

III. RESEARCH METHODS

3.1 Research Design

This research was designed in the form of quantitative research. The writer used control group pre test-post test design. The writer used two classes at the sample of the research; one was experimental class which taught through CTL and another one as control class which taught through ordinary technique.

Both the classes got the same materials.

The research design was presented as follow:

G1:T1 X T2

G1 : Experimental Class

T1 : Pre – test

T2 : Post – test

X : Treatment (teaching recount text writing through CTL)

(Setiyadi, 2002:125)

In order to make sure the research result, the writer used control class. The formula is as follow:

G2: T1 O T2

G2 : Control Class

T1 : Pre – test

T2 : Post – test

- O : Regular teaching (teaching recount text writing through ordinary technique)

3.2 Population and Sample

The population of this research was conducted at the second years SMA Muhammadiyah 2 Bandar Lampung. There were five classes, and two classes were taken as the sample of this research XI IPS 2 and XI IPS 3, one as experimental class and the second as control class. In determining the experimental class and control class the writer used random sampling techniques, so that those all second year class got the same chance to be the sample. And both of this classes were in the same skills in writing recount text, it showed in the result of pre test in experimental class and control class. Both of the class got almost the same result. The result could be seen in chapter four.

3.3 Data Collecting Technique

In collecting the data, the writer used the following technique:

1. Administering the Pre-test

The pre-test was given before the treatment applied, in order to know how far the competence of students in writing recount text and to know whether both experimental class and control class are equal or not in the terms of their narrative text writing ability or achievement. The test was in written form and the materials that would be tested related to curriculum that was used in the school and suitable with their level.

2. Treatment

In this research, the writer used Contextual Teaching and Learning as a treatment. Contextual Teaching and Learning was teaching that enables students to reinforce, expand, and apply their academic knowledge and skills in the variety of in-school and out-of-school settings in order to solve simulated or real-world problems. There were seven characteristics of Contextual teaching and learning, they were constructivism, inquiry, questioning, modeling, learning community, reflection, and authentic assessment. Then, the writer gave the treatment to the students three times.

3. Administering the Post-test

The post-test was given after the treatment applied in order to know whether the contextual teaching and learning technique can improve the students' ability in learning recount text writing. The test was written form and the materials that would be tested, related to curriculum that was used in the school and suitable with their level. The post-test would be done after one meeting of treatment. The result of the post test of two classes would be compared in order to make sure whether CTL improves students' recount text writing ability or not. To be clearer, here is the the research instrument used in this study.

3.4. The Instruments of the Research

The instruments that the writer used in the research was in essay form. The writer gave the instruction to the students to write their name also the class on a piece of paper. Then, the writer gave the students the time to do the writing test, around 90

minutes. The directions were, the students should choose only one topic from the topic that was given, the students should write recount text based on the topic. The topics were about holiday experience and unforgettable experience. And the students might used the appropriate words such as next, unfortunately, then, because, etc. And the evaluation criteria were content (20), grammar (20), form (20), vocabulary (20), mechanic (20). The treatment both in pre test and post test were same. To make clearer, see Appendix 6 and 7.

3.5 Research Procedure

There were three steps that would be done in research procedures, they were:

a. Planning

1. Preparing the pre-test

This test was prepared by providing the topic and materials that would be tested.

2. Preparing the Materials

The materials that were prepared to the students related to the curriculum that were used in the school and also suitable to introduce CTL in teaching recount text writing to the students in experimental class.

3. Preparing the post-test

This test was prepared by providing the topic and materials that would be tested. The topic that was given in this test was based on the materials that had been taught before.

b. Application

After making planning, the research procedures that had already planned were applied. There were some steps that should be applied, they were:

- In the first meeting, the pre-test was given. This test gave in written form. The test papers administered to the students for both experimental class and control class, asked them to do the test and then asks them to hand in their test.
- After the pre-test, the treatment conducted, the experimental class taught by CTL and the control class taught by the writer through ordinary technique. Both of classes were given the same materials. The writer taught the students in experimental class for three times. Moreover, the control class would be taught by ordinary technique.
- Post – test would be given in the last meeting. This test would be given in written form. The papers administered to the students for both experimental class and control class, Then they would be asks to do the test and for last asks them to hand in their test.

c. Reporting

The last point that should be done in the research procedure was reporting. There were two steps that were done in reporting:

- Analyzing the data from pre-test and post-test (both control class and experimental class) whether CTL can improve students' ability in writing recount text or not.
- Making a report on the findings.

3.6 Validity and Reliability of the Tests

3.5.1 Validity of the Test

Validity is a matter of relevance. It means that the test measures what is claimed to measure. Furthermore in the researcher report that the test are valid both in content and construct validity. In the content validity the material and the test is composed based on indicators and the objectives in the syllabus of KTSP 2006. The materials were adopted from the students' handbook for the second years of SMU students. In the construct validity, it focuses on the coherence aspect of writing skill. In this research the researcher administer a writing test. The scoring aspect cover by five aspect of writing, they are content, organization, vocabulary, grammar, and mechanic.

3.5.2 Reliability of the Test

Reliability is a measure of accuracy, consistency, dependability, or fairness of scores resulting from administration of particular examination. In this case the researcher used two raters in scoring the students' writing test. The formula is as follows:

$$\rho = 1 - \frac{6 \sum D^2}{N(N^2 - 1)}$$

Where:

ρ = Rank-Diference

$\sum D$ = The sum of difference between each pair of ranks.

