

CHAPTER III

RESEARCH METHOD

In this chapter, it provided of some explanation about research design, population and sample, instrument, validity and reliability testing, normality and homogeneity testing, data collecting method, data analysis and hypothesis testing.

A. Research Design

According to J. W Creswell (2009:143) experimental studies as “ the basic intent of an experimental design to test the impact of a treatment (or an intervention) on an outcome controlling for all other factors that might influence the outcome. The writer use quasi-experimental research is one of experimental research design which suggests casual relationship in result finding. In this study the researcher intended to find out wether information gap activity which were given to the experimental group was effective and contributed to the students speaking achievement. According to Antonius (2003:27) experimental research is procedures that allow the observation of people’s perceptions to a treatment under controlled circumstance. Mc Milan and Schumacher (2001:32) stated that in an Experimental model inquiry the researchers manipulates what the subject experienced. The researchers makes comparison between subject who have not had the imposed conditions or between subject who have not had the imposed condition or between subject who have experience difference condition.

The researcher compared two classes of the second grade students of MTs Aswaja Tunggangri as two different groups of the object of the study; they are experimental class and control class. The writer used information-gap in teaching speaking in Experimental class, and using non information-gap in teaching speaking in control class. Both of two classes were given pre-test and post-test, but only the Experimental class was treated by using Information-Gap Activity. According to Ary et al. (2010:316) non randomized control group pre-test, post-test design was one of the most widely used quasi-experimental design in educational research.

For completing the data, the researcher used also library research. In library research, the researchers collected and read many book that are related to the topic and browsed some articles from internet as the references to support this paper.

Table 3.1

Nonrandomized Control Group, Pre-test and Post-test Design

Group	Pre-test	Independent variable	Post-test
E	y1	X	y2
C	y1	-	y2

Note :

E : Experimental group

C : Control group

- Y1 : Pretest in Experimental group before treatment (VIII A)
- Y1 : Pretest in control group (VIII B)
- Y2 : Posttest in Experimental group after treatment (VIII A)
- Y2 : Posttest in control group (VIII B)
- X : Treatment in experimental group (VIII A)
- : The group without treatment or using conventional strategy
(VIII B)

Based on the table above, the researcher took two classes, the experimental class and control class. Before giving treatment, the researcher gives pre-test to both of classes. Then the researcher teaches the students in experimental class by using Information-gap activity method an in controlled class without using Information-gap activity method. After three meeting, the researcher gives the post-test to the both classes. It is given to know the effectiveness of Information-gap activity toward speaking ability.

B. Population and Sample

1. Population

Ary, et al (2010: 148) stated that population is defined as all members of any well-defined class of people, events or object. The population of this study is the eighth grade students of MTs Aswaja Tunggangri in 2017/2018 Academic years that consist of 66 students. The eighth grade of MTs Aswaja Tunggangri consis of 3 classes that are class A-B-C.

Table 3.2**List of Population**

Class	Male	Female	Total
VIII A	9	10	19
VIII B	6	18	24
VIII C	18	5	23
Total			66

2. Sample

Sample is sub group of target population that the researcher plans to study for generalizing about the target population (Creswell, 2008: 152). According to Chaudhury (2010), a sample is any part of the fully defined population. Selecting sample is very important step in conducting a research. According to Ary (2010: 149) the small group that is observed is called a sample and the larger group about which the generalization is made is called a population. A sample is a portion of a population as good as possible, so that the generalization of the sample as true as population.

In addition, Cohen, et, al (2005:92) state that quality of a piece of research not only stands or falls by the appropriateness of methodology and instrumentation but also by the suitability of the sampling technique that has been adopted. The writer used the sample of two classes that were chosen as the

sample by using purposive sampling technique in choosing the class. According to Ary (2002:163) purposive sampling technique is a portion of population from whom or which data are collected. In this research the researcher selected classes VIII A that consist of 19 students as the experimental group was taught by using Information-gap activity diagram. Whereas, class VIII B consisted 24 students was taught without using Information-gap activity diagram.

