

## **CHAPTER III**

### **RESEARCH METHOD**

This chapter presents seven topics dealing with the research, those are research design, population and sample, research instrument, validity and reliability testing, normality testing, data collecting method and data analysis.

#### **A. Research Design**

This study was conducted in pre experimental using quantitative approach with one group pre-test post-test design. Ary et al (2010:22) states that the quantitative research uses objective measurement and statistical analysis of numeric data to understand and explain phenomena. In quantitative research there are experimental and non-experimental research designs. Experimental research involves a study of the effect of the systematic manipulation of one variable on another variable and non experimental is the researcher identifies variables and may look for relationship among them, but does not manipulate the variable (Ary et al 2010:26). The design of this research in conducted an experimental research design. According to Ary et al (2010:26) an experimental is a scientific investigation in which the researcher manipulates one or more independent variable, controls any other relevant variable, and observes the effect of the manipulation on the dependent variable.

An experimental design serves two functions; first, it establishes the condition for the comparisons required to test the hypothesis of before and after being taught using talking stick strategy. Then both of the score were computed by using t-test to find out if there is significant influence of teaching speaking by using Talking Stick Strategy. Second, it enables the experimenter through statistical analysis of the data to make a meaningful interpretation of the result of the study. This experimental design used pre-experimental research design (one group pre-test - post-test design) that consist of pre-test, treatment and post-test. The pre-test and post-test are given to take the score of the students' speaking achievement.

Experimental research can be done in laboratory, in the field and in the class. In this study the experimental research was done in the class with taking the students as population.

**Table 3.1 one-group pretest-posttest design:**

<b>Y1</b>	<b>X</b>	<b>Y2</b>
<b>Pre-Test</b>	<b>Treatment (Independent Variable)</b>	<b>Post-Test (Dependent Variable)</b>

The procedures of experimental research using one group pretest-posttest design applied in this study were:

1. Administering a pretest with a purpose to measure speaking achievement of second grade students at SMPN 5 TULUNGAGUNG.
2. Applying the experimental treatment in teaching speaking by applying talking stick strategy.

3. Administering a posttest with a purpose of measuring speaking achievement of second grade students at SMPN 5 TULUNGAGUNG.

This research was intended to investigate the effectiveness of using Talking Stick strategy toward students' speaking skill at SMPN 5 TULUNGAGUNG. The treatment was done aimed at proving whether the improvement of scores possibly gotten. Thus, the effectiveness of the strategy used during was identified when the students' score had significant different after taught by using Talking Stick Strategy.

## **B. Population, Sampling and Sample**

### **1. Population**

Population is whole of subject in the research. According to Ary et al (2010:148) "a population is defined as all members of any well defined class of people, events, or objects". In this research, the populations were the eight class grade students of SMP Negeri 5 Tulungagung in academic year 2015-2016. There are nine classes in eighth grade of SMPN 5 Tulungagung.

**Table 3.2 Students' Number**

<b>No</b>	<b>Class</b>	<b>Students' Number</b>
1.	VIII A	30
2.	VIII B	32
3.	VIII C	30
4.	VIII D	32

5.	VIII E	32
6.	VIII F	32
7.	VIII G	32
8.	VIII H	32
9.	VIII I	30
	<b>Total</b>	<b>282</b>

Based on the table, the eighth grade of SMPN 5 Tulungagung consisted of A class until I class, this consisted of 282 students.

## 2. Sampling and Sample

In this research, the researcher used purposive sampling. The researcher used purposive sampling because the class is consisted of heterogeneous students (high, middle, and low achievement). Moreover, the class was believed to be developed in the skill when the strategy was applied. Purposive sampling refers to as judgment sampling sample elements judged to be “typical” or representative are chosen from population. To select sample was very important step in conducting a research. According to Lehman and Perry (2005:55) a sample is the source from which data are drawn to answer the research questions and to test any hypothesis that might be made. The I class was chosen as the sample. The I class consisted of 30 students with 17 boys and 13 girls. The I class choose as experimental group. The researcher only use experimental group in this research because the researcher only have limited time to conduct this research.

### **C. Research Instruments**

Research instrument is tool of collecting data that should be valid and reliable. According to Arikunto (2010:192) the device the researcher uses to collect data is called instrument. Instrument has important in this research. Developing an instrument was one of steps in conducting this research. The instruments used of this study were tests. There were two kinds of test, they were pre-test and post-test. 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 Talking Stick Strategy. While, post-test is given after researcher applied Talking Stick Strategy.

The researcher gave pre-test on February 2<sup>nd</sup> 2016. The pretest was administered before the students were taught by using Talking Stick Strategy. The pre-test was administrated to know the students' speaking skill before being taught by using Talking Stick Strategy. The pre-test asked the students to tell a narrative story. In this pretest the story was Malin Kundang. Each student was given 5 minutes to tell the narrative story.

