III. RESEARCH METHODS

This chapter discusses about setting of the research design, subject of research, research procedure, the data collecting technique, thedata collecting instrument of research, data analysis, and hypothesis test.

3. 1 Research Design

In conducting this research, the researcher used *control group pretest-posttest* design (Setiyadi, 2006 : 143). This experimental method deals with two groups; one is an experimental class and another as control class. Each group received pretest, treatments, and posttest. Furthermore, the control class got treatment through *storytelling* and the experimental class got treatment through *storytelling with serial pictures*.

The research design used in this research can be represented as follows:

$$G_1: \quad T_1 \quad X_1 \quad T_2$$
$$G_2: \quad T_1 \quad X_2 \quad T_2$$

G_1 : experimental class

G_2 : control class

T_1 : Pre test

T_2 : Post test

X_1 : Treatment by using storytelling with serial pictures

X_2 : Treatment by using storytelling without serial pictures

3. 2 Population and Sample

The research was conducted at SMA N 1 Bandar Lampung. There were six classes at

the second grade or class XI, and the researcher took two classes as the samples of the

research. The researcher selected two classes randomly, the first class was the

experimental class (XI E) and the second was the control class (XI C). The researcher

conducted the research in two meetings for each class. The material was based on the

school curriculum. *Narrative text* was used on the experiment.

3. 3 Data Collecting Technique

In collecting the data, the researcher will use:

• Pretest

The researcher conducted the pretest in 80 minutes. The purpose of this test was to

know the students speaking performance before they received the treatments. In this

case the researcher gave the topic to the students and let them to perform the

monologue based on the topic and situation first then they should prepare and

perform it in front of the class, the test is done in individual. The last, teacher will record their monologue.

• Posttest

After conducting the treatment, the researcher gave post-test which take 80 minutes. The purpose of this test was to know the result of their speaking performance improves or not after receiving the treatments. The procedure of the post test was the same as the pre-test.

3. 4 Research Procedure

The procedures of the researcher can be seen as follows:

• Selecting speaking materials

In selecting the speaking materials the researcher used the syllabus of the second year of Senior High School based on school based curriculum.

• Determining the instrument of the research.

The instrument in this research was speaking test. The writer conducted speaking test for the pretest and posttest, these test was aimed at gaining the data of students' speaking ability score before treatment and after the treatments. In achieving the reliability of the pretest and posttest of speaking, inter rater reliability was used in this study. The first rater was the researcher herself and the second rater was the English class teacher of SMAN I Bandar Lampung. Both of them discussed and shared ideas of speaking criteria in order to obtain the reliable result of test.

- Determining Population and sample

The population of this research was the second year of SMAN 1 Bandar Lampung. There are 6 (Six) classes and two classes was taken as the sample to be the experimental and control class.

- Conducting The Pretest

Pretest was given before the writer applied the treatment to measure how far the competence of the students in speaking skills before the implementation of the treatments. The pre-test was conducted for about 80 minutes. In conducting the pretest the researcher provided some topics and let them to make a short monologue individually based on the topic provided. The test was done orally and directly, the teacher called each student one by one to come in front of class to perform their monologue. Then the researcher asked the students to speak clearly since the students' voices was recorded during the test.

- Conducting The Treatment

After giving pretest to students both in experimental and control class, the researcher gave treatments using storytelling in control class and storytelling with serial picture in the experimental class. Each treatment took for 80 minutes. The researcher present the material for treatment in the subject through pictures. In selecting the material the researcher used the syllabus of the second year of Senior High School students based on school based curriculum. In this research, the experiment taught in in two meetings for each class.

- Conducting Post test

Posttest was conducted to measure the increase of students' speaking ability after receiving the treatments. The posttest was administered for 80 minutes. In selecting the material the researcher used the syllabus of the second year of senior high school students on school based curriculum. In conducting the post test the researcher provided some topics and let them to make a short monologue individually based on the topic provided. The test was done orally and directly, the teacher called each student one by one to come in front of class to perform their monologue. Then the researcher asked the students to speak clearly since the students' voices was recorded during the test.

- Analyzing the data

After collecting data, the researcher analyzed the data taken from two classes by using normality test, and hypothesis test.

3. 5 Data analysis

Data analysis needs careful thinking because data analysis is aimed at organizing the data. It makes the readers able to understand the result of the research. Data analysis is the process of organizing the data in order to gain the regularity of the pattern and form of the research. Data analysis will be done to create understanding for the data after following certain procedure final of result of the students can be presented by the researcher to the readers (Setiyadi, 2006).

After collecting the data that is students' recording utterance in performing the activity, students' opinion about series pictures, the data will analyze by referring the speaking score based on aspects of speaking.

Scoring for pretest – posttest is tabulating the result of the test and calculating the mean of the pretest and the posttest. Repeated Measure T – test will be used to draw the conclusion. The data computed through SPSS version 17. The hypothesis will be analyzed at the significance level of 0.05 in which hypothesis will approve if sig < .

- **Evaluating the Students' Speaking**

The researcher used inter-rater to give score of students' performance. The rater gave the students' score by listening to the voice record of each student. The rater in this research was the researcher herself and the English teacher in school. The record will help the rater to evaluate more objectively. Students' speaking performance was measured based on two principles: reliability and validity.