C. Instrument

Instrument is a tool of collecting data that should be valid and reliable. According to Ary et.al (2010:201) tests are valuable measuring instruments for educational research. A test is a set of simulation presented to an individual in order to elicit responses on the basis of which a numerical score can be assigned. This score, based on the representative sample of the individual's behavior, is an indicator of extent to which the subject has the characteristic being measured.

The instrument to collect data in this research was test. The data were in the form of students' ability on speaking test. The test was used to measure students' ability in speaking achievement. The researcher used test as the instrument to collect the data. In this research, researcher uses pre-test and post-test as the instruments. Pre-test is given before applying Information-gap activity. While, post-test is given after researcher applied Information-gap activity.

The researcher gave pre-test on July 20nd 2018. The pre-test was administered before the students were taught by using Information-gap activity. In

the processes on pre-test the teacher give the picture for the students to tell a descriptive story. In this pre-test the story about Sine beach. Every students was given 5 minutes to tell descriptive story.

After getting score in pretest, the researcher gave treatment and steps of teaching speaking based on lesson plan to applying Information-Gap Activity strategy in speaking class. The treatment was done on July 22nd 23nd and 24th 2018, In this study, the role of English teacher was the researcher herself. The process of teaching was done by researcher herself.

Meanwhile, the post test was administered on 28th 2018. This post test was intended to measure students' speaking ability after being giving a treatment. In this test, the students were asked to tell a descriptive story about Sine Beach. The students were given 3 minutes to tell descriptive story.

D. Validity and Reliability Testing

Validity and reliability are an instrument which will be used must be valid and reliable before using it to collect the data. To doing validity and reliability testing as follow:

1. Validity

Based on Gary (2005:13) validity is the complement to reliability and refers to the extent to which what we measure reflects what we expected to measure. From Ary et al (2010:226) statements, the process of gathering evidence to support (or fail to support) a particular interpretation of test scores

is referred to as validation. We need evidence to establish that the inferences, which are made on the basis of the results, are appropriate.

According to Lodico et al., (2006:188-189) validity is generally divided into two concept internal validity and external validity. Internal validity is the degree or extent to which the differences in the dependent variable are due to the experimental manipulation and not some extraneous variable therefore, external validity is the degree to which the result are generalizable beyond the sample used for a study.

There are four types of validity, such as content validity, such as content validity, criterion-related validity, construct validity and face validity in analyze the test. The aim is to measure whether the test has a good validity.

a. Content validity

Content validity is the test that the content is relevant with the purpose of the test. According to Ary et al. (2010: 226) the question on a test is representative of some defined universe or domain of content. It means the researcher must seek evidence that the test to be used represents a balanced and adequate sampling of all the relevant knowledge, skill, and dimensions making up the content domain. Content validity is the test that if has a good content is looked at from the content of test. It means a test has valid if the content of test is representative among lesson given. The researcher will combine both between the content of test and the material of test to know the test is valid or not. In this study, the content validity refers to the Curriculum

of 2013 as the school has implemented when the researcher and basic competence in the curriculum of 2013. The researcher made this test based on the course objective in the syllabus of second semester of MTs Aswaja Tunggangri Tulungagung. Therefore, this is valid in term of content validity. The content validity can be seen in table 3.3.

Table 3.3
Content Validity

Main Competence	Basic Competence	Material	Indicator
Process, to think, and presenting in the domain of concrete and the domain of abstract, associated with the development of learning into practice in school independently, and capable of this scientific with incompatible with uses the method.	Draw up a text descriptive oral simple about people, tourist destinations, and building famous historic, by taking into account its social function, the structure of the text , and the language right compatible with the context.	<ul style="list-style-type: none"> • Text structure : Identification Description • Text types : Descriptive • Topic : 1. Beach 2. Borobudur temple 	<ul style="list-style-type: none"> • Students to draw up a text descriptive oral simple about people, tourist destinations, and building famous historic, by taking into account its social function, the structure of the text, language and the truth and compatible with the context. Students text is capable of conveying descriptive orally about tourist destinations with a social function, the structure of the text, language and the truth and compatible with the context.

