audio-lingual method in teaching speaking, the writer used some procedures, likes doing the preparation try-out, giving pre-test, treatment and post test. The procedure was described with the table as below:

Table 3.4.1
The Activities

No.	Activity	Activities						
		1	2	3	4	5	6	7
1	Preparation							
2	Try-out test							
3	Pre-test							
4	Treatment							
5	Post-test							
6	Data Processing							

7	Report						
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From the table above could be described: the writer had done prepare all of things related to the experimental research for about 2 weeks before got the letter permission for conducting the research at SMP Walisongo, starting from making the trying out instrument, pre-test and post-test items, the materials for treatment, lesson plan, students' assessment sheet and etc. The next step, the writer come to the school and gave the permission letter. The first week, the writer was conducted at the eighth grader of SMP Walisongo and the activity was giving try-out instrument and pre-test in different day. After that, the writer gave the treatment in the next day of the week during three times and the research was ended by giving post-test and made a documentation. The last step, the writer processed the data and report it formed thesis.

1.5. Try-out of the Instrument

The instrument used in this research was a test (pre-test and post-test). The try out instrument was applied to know the quality of the test that given to students before giving a test. The result of the test was to find out the validity and reliability.

a. Validity

According to Arikunto (2013:2110), validity is a measurement that indicates the levels of validity of an instrument. An instrument is valid when it has high validity while an instrument is invalid when it has low validity.

The instrument will be calculated by using the formula as follows:

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

In which:

r_{xy} : the item of test reliability

N : the number of respondent

X : total score or each item

Y : individual total score

X^2 : total for the square for each item

Y^2 : total of the square of individual total score

$(X)^2$: the square of the total score for each item

$(Y)^2$: the square of the individual total score

The validity computation is consulted to the r-table of Product Moment by determining the significances level 5% and n which is according to the data. The instrument is valid if the $r_{xy} > r$ -table for α 5% and $N = 28$.

b. Reliability

Reliability is a component in making an instrument that can be trusted as a tool for collecting the data (Arikunto 2013:221). The formula to calculate the reliability of the instruments as follows:

$$r_{11} = \frac{2r_{1/21/2}}{1+r_{1/21/2}}$$

In which:

$R_{1/21/2}$ = correlation between two half instruments

R_{11} = reliability of instrument

1.6. Method of Data Collection

1.6.1. Test (Pre-test, treatment and Post-test)

a. Pre-test

Pre-test was given to students before giving the treatment by the writer in order to know students' ability or skill. The test questions were dialogues. In this test, the students in both groups were given same test and same topic in order to know their basic competence in speaking skill.

b. Treatment

After conducting pre-test for experimental and control group, some treatments were given to know significances and effectiveness of students' competence in speaking skill. In this case, the experimental group was given treatment by using Audio-lingual method in order to prove that Audio-lingual method was effective for teaching speaking at the eighth graders of SMP Walisongo. Meanwhile, the control group was taught by the other method namely

discussion method. In practically, the writer explained about topic given/material and explained Audio-lingual method in teaching speaking in the first meeting. After that, the writer gave treatment by dialogue with the certain topic in the second treatment and then the writer gave treatment by dialogue with the different topic in the last meeting of treatment.

c. Post-test

Post-test was given in the last meeting of doing research. This test would be used to measure the students' achievement in speaking skill after they got treatment.

The post test was held on March 19, 2018 for control class and experimental class. Moreover, each test was arranged into 30 items of dialogue taken from students' English book.

1.7. Method of Data Analysis

In this research, the data would be collected through administering pre-test and post-test. After collecting the data, the writer composed with the formula and analyzed them. The writer compared the scores between experimental group and control group.

1. Scoring system

The writer analyzed the data of students' oral test and scored their speaking skill by using the rating scale for the speaking test developed by Walter Bartz and t-test formula.

In this study, the writer gave an oral test and analyzed the scores with rating scale developed by Walter Bartz (Bartz cited in Valette, 1983:150). He showed four items that important to be scored: fluency, quality of communication, amount of communication, and effort to communicate to measure the improvement of students.