After getting score in pretest, the researcher gave treatment by applying talking stick strategy in speaking class. The treatment was done on February 3<sup>rd</sup>, 5<sup>th</sup> and 9<sup>th</sup> 2016. In this study, the role of English teacher was the researcher herself. The process of teaching was done by researcher herself. The format of the procedure in giving the treatment as followed:

1. Teaching and learning process were held for about 80 minutes for each meeting.
2. The activity consisted of 10 minutes introduction, 60 minutes for main activity and 10 minutes for reflection and closing.
3. In the main activity there were some activities as follow:
  - a. The researcher asked the students to make a group, 30 students divided into 5 groups.
  - b. Researcher gave a material about narrative text, the example of narrative text and the question about the text.
  - c. Researcher explain the material about narrative text (definition, function of narrative, generic structure, characteristic of narrative text)
  - d. Researcher asked the students to discuss about narrative text and answer the questions in a group. (Kancil and Siput and Sangkuriang)
  - e. Researcher gave 10 minutes to students to prepare their self
  - f. Researcher played the music and gave the stick and the stick must move to one student to other students.
  - g. Researcher played the music, and when the music was stopped the students who hold the stick must speak up and tell the narrative story.
  - h. In telling the narrative story teacher gave 5 minutes in each student.

Meanwhile, the post-test was administered on February 12<sup>th</sup> 2016. This post-test was intended to measure students' speaking ability after being given a treatment. In this test, the students were asked to tell a narrative story about Timun Emas. The students were given 5 minutes to tell the narrative story.

Practically, in this research, the researcher conducted the tryout of the test. In this study were to know whether or not the instruction was clear and to convince that the students were familiar with the story. The researcher did the tryout twice, they were tryout of pre-test and tryout of post-test. The subject is same but, the tryout is in different time and topic. The subject is 30 students of SMPN 5 TULUNGAGUNG VIII I.

To score the students' performance in speaking the following scoring rubric was used as follows:

**Table 3.3 Analysis oral language scoring rubric**

<b>Aspect</b>	<b>Excellent</b> <b>4</b> <b>(26-35)</b>	<b>Good</b> <b>3</b> <b>(18-25)</b>	<b>Average</b> <b>2</b> <b>(9-17)</b>	<b>Need improvement</b> <b>1</b> <b>(1-8)</b>
<b>Content</b>	Content was very clear and detail, all of generic structure are fulfilled, so the listener can easy to understand the value.	Content was clear, some generic structure are fulfilled, only some details.	Content was not clear only one of generic structure are fulfilled, a few detail.	Content was not clear and detail the student was not using the generic structure.
<b>Aspect</b>	<b>Excellent</b> <b>4</b> <b>(24-30)</b>	<b>Good</b> <b>3</b> <b>(16-23)</b>	<b>Average</b> <b>2</b> <b>(8-15)</b>	<b>Need improvement</b> <b>1</b> <b>(1-7)</b>

<b>Language features</b>	Excellent control of language features, use of past tense, use of conjunction and use adverb of time.	Good language control, some use past tense, conjunction and adverb of time.	Adequate language control, a few use past tense, conjunction and adverb of time.	Weak language control, a few use past tense, and did not use conjunction and adverb of time.
<b>Aspect</b>	<b>Excellent</b> <b>4</b> <b>(16-20)</b>	<b>Good</b> <b>3</b> <b>(11-15)</b>	<b>Average</b> <b>2</b> <b>(6-10)</b>	<b>Need improvement</b> <b>1</b> <b>(1-5)</b>
<b>Fluency</b>	Speak was natural, normal and smooth with speed that comes close to that a native speaker.	Speak was mostly smooth, but with some hesitation and unevenness caused primarily by rephrasing and grouping for words.	Speak was slow and often hesitant and irregular sentences may be left uncompleted, but the students was able to continue.	Speak was very slow, stumbling, nervous, and uncertain with response, except for short or memorized expressions difficult for a listener to understand.
<b>Aspect</b>	<b>Excellent</b> <b>4</b> <b>(12-15)</b>	<b>Good</b> <b>3</b> <b>(8-11)</b>	<b>Average</b> <b>2</b> <b>(4-7)</b>	<b>Need improvement</b> <b>1</b> <b>(1-3)</b>
<b>Vocabulary</b>	Student was able to use rich precise vocabulary in a good manner, and he or she can expand his/her idea.	Student was able to use a lot of vocabulary and he or she can expand his/her idea.	Student was able to use a few vocabularies, but was lacking, and can't expand his or her idea.	Student had inadequate vocabulary to express his/her idea properly.

The students' scores were arranged based on the standard of performance. The categorization of the scores was presented in the following table:



**Table 3.4 Standard of performance:**

Excellent	80-100
Good	70-79
Average	60-69
Need improvement	1-59

**D. Reliability and Validity Testing**

Reliability and Validity are two very important concepts used to determine whether or not the instruments were good (Ary et al 2010:224). A reliable test is consistent and dependable, Brown (2001:386). Reliability has to do with consistency of the data result.

According to Ary et al (2010:224) reliability indicates how consistently a test measures whatever it does measure. If the students are given same test on two different occasions, the test should yield similar results. The word similar was used here because it was almost impossible for the test takers to get exactly the same scores when the test was repeated the following day. This is because of the fact that human beings do not simply behave in exactly the same way on every occasion, even when the circumstances seem identical. Therefore, the more similar the scores are, the more reliable the test is.