b. Face Validity

Face validity is a term sometimes used in connection with a test's content. According to Ary (2010:228) the test is said to have face validity if it measures what is supposed to measure. This research was done to know the effectiveness of using Information-gap activity toward students'

speaking achievement, it means that the test should look clear or the instruction must be understandable for the students. The test in this research was designed to measure students' speaking achievement. Related to this research, the researcher asked the students to speak and perform in front of the class. It showed that the test was valid based on face validity.

c. Construct Validity

Construct validity of a test is the extent to which a test is measuring the psychological construct it is intended to measure. According to Muijis (2004: 68) construct validity is a slightly more complex issue relating to internal validity. Specially, construct validity of experiments is defined as the validity of the inferences made about a construct based on the measured, treatment, subjects, and settings used in an experimental study. Recognized by Hughes (1990: 111-112), the researcher administered a speaking test and the technique of scoring the students' speaking ability based on the five components of speaking; they are comprehension, vocabulary, pronunciation, fluency and grammar.

Table 3.4

Scoring Rubric of Speaking Skill

No	Element of Speaking	Score	Criteria
1.	Comprehension	1	Student didn't understand or ignored most questions and statements. Student may have been using notes.
		2	Student failed to answer some questions appropriate or failed to acknowledge some statements and incorporate these into the spoken.
		3	Student more understand the acknowledged and started spoken bravely.
		4	Student responded to most questions, acknowledged most statements, and incorporated many of these into the spoken.
		5	Student responded to questions with appropriate answers, acknowledged all statements, and incorporated them into the spoken.
2.	Vocabulary	1	Communication was severely hampered due to lack of vocabulary.
		2	Some difficulties arose due to limited vocabulary and/or bad diction.
		3	Able to speak the language with sufficient vocabulary to participate effectively.
		4	A few minor difficulties arose from not using appropriate vocabulary.
		5	Vocabulary studied in class was used to express ideas eloquently.
3.	Pronunciation	1	Pronunciation, inflection, and/or expression confused communication. Student may have been very difficult to hear.
		2	Some communication problems arose due to unclear pronunciation and/or lack of inflection and/or expression. Student may have been difficult to hear.
		3	Errors in pronunciation never interfere with understanding and rarely disturb the native speaker.
		4	No serious problems arose, but better pronunciation, inflection, and/or non-verbal communication could have made communication more efficient.
		5	Pronunciation was clear and inflection and expressions were used to enhance communication.
4.	Fluency	1	Much effort was required to maintain the spoken. There may have been many long paused.
		2	Some effort was required to maintain the spoken. There may have been a few long paused.
		3	Speech is relatively smooth, some hesitation and unevenness caused by rephrasing and searching for word.
		4	Some minor difficulties maintaining the spoken were evident.

		5	Student acted as a facilitator, helping the spoken flow and develop.
5.	Grammar	1	Grammatical errors severely hampered communication.
		2	Grammatical errors le to many minor difficulties or one major breakdown in communication.
		3	Control of grammar is good.
		4	A few minor difficulties arose from not using the grammar studied.
		5	Grammar used to communicate effectively.

From the table above, the researcher made a rating scale to classify the result of score that each students got. The rating scale was consisted of score, grade, and criteria. It can be seen below:

Table 3.5

Rating scale

No.	Range of Score	Grade	Criteria
1.	81-100	A	Excellent
2.	61-80	B	Good
3.	41-60	C	Fair
4.	0-40	D	Poor

2. Reliability

Reliability of a measuring instrument is the degree of consistency with which it measures whatever it is measuring Ary et al., (2010:236-237). Reliability was necessary characteristic of any good test for it to be valid at all. Reliability was an indicator of consistency, that was an indicator of how stable a test score or data is across applications or time. A measure should produce similar or the same results consistently if it measures the same “thing.” A

measure can be reliable without being valid. A measure cannot be valid without being reliable (Hale et al, 2014:45). It mean the test could be valid if it was reliable as well.