Table 3.7.1

The rating scale for the speaking test developed by Walter Bartz (Bartz cited in Valette, 1983:150) can be seen as follow:

Scores	Fluency	Quality of	Pronunciation	Effort to
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		communication		Communicate
1	speech is so halting and fragmentary that conversation is virtually impossible.	Speech consists mostly of inappropriate isolated words and or incomplete sentences with just few very short complete sentences	Speech consists of very poor pronunciation	Students withdraws into long periods of silence, without any apparent effort to complete the task.
2	Speech is very slow and uneven except for short or routine sentences.	Speech consists of many inappropriate isolated words and or incomplete sentences with Some very short complete sentences.	Speech consists of mostly inappropriate pronunciation	Students makes little effort to communicate, what he does is “half-hearted” without any enthusiasm
3	Speech is frequently hesitant and jerky,	Speech consists of some inappropriate	Speech consists some inappropriate pronunciation	Students makes some effort to communicate,

	sentences may be left uncompleted.	isolated words and or incomplete sentences with many very short complete sentences		but still shows a rather “disinterested” Attitude
4	Speech is occasionally hesitant, with some unevenness caused by rephrasing and grouping for words	Speech consists of hardly any isolated words and or incomplete sentences with mostly complete sentences	Speech consists of hardly incorrect pronunciation	Students makes an effort to communicate but does not use any non-verbal resources, such as gestures
5	Speech is effortless and smooth, but perceptibly non-native in speed and evenness	Speech consists of isolated words only if appropriate and almost always completes sentences.	Speech consists of always-appropriate pronunciation	Students makes a real effort to communicate and uses some nonverbal resources, such as gestures

Based on the table above, score 6 as the highest mark for the indicator of successful achievement. To find the scores of the test, the writer counted by: total of the score is pointed 4.

2. Consulting the mean to the level achievement.

Table 3.7.3

Table of Level Achievement

Mark	Score	Level Achievement
A	90-100	Excellent
B	80-89	Very Good
C	70-79	Adequate
D	60-69	Inadequate
E	BELOW 60	Fail

(Brown, 2004:287)

3. Determining Mean of Variable X:

$$M1 = \frac{\sum x}{N1}$$

4. Determining Mean of Variable Y:

$$M2 = \frac{\sum Y}{N2}$$

5. Determining Standards of Deviation Score of Variable X:

$$SD_1 = \sqrt{\frac{\sum x^2}{N1}}$$

6. Determining Standards of Deviation Score of Variable Y

$$SD_2 = \sqrt{\frac{\sum y^2}{N1}}$$

7. Determining Standard Error Mean of Variable X:

$$SE_{M1} = \frac{SD1}{N1-1}$$

8. Determining Standard Error Mean of Variable Y:

$$SE_{M2} = \frac{SD2}{N2-1}$$

9. Determining Standard Error of Different Mean of Variable X and Mean of Variable Y:

$$SE_{M1-M2} = \sqrt{SEm12 - SEm22}$$

10. Determining t_0 with formula:

$$t_0 = \frac{M1-M2}{SE_{M1-M2}}$$

11. Determining Degrees of Freedom (df):

$$df = (N1+N2)-2$$

To analyze the differentiation between before and after the result of teaching speaking by using Audio-lingual method as the method to improve speaking skill in Junior High School, the writer used t-test technique. The writer calculated as the follows:

$$t_0 = \frac{M1-M2}{SE_{M1-M2}}$$

Where:

M1 = Mean of variable X

M2 = Mean of variable Y

SE = Standard error

After finding out the t-test, the writer used t-table to compare the t-test result. If the value of t-test more than value of t-table, it means that there is any significant improvement of the student's who taught by using Audio-lingual method in teaching speaking. However, if the value of t-test is lower than table, it means that there is no significant improvement of the students who taught by using Audio-lingual method in teaching speaking.

1.8 Research Framework

The Effectiveness of Audio-Lingual Method In Teaching Speaking (An Experimental Research at the Eight Graders of SMP Walisongo Pecangaan Jepara in Academic Year 2017/2018)

