III. METHODOLOGY

In this research, the researcher will discuss about design, population and sample, the instruments, the procedures of data analysis, and the hypothesis the test.

3.1 Design

The objective of this research is to find out the improvement of the students' speaking skill after being taught by using Collaborative Learning. This research is a quantitative research in which one-group pretest-posttest (Hatch and Farhady; 1982:22). The class got the treatments and also pretest and posttest. In order to see whether Collaborative Learning can improve the students' speaking skills the difference scores of pre-test and post-test would be compared.

The research design can be represented as follows:

T1 X T2

Where:

T1   : Pretest

X   : Treatments (Collaborative Learning)

T2   : Posttest

(Hatch and Farhady; 1982:22)

3.2 Population and Sample

In this research, the researcher took the second grade of social class of SMA 15 Bandar Lampung as a population which consists of 3 classes. The 3 classes are homogenous since they were divided randomly. Then, as the sample, it was taken only one class. The sample was taken randomly. Each class consists of 37 students. Their ages are in range of 16 until 17 years old. The researcher used one class from the population as the sample. From the sixth classes, researcher used XI IPS 1 as the sample of this research.

3.3 The Instruments

In this research, the researcher used several instruments in conducting her research. The instruments were the test of the students' speaking skill. The instruments of this research were explained as follow:

3.3.1   The Test

In this research, the researcher conducted the pretest and the posttest to collect the data of the students' speaking skill. The researcher started the research by conducting the pretest. It aimed to know the students' speaking skill before the treatments. In administering the pretest, the researcher asked the students about some problems that became a trending topic in society. Then, the researcher divided the students into some groups that consist of 3-4 persons. The researcher gave each group a piece

of paper consisting a problem to be solved. Every student in each group discussed his/her problem together. He/she should gave their opinion or suggestion related to the text. They prepared some arguments about the problem that they had gotten. Before they started to discuss, the researcher asked them to record their discussion using their phones and the researcher recorded the oral test by using recorder to make sure the test runs well. The aspects of speaking which were scored by the researcher were pronunciation, grammar, vocabulary, fluency, and comprehension.

After the researcher conducted three times treatments, the students got the posttest. It was aimed at seeing the significant improvement of the students' speaking skill after being taught by using Collaborative Learning. The procedures of the test were similar to the pretest. The aspects of speaking which were scored were pronunciation, grammar, vocabulary, fluency, and comprehension. During administering the test, the researcher recorded the activity by using recorder.

3.3.2 Recording

The researcher recorded the students' speaking skill during the pretest and the posttest by using recorder as recording tool. The researcher used recorder in this research because the researcher only focused on the five aspects of speaking, namely pronunciation, grammar, vocabulary, fluency, and comprehension. So, the researcher did not concern on the students' expressions. Therefore, the recorder was enough to be use in this research.

3.3.3   Transcribing

The researcher transcribed the students' speaking performance from recording that had been conducted. The researcher had also asked the students' to transcribe their performances in the end of the meeting. It was useful for the researcher to recognize whose sounds in the recording.

3.4   Validity and Reliability

Validity is an extent to which an instrument really measures the objective to be measured and suitable with the criteria (Hatch and Farhady, 1982:250). Actually, there are five types of validity but the researcher only wanted to describe two of those types of validity, there are content validity and construct validity. Content validity is intended to see whether the test has good reflection of what have been taught. Construct validity focuses on the kind of the test that is used to measure the ability (Hatch and Farhady, 1982:250). In this research, the researcher administered a speaking test and the technique scoring of the students' speaking skill is based on five aspects; pronunciation, grammar, fluency, vocabulary, and comprehension.

Reliability of the test is a consistency which a test yields the same result in measuring whatever it does measure. So, a test cannot measure anything well unless it measures consistently (Haris,1974:14). Reliability of the speaking test is examined by using statistical measurement proposed by Shohamy (1988;213) in Hayanti (2010: 39)

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

After finding the coefficient between raters, the researcher analyzed the criteria. There are five criterias according to Hatch and Farhady (1982:247), they are:

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

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

Raters Reliability

Reliability	Pretest	Posttest	Criteria
	0.72	0.7	A high reliability

3.5 Scoring Criteria

An oral speaking test was used by the researcher in this research. This oral test was in term of multilogue speaking test for the pretest and the posttest. In this research, the researcher used subjective scoring, so there were two raters in this research. The two raters were the researcher and the English teacher. The raters were judge and they worked together to find out the reliability of the test. The raters used the oral English Rating sheet proposed by Harris (1974:84). According to the oral rating sheets, there were five aspects to be tested by the two raters, namely pronunciation, grammar, vocabulary, fluency, and the comprehension. Here are the rating sheets.