Table 3.6
Reliability Statistics

Cronbach's Alpha	N of Items
.955	2

The researcher used Alpha Cronbach Reliability Coefficient in SPSS 23.00 to analyze the correlation coefficient. The results based on the table above, the test can be said reliable or not can be seen from Cronbach's alpha. The score of Cronbach alpha 0.955 . It means that the test is very reliable.

E. Normality and Homogeneity Testing

1. Normality testing

In this part the researcher discussed about the result of normality and homogeneity testing. Normality testing is conducted to determine whether the data are normal distribution or not. The researcher used SPSS.23 One Sample Kolmogorov-Smirnov test by the value of significance (α) =0.050. Basic decision making in normality testing area follow :

If the significance value > 0.050, then the data has normal distribution

- a) If the significance value > 0.050 , then the data does not have normal distribution

Here, the researcher conducted normality testing for experimental class and control class. The result can be seen below:

1.1 Normality Testing of Experimental Class

The normality testing was used to check the data is normally distributed or not. The formula used to test the normality of data was Kolmogorov-Smirnov test by the value of significant (α) = 0.05. The result could be seen below:

Table 3.7

**The Result of Normality Testing of Experimental Class One-sample
Kolmogorov-Smirnov Test**

		pre_exp	post_exp
N		19	19
Normal Parameters ^a	Mean	63.3684	77.4737
	Std. Deviation	1.43148E1	1.37411E1
Most Extreme Differences	Absolute	.172	.135
	Positive	.172	.122
	Negative	-.115	-.135
Kolmogorov-Smirnov Z		.750	.587
Asymp. Sig. (2-tailed)		.628	.881
a. Test distribution is Normal.			

Based on the table above it revealed that the significance value from pre-test was 0.628 and from the post-test was 0.881. Both value from pre-test and post-test are bigger than 0.05. The sig/p value on pre-test was 628

and were bigger than 0.05($0.628 > 0.05$) means that the data is in normal distribution. Then, for post-test score the value of sig/p value was 0.881 and that were bigger than 0.05($0.881 > 0.05$) means that the data is normal distribution. It also means that H_0 is accepted and H_1 is rejected. So, it can be interpreted that both of data (pre-test and post-test score) are in normal distribution.

1.2 Normality Testing of Control Class

The normality testing was used to check the data is normally distributed or not. The formula used to test the normality of data was Kolmogorov-Smirnov test by the value of significant (α)= 0.05. The result could be seen below:

Table 3.8

Result Normality Control Class

		pre_ctrl	post_ctrl
N		24	24
Normal Parameters ^a	Mean	55.3333	71.8333

	Std. Deviation	8.05776	7.86664
Most Extreme Differences	Absolute	.152	.243
	Positive	.152	.150
	Negative	-.116	-.243
Kolmogorov-Smirnov Z		.744	1.193
Asymp. Sig. (2-tailed)		.637	.116
a. Test distribution is Normal.			

Based on the table above it was known that the significance value from pre-test was 0.637 and from the post-test was 0.116. Both value from pre-test and post-test are bigger than 0.05. The sig/p value on pre-test is 637 and were bigger than 0.05($0.637 > 0.05$) means that the data is in normal distribution. Then, for post-test score the value of sig/p value was 0.116 and that is bigger than 0.05($0.116 > 0.05$) means that the data is normal distribution. It also means that H_0 is accepted and H_1 is rejected. So, it can be interpreted that both of data (pre-test and post-test score) are in normal distribution.

2. The Result of Homogeneity Testing

Homogeneity testing is conducting to know whether the collected data has a homogeneous variance or not. In this research, the Levene's test is used as a formula by the value of significance (α) = 0.050. The result can be seen below:

Table 3.9

Result Homogeneity Testing

Levene Statistic	df1	df2	Sig.
3.626	1	41	.064

Based on the table above it is known that the sig/p value was 0.064. Because the significant value was higher than significant 0,05 ($0.064 > 0.05$), it means that H_0 was accepted that H_a was rejected. So, it can be interpreted that the data was homogeneous.