To measure the reliability result of the test, the researchers used inter-rater reliability where the scorers did the scoring and the two sets of scores gotten from the two scorers were calculated to get the correlation coefficient. The two scorers were the researcher and her partners.

The researcher used Alpha Cronbach Reliability Coefficient in SPSS 20.00 to analyze the correlation coefficient. The result showed that the value of pre-test was 0.850 and the value of post-test the was 0.861. From the above evidence, it could concluded that the result of test was very reliable.

The most complex criterion of an effective test and the most important principle of language testing is validity. Validity use refers to the ability of an instrument or observational procedure to accurately capture data needed to answer a research question. According to Brown (2004: 22) validity is defined as the extent to which scores on a test enable one to make meaningful and appropriate interpretations. There are four types of validity, they are face validity, content validity constructs validity, criterion-related validity, empirical validity, Brown in Isnawati (2011:28).

In this study, the researcher used content validity. This kind of validity depends on careful analysis of the language being tested and the particular treatment. The content validity in this research can be showed as follows:

**Table 3.5 Content Validity**

<b>Indicator</b>	<b>Speaking test</b>
Doing the short monologue in narrative	Retell the story based on the text given

Based on the table above, the indicator are students doing a short monologue in narrative. In this research, the researcher wants to assess the students speaking skill. Meanwhile the speaking test is retelling the story based on the text given.

A test is said have face validity if it measures what is supposed to be measure. Face validity is hardly scientific concepts, yet it is very important a test which does not have face validity may not be accepted by test-takers, teachers, education authorities or employers (Brown 2004:26). There are some considerations uses in this study to have a good test based on the validity:

1. The instructions given to the students were clear.
2. In this test the students were asked to retell the story. This activity was suited with syllabus and their level.
3. The allotment was set definitively. The researcher gave 5 minutes for each student to tell the story.

From the students' score in pre-test and post-test showed that the students performed their ability as it is measured. Therefore it can be concluded that speaking test administrated in pre-test and post-test has met the criteria of face validity.

#### **E. Normality Testing**

Normality test are used to determine whether a data set is well-modeled by a normal distribution or not, or to compute how likely an

underlying random variable is to be normally distributed. Normality test is intended to show that the sample data come from a normally distributed population.

To know the normality, the researcher used One-Sample Kolmogorov-Smirnov test with SPSS 20.00. The hypotheses for testing normality are:

- a.  $H_0$  : Data is in normal distribution
- b.  $H_a$ : Data is not in normal distribution.

Critic area is in which  $H_0$  is rejected when the significance value is lower than 0.05 ( $\alpha = 5\%$ ). The analysis is as follows:

**Table 3.6 One-Sample Kolmogorov-Smirnov Test**

		pretest	posttest
N		30	30
Normal	Mean	59.60	65.03
Parameters <sup>a,b</sup>	Std. Deviation	4.288	4.817
Most Extreme	Absolute	.166	.231
Differences	Positive	.166	.142
	Negative	-.108	-.231
Kolmogorov-Smirnov Z		.910	1.263
Asymp. Sig. (2-tailed)		.379	.082

a. Test distribution is Normal.

b. Calculated from data.

Based on the output from SPSS 20.00, it revealed that the significance value from pretest was 0.379 and from the posttest was 0.082. Both value from pre-test and post-test were bigger than 0.05. The significant value on pre-test was 0.379 and it was bigger than 0.05 ( $0.379 > 0.05$ ). It means that  $H_0$  was accepted and  $H_a$  was rejected and the data were in normal distribution. Then, for post-test score the value of

significant was 0.082 and it was bigger than 0.05 ( $0.082 > 0.05$ ). It means that  $H_0$  was accepted and  $H_a$  was rejected and the data were in normal distribution. So, it can be interpreted that both of data (pre-test and post-test score) are normal distribution.

#### **F. Data Collecting Method**

The data collecting method that used in this research was test. Brown (2001:384) states that “test is a method of measuring a person’s ability or knowledge in a given domain”. The material of the test was taken from English book based on the junior high school curriculum with the subject was narrative text.

In this research the researcher uses proficiency tests. The test was designed to measure people’s ability in language regardless of any training they may have had in that language. The tests were used to measure on the students’ speaking skill before and after they taught by using Talking Stick Strategy in SMP Negeri 5 Tulungagung. The activity of the test was story telling.

#### **G. Data Analysis**

The data was analyzed quantitatively by using statistic. It was called statistical analysis or inferential statistic. The data were analyzed by using statistical computation. The data collected were processed by comparing the result of pre-test and post-test. The step was done to know

whether or not there was significant different score after being given treatment.

The first data of pre-test were data of students score before being taught by using Talking Stick Strategy. The second data of called post-test were data of students score after being taught by using Talking Stick Strategy. To know the significant difference on the students' speaking skill before and after taught by using talking stick strategy, the researcher in this research uses paired sample T test at SPSS 20.00.