Table 1

Aspects	Score	Qualifications
Pronunciation	5	If speech is fluent and effortless as that of native speaker.
	4	Denote that if it is always intelligible though one is conscious of a definite accent.
	3	Refers to pronunciation problem necessitate concentrated listening and occasionally lead to misunderstanding.
	2	Indicate that it is very hard to understand because of pronunciation problem most frequently asked to report.
	1	Shows that pronunciation problem so serve as to make conversation unintelligible.

Table 2

Aspects	Score	Qualifications
Grammar	5	Make few (if any) noticeable errors of grammar or word order.
	4	Occasionally makes grammatical and/ or word order errors which do not, however, obscure meaning.
	3	Refers to that speed and fluency are rather strongly affected by language problem.
	2	Means that a student usually doubt and often forces into silence by language problem.
	1	Means that speech is so halting and fragmentary as to make conversation virtually impossible.

Table 3

Aspects	Score	Qualifications
Vocabulary	5	The use of vocabulary and idiom virtually that is of native speaker.
	4	Indicates that sometimes a student uses inappropriate terms and or rephrase ides because inadequate vocabulary.
	3	Refers to using frequently the wrong word, conversation somewhat limited because of inadequate vocabulary.
	2	Denotes that misutilizing of word and very limited vocabulary make conversation quite difficult.
	1	Means that vocabulary limitation so extreme as to make conversation virtually impossible.

Table 4

Aspects	Score	Qualifications
Fluency	5	If the speech is fluent and effortless as that native speaker.
	4	Refers to speed of speech seems rather strongly affected by language problem.
	3	Make frequents errors of grammar and word order, which obscure meaning.
	2	Grammar and word order make comprehension difficult must often rephrase sentence and/or restrict him to basic pattern.
	1	Errors in grammar and word order to severe as to make speech virtually unintelligible.

Table 5

Aspects	Score	Qualifications
Comprehension	5	Appear to understand everything without difficulty.
	4	Understand nearly everything at normal speed although occasionally repetition maybe necessary.
	3	Understand most of what is said at lowers that normal speed with repetition.
	2	Has great difficult following what is said.
	1	Cannot be said to understand even simple conversation in English.

The score of speaking skill based on the five elements can be compared in percentage as follows:

a. Pronunciation…………………………………20%

b. Grammar………………………………………..20%

c. Vocabulary……………………………………..20%

d. Fluency…………………………………………20%

e. Comprehension………………………………20%

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Total percentage……………………………100%

The score of each aspect is multiplied by four, so the total score is 100. Here is the identification of the scores of the students' speaking skill:

If a student gets 5, so 5x4 = 20

If a student gets 4, so 4x4 = 16

If a student gets 3, so 3x4 = 12

If a student gets 2, so 2x4 = 8

If a student gets 1, so 1x4 = 4

For example: There is a student who gets 4 in pronunciation, 3 in grammar, 4 in vocabulary, 4 in fluency, and 3 in comprehension. So, the student's total scores will be:

Pronunciation   4x4 = 16

Grammar   3x4 = 12

Vocabulary   4x4 = 16

Fluency   4x3 = 12

Comprehension   3x4 = 12

Total   68

The student's total score will be 68. It means that the student gets 68 for his /her speaking score.

3.6   The Procedures of Data Analysis

In order to see whether there is an improvement of students' speaking skills, the researcher examined the students' scores using these following steps:

1. The students' utterances were transcribed.

2. All students' utterances were listened again to find out their skill in speaking.

3. After the researcher had gotten the raw score, the researcher tabulated the result of the test. Then, the researcher calculated the mean scores of the pretest and the posttest to see whether there is an improvement or not of the students speaking skill after being taught by using Collaborative Learning technique.

4. The researcher drew the conclusion from the tabulated result of the pre test and the posttest. The researcher used statistic computerization, for example, *repeated measures T-test of Statistical Package for Social Science* (SPSS) for windows version 17 to test whether there is an influence or not.

3.7 Hypothesis Testing

After getting the mean score of the pretest and the postest, the researcher analyzed the data by using repeated measures T-test of Statistical Package for Social Science (SPSS) windows version 17. The hypotheses are as follows:

H_0 : There is no influence or no significant improvement of students' speaking skill after they are taught by using Collaborative Learning.

H$_1$: There is an influence or significant improvement of students' speaking skill after they are taught by using Collaborative Learning.

If $P < 0.05$ H$_1$ is accepted

If $P > 0.05$ H$_0$ is not accepted

The researcher uses the level of significance 0.05 in which the hypothesis is accepted if sign $<p$. It means that the probability of error in the hypothesis is only 5%.