F. Data Collecting Method

The data collecting methods and instrument are needed to obtain the research data. The method of collecting data used in this research was administering test. According to Ary et al. (2010:201) the test were valuable measuring instrument for educational research. He then, defined test as a set of stimuli presented to individual in order to elicit responses on the basis of which a numerical score can be assigned. It means that by conducting the test, the researcher would get numerical score to collect the data.

The test here consisted of pre-test and post test. The function of pre-test was to know student's speaking test and the difference result of student's speaking ability who being taught Information Gap-activity and without using Information Gap-activity. The researcher would give pre-test and post test to both of experimental and control group. The procedure in collecting the data were:

1. Pre-test

Pre-test is a test which is conducted before given a treatment to the students. It was given to both experimental group and control group. Pre-test was needed to know the basic competence for the students and how far they known about the subject that would be taught. In this research, the researcher gave pre-test in control class or VIIB on Wednesday, 18th 2018. while pre-test in experimental class or VIIA hold on Saturday 21th 2018. it was administered to know the student's speaking score before being taught by Information gap-activity The pre-test was given to the students at the first meeting. The researcher asked the students about the familiar beach and the students express their opinion. The researcher gave the one picture about sine beach . The students describe the topic given based on picture and deliver it in front of class orally. In this test, the students were given 5 minutes to describe based on the picture.

a. Treatment

Treatment was given to the students in teaching speaking skill.it purposes to know the student's ability in speaking skill after giving treatment. So, treatment is a new technique by the researcher that can be accepted by the students or not. The researcher conducted treatment on

experimental class for three meetings, exactly Wednesday , July 25th until august 18th. in the beginning of study, the researcher introduced about Information gap technique to the students and explain about descriptive text lesson. Although they have not known about Information gap and then the researcher explained that step by step the students understood about the material. The researcher applied this strategy about material and the students very enjoy and happy.

While for the control class, the researcher did not give the material treatment information gap, exactly from Saturday 21st 2018. In the beginning of study, the researcher explained about Descriptive text lesson. She gave instruction all of students to present the story about described some thing based on some topics.

b. Post test

After giving pre-test and treatment, the researcher gave the post-test. Post-test was one kind of test which given after gaining the score in pre-test and conducting treatment. It was purposed to know the result of the new technique given is there effective or not. In this research, the researcher gave post-test on Wednesday, August, 20th 2018of experimental class for class VIII A and on Saturday, August, 25th 2018 of control class or class VIII B. The post-test was given to the students at last meeting. It was administered to know the student's speaking score after being taught by using Information gap-activity technique. The researcher gave the topic and the students were

given allotment 5 minutes to describe the topic and 4 minutes to tell the describe the topic in the front of class. After administering the test. The researcher evaluated by using scoring rubric.

G. Data Analysis

The analysis of data was used to analyze and calculate data from the students' speaking score through Information-gap activity technique. The data was analyzed quantitatively by using statistic. The data collected were processed by comparing the result of pre-test and post-test. The researcher conducted test to students by using Information-gap activity and without taught using Information-gap activity. The test was done to know whether or not there was significance different score after being given treatment. Also, the researcher used the formula t-test to analyze the data to know the result of the students' speaking score by using SPSS 23.0 version.

H. Hypothesis Testing

The hypothesis testing was used to test the hypothesis of the research. This research used standard significance 95% ($\alpha = 0.05$) to test the hypothesis. The hypothesis testing of this research was as follows:

1. H_0 (Null Hypothesis) states that there was no significant difference on students' speaking achievement between students who were taught and who were not

taught by using Information-gap Activity at eight grade of MTs Aswaja Tunggangri.

2. H_a (Alternative Hypothesis) states that there was any significant difference on students' speaking achievement between students who were taught and who were not taught by using Information-gap Activity at eight grade of MTs Aswaja Tunggangri.