III. METHOD

In this chapter there would be a discussion about research methods which consist of design, population and sample, instrument, data collecting technique, research procedure, scoring system, validity and reliability, data analysis, and hypothesis testing. These topics will be explained as follow:

3.1. Design

This research applied quantitative design. The writer used pretest-posttest design. The design was as follows:

T_1 X T_2

Where,

T_1: Pre-test

X: Treatment

T_2: Post-test

(Setiyadi, 2006: 131)

T_1 is pretest to know the score of students' speaking achievement before treatment is given. While, T_2 is posttest for students' speaking achievement after treatment is given, and X is treatment in which teaching speaking by using *realia.*

3.2. Population and Sample

This research was conducted at SMAN 1 Seputih Raman, Central Lampung. The researcher got a data from the English teacher that speaking achievement of

students in eleven grade class at SMAN 1 Seputih Raman was lower. The English teacher at SMAN 1 Seputih Raman was also still using common media without other sources except textbook. So, students had low spirit to follow teaching learning process especially in speaking. It was showed by the score of students' speaking test. The population was the second year students of SMAN 1 Seputih Raman, Central Lampung. The sample was the 11th grade students of social education major that consisted of 28 students in a class. Their ages were 16 to 17 years old. The researcher took XI IPS3 as the quasi experimental class. The researcher taught them by using *realia* as a media to see the students' improvements in speaking after being taught by using *realia*.

3.3. Variables

This research consists of the following variables:

a. *Students' speaking achievement* as the dependent variable (Y)

b. *Teaching by using realia* as the independent variable (X)

3.4. Data Collecting Technique

In collecting data, the researcher administered pre-test and pos-test which can be clarified as follows:

1. Pre-test

The pre-test was administered in order to find out the students' speaking achievement before the treatments. The type of the test was oral speaking test in which the students were required to describe the picture. The description was containing about the object's name, size, shape, color, tastes, parts of object's body, the function, and the benefits of the object. The students had two minutes to

prepare themselves before describing the object. When one student was performing, another student had been prepared his/her self in front of the class with his/her picture in the same time at once, after their friend had finished the test, the next student was ready to perform, and so on until the last student. Their voices will be recorded. They had two minutes to perform.

2. Post-test

The aim of this test was to know the significant effect on the speaking achievement after being given the treatment. In this post test, students were required to describe the picture which was different with the picture in the pre test, but in the same level of difficulty. The description was containing the object's name, size, shape, tastes, parts of object's body, color, the function, and the benefits of the object. It was conducted within 2 minutes for each student. The students had two minutes to prepare themselves before describing the object. When one student was performing, another student had prepared his/her self in front of the class with his/her picture in the same time at once. After their friend had finished the test, the next student was ready to perform, and so on until the last student.

3.5. Research Procedures

In conducting the research, the procedures of this research were as follows:

1. Identifying problem of the research

There were some problems in English teaching learning process which were faced by students. One of those problems was speaking. The researcher found the problem when the observation had been conducted.

2. **Determining the population and sample**

   The sample of this research was XI IPS3 of SMAN 1 Seputih Raman, Central Lampung as quasi experimental class.

3. **Preparing the material**

   The material was based on the current curriculum of senior high school. The material was factual report. The researcher used *realia* as a media like vegetable, fruit, and school's equipment.

4. **Administering the pre test**

   The researcher administered the pre test in order to find out the students' speaking achievement before treatments. In this test, students were required to describe the picture.

5. **Conducting treatments**

   The treatments had been conducted in three meetings in which each meeting took 2 x 45 minutes. The material was about factual report. The students identified a *realia* object.

6. **Administering the post test**

   The aim of this test was to measure the students' speaking achievement after being given treatments. In this test, the students were asked to describe the picture.

7. **Analyzing the data and testing hypothesis**

   After scoring students' oral test, the researcher compared the result of those pre test and post test to see whether the score of post test was higher than the pre test.

3.6. Scoring System

In evaluating the students' speaking score, the researcher listened to students' record, and used the oral English rating sheet proposed by Harris (1974:84) as a guidance of scoring.