Reliability

Reliability refers to extend to which the test is consistent in its score and gives us indication of how accurate the test score are (Hatch and Farhady, 1982:224). In achieving the reliability of the pretest and posttest of speaking, inter rater reliability was used in this research. It means that there are two raters to judge students' speaking performance. The first rater was the researcher herself and the second rater

was the English teacher at the class. Both of them discussed and put in mind of the speaking criteria in order to obtain reliable result of the test.

Inter-rater reliability of the pretest and posttest was examined by using statistical measurement:

R= 1 -

Notes:

R   : Reliability of the test

N   : Number of students

d^1 : The different between R1 and R2

d^2 : The Square of d^1

1-6 : Constant number

(Shohamy, 1985:213)

The standard of reliability

- very low reliability ranges from 0.00 to 0.19

- low reliability ranges from 0.20 to 0.39

- average reliability ranges from 0.40 to 0.59

- high reliability ranges from 0.60 to 0.79

- very high reliability ranges from 0.80 to 0.100

(Slameto 1998:147)

The reliability of the score in this research could be seen on the explanation below:

1. **Result of Reliability of the Score in Pretest (experimental class)**

   $R = 1 - \dfrac{6.\ d^2}{N(N^2-1)}$

   $R = 1 - \dfrac{6.\ (100)}{24(576-1)}$

   $R = 1 - \dfrac{600}{13800}$

   $R = 1 - 0.04347$

   $R = 0.95653$ (Very high reliability)

2. **Result of Reliability of the Score in Pretest (control class)**

   $R = 1 - \dfrac{6.\ d^2}{N(N^2-1)}$

   $R = 1 - \dfrac{6.\ (190)}{24(576-1)}$

   $R = 1 - \dfrac{1140}{13800}$

   $R = 1 - 0.082608$

   $R = 0.91734432$ (Very high reliability)

3. **Result of Reliability of the Score in posttest (control class)**

   $R = 1 - \dfrac{6.\ d^2}{N(N^2-1)}$

   $R = 1 - \dfrac{6.\ (86)}{24(576-1)}$

$$R = 1 - \frac{516}{13800}$$

$$R = 1 - 0.0373913$$

$$R = 0.96260869 \text{(Very high reliability)}$$

4. **Result of Reliability of the Score in Post test (experimental class)**

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

$$R = 1 - \frac{6.\ (646)}{24(576-1)}$$

$$R = 1 - \frac{4200}{13800}$$

$$R = 1 - 0.065217$$

$$R = 0.9347826 \text{(Very high reliability)}$$

Validity of the Test

Meizaliana (2009:82) states that the data is valid if the instruments used are also valid, and a test is reliable if it is constant, or it is reliable if the results of test show their consistency.

Hatch and Farhady (1982:250) defined validity as "the extent to which the result of the procedure serves the uses for which they were intended". Content validity, the test is a good reflection of what is thinking and the knowledge which the students to know. Shoamy (1985) states that is construct validity to measure the test will be examining to reflect what language.

Based on that quotation, validity refers to the extent which the test measures what it is intend to measure. This means that relates to the purpose of the test. The test measured based on the indicator.

- **Scoring Criteria**

Three aspects that was evaluated: pronunciation, fluency, and comprehension.

Aspects of speaking	Rating scales	Description
Pronunciation	31-35	Speech is fluent and effortless as that native speaker.
	26-30	Always intelligible though one is conscious of a definite accent.
	21-25	Pronunciation problems necessitate concentrated listening and Occasionally lead to understanding.
	16-20	Very hard to understand because of pronunciation problem most Frequently be asked to repeat.
	10-15	Pronunciation problem so severe as to make speech unintelligible.
Fluency	31-35	Use of vocabulary and idiom virtually that is of native speaker.
	26-30	Sometimes use inappropriate terms and must rephrase ideas, because of inadequate vocabulary.
	21-25	Frequently use the wrong word, conversation somewhat limited because of inadequate vocabulary.
	16-20	Misuse of words and very limited vocabulary make comprehension quite

		difficult.
	10-15	Vocabulary limitations so extreme as to make conversation virtually impossible.
Comprehension	27-30	Grammar almost entirely in accurate phrases.
	23-26	Constant errors control of very few major patterns and frequently preventing communication.
	19-22	Frequent errors showing some major patterns uncontrolled and causing occasional irritation and misunderstanding.
	15-18	Few errors, with no patterns of failure.
	10-14	No more than two errors during the dialogue.

Table of Rating Sheet Score

S' Code	Pron. (1-35)	Fluent. (1-30)	Compre. (1-35)	Total (1-100)
1				
2				
3				

3.6 Hypothesis Testing

The observer analyzed them in order to find out whether there were increasing in the students' speaking ability or not after the treatment. The observer would use repeated measure T-test to find out the increasing of the treatment effect. The formulation could be seen as follows:

$$t = t \frac{Md}{\sqrt{\frac{\Sigma x^2 d}{N(N-1)}}} \qquad \text{and} \qquad x^2 d = d^2 - \left(\frac{(\Sigma d)^2}{N}\right)$$

t   : Test

Md   : Mean

xd   : Deviation of each subject (d - Md)

x^2d : Total of quadratic deviation

N   : Subject on sample

(Arikunto, 2010: 349-350)

The criteria are:

H_0 : There is no significant different of the students' procedure speaking achievement after being taught by using authentic material and non authentic material. The criteria is Ho (null hypothesis) is accepted if alpha level is higher than 0.05 (> 0.05)

H_1 : There is significant different of the students' procedure speaking achievement   after being taught by using authentic material and non authentic material. The criteria H_1 is accepted if alpha level is lower than 0.05(< 0.05).