The score of speaking skill based on the five elements which could be persentage as follow:
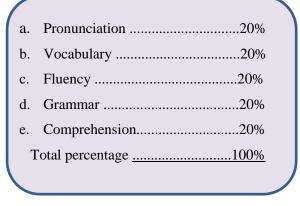
a. Pronunciation 20%

b. Vocabulary 20%

c. Fluency 20%

d. Grammar 20%

e. Comprehension..........................20%

    Total percentage 100%

Table 3.1 of English Oral Sheet

Ss Code	Pronunciation 1-5	Grammar 1-5	Vocabulary 1-5	Fluency 1-5	Comprehension 1-5	Total Score
1						
2						
3						
4						
5						

Total per score = 5 x 5 = 25

Total score = 25 x 4 = 100 (the maximum score).

3.7. Validity and Reliability

a. Validity

Validity refers to the extent to which the test measure was intended to measure. It meant that it related to the purpose of the test directly (Shohamy, 1985: 74). The researcher used content validity and construct validity to find out that the test had a good validity. Hatch and Farhady (1982) states that content validity is extended to which the test measures a representative sample of the subject matter content. The focus of the content validity is the adequacy of the sample and not simply on the appearance of the test. In the content validity, the material was suitable with the curriculum. To fulfil the validity, the researcher saw the indicators of the instrument and analysed them whether the measuring instrument had represented the material that would be measured or not.

Construct Validity examined whether the test actually in line with the theory. It meant that the test measured an aspect or construct based on the indicator. The researcher correlated the items of the test with some theories of the aspects of the skill itself. Construct validity focused on the kind of the tests that could be used to measure the students' speaking achievement. The researcher administered a speaking test and the technique of scoring students' speaking achievement based on five aspects; pronunciation, grammar, fluency, and vocabulary, and comprehension.

b. Reliability

Reliability of the test was consistent in which a test produced the same result in measuring whatever it was measured. So, a test cannot measure anything well

unless, it measures consistently (Harris, 1974:14). Reliability of the pre-test and post-test speaking was examined by using statistical measurement proposed by Shohamy (1988:213).

The statistical formula is:

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

Notes:

R   : Reliability

N   : Number of the students

d   : The difference of the rank correlation

1-6   : Constant number

The Standard of Realibility:

a)   A very low reliability   ranges from 0.00 to 0.19

b)   A low reliability   ranges from 0.20 to 0.39

c)   An average reliability   ranges from 0.40 to 0.59

d)   A high reliability   ranges from 0.60 to 0.79

e)   A very high reliability   ranges from 0.80 to 1.00

Slameto (1998: 147).

After calculating the data, the result of reliability would be seen in the following table:

Table 3.2 Raters Reliability

Reliability	Pretest	Posttest	Criteria

3.8. Data Analysis

In order to see whether there is an effect of students' speaking achievement after being taught by using *realia*. The researcher examined the students' score using these following steps:

1. Scoring the pre-test and the post-test

2. After getting the raw score, researcher tabulated the result of the test and calculating the score of the pre-test and post-test. Then, the researcher used SPSS to calculate mean of pre-test and post-test to see whether there were significant improvements or not after students were taught by using *realia*.

3. Drawing conclusion from the tabulated result of the pre-test and post-test. The researcher used statistic formula. The researcher used paired sample t-test of Statistical Package for Social Science (SPSS) for windows version 16.00 to test whether there was an effect or not.

3.9. Hypotheses Testing

The researcher tried to analyze the data in order to find out how far teaching speaking by using *realia* could improve students' speaking achievement.

The hypotheses would be as follow:

H_0: There is no significant effect on students' speaking achievement after being taught by using *realia*.

H_1: There is a significant effect on students' speaking achievement after being taught by using *realia*.

If $P < 0.05$ H_1 is accepted

If $P > 0.05$ H_0 is not accepted

The researcher used the level of significance 0.05 in which the hypothesis is approved if sign <P. It means that the probability of error in the hypothesis is 5% only.