(Harris, 1974: 142)

In this case the researcher also used the standard of reliability (Arikunto, 1998 – 260) below:

0.81 – 1.0 = very high

0.61 – 0.8 = high

0.41 – 0.6 = medium

0.21 – 0.4 = low

0 – 0.2 = very low

After calculating the students' text writing, the writer calculated the data by using Rank Difference method. The result can be seen in the following tables:

Reliability	Pre Test	Post Test	Criteria
	0.76	0.54	High reliability

Reliability	Pre Test	Post Test	Criteria
	0.97	0.96	High reliability

From the criteria of the reliability above, it can be concluded that the reliability of two raters were high.

3.7 Scoring System

The researcher used impression method i.e. a method of scoring that used multiple marking (Heaton, 1991:147) in order to minimize the subjectivity. The researcher used two raters in scoring students' writing test. The first rater was the english teacher of SMA Muhammadiyah 2 Bandar Lampung and the second rater was the researcher. The formula was:

$$FS = \frac{\delta - \delta}{2}$$

Where:

FS = Students' final score

S1 = Score from pre-test

S2 = Score from post-test

3.6.1 Calculating of Mean

After obtaining the result of the students' test, the writer focused on their writing components. The writer listed the scores and calculated their means through mean formula as follows:

$$\bar{x} = \frac{\sum x}{N}$$

Where:

\bar{x} = mean

$\sum x$ = total scores

N = number of students

Mean told us how difficult or easy a test is. According to Heaton (1991, p.175), the mean score of any test is the arithmetical average i.e. the sum of the separate scores divided by the total number of students. It is the most efficient measure of central tendency, but it is not always appropriate. A mean of 90 means that the test is easy; while an average of 40 means that it is difficult.

3.6.2 Standard Deviation

Standard Deviation (s.d) is another way of showing the spread of scores. It measures the degree to which the group of scores deviates from the mean in other words, it shows how all the scores are spread out and thus degree to which the group of scores deviates from the mean; in other words, it shows how all the scores are spread out and thus gives as a fuller description of test scores than the range, which simply describes the gap between the highest and lowest marks and ignores the information provided by all the remaining scores. To see the calculating of s.d writer used following formula:

$$s.d = \frac{\sqrt{\sum d^2}}{N}$$

Where:

s.d = find out the amount by which each score deviates from the mean

d^2 = square each result

$\sum d^2$ = total all the result

N = numbers of testees

(Heaton 1991:177)

In order to know the students get any progress, the following formula will be used:

$$I = M2 - M1$$

Where:

I = the improve of students' ability

M2 = the average score of post test

M1 = the average score of the pre test

(Arikunto 1997:68)

3.6.3 Treatment of the Data

a. Random Test

The random test was conducted if the data from the experimental class and the control class was taken randomly still doubtful. The data should be tested again by using SPSS 15 to know the random test.

b. Normality Test

The normality test was used to measure whether the data in the experimental class and control class were normally distributed or not. In this case, the writer used the One-Sample-Kolmogorov-Smirnov Formula (SPSS 15) to test the normality of the data.

c. Homogeneity Test

The Homogeneity test was used to know whether the data in the experimental class and control class were homogenous or not. In this research, the writer used Independent Sample Test (SPSS 15) to know the homogeneity of the test.

3.6.4 Scoring Writing Test

To gain the data in this research, the writer considers based on the following (adopted from Haris, 1979: 68 – 89)

1. Content: the substance of the writing, the idea expressed (unity).
2. Grammar: the employment of grammatical forms and syntactic patterns.
3. Form: the organization of the content (coherence).
4. Vocabulary: the selection of words that are suitable with the content.
5. Mechanic: the conventional devices used to clarify the meaning.

The score of the test in writing recount would be derived as follows:

Content	: 20%
Grammar	: 20%
Organization	: 20%
Vocabulary	: 20%
Mechanic	: 20%

Based on the content above, the writer evaluated the aspects of recount text writing based on content, grammar, form, vocabulary, and mechanics. The lowest score was 0 and the highest score was 100. To be clear, the explanation of each component can be seen on Appendix 14.

3.7. Data Analysis

To analyze the data, the writer analyzed the result of pre-test and post-test of the experimental class and control class. If the post test is better then pre test, it means that there is a progress on the students' achievement. And then the writer analyzed the probability result by using SPSS.

3.7.1 Statistical Formula:

$$t = \frac{x - x}{s}$$

(Hatch and farhady, 1982: 116)

3.7.2 Hypothesis Testing:

To demonstrate if the hypothesis of this research was sustained, hypothesis test was performed on the data by using T-test. According to Hatch and Farhady (1982;114), the assumption of T-test are:

1. The subject is assigned to one (and only one) group in the experiment.
2. The scores on the independent variable are continuous and that there are only two levels to the variable (i.e., only two means)
3. The variances of the scores in the population are equal, and the scores are normally distributed.

The hypothesis testing which showed that CTL can improve students' ability in writing recount text would be approved at the significant level of 0.05 in which $\alpha < 0.05$ (Setivadi, 2006:97). The hypothesis would be analyzed by using statistical computerization (SPSS 15.0), the formula is:

$$T = \frac{\bar{x}_1 - \bar{x}_2}{s} \quad \text{in which} \quad S_d = \frac{s}{x}$$

Where:

$\overline{X1}$ = mean of pretest

$\overline{X2}$ = mean of posttest

$S\overline{d}$ = standard error differences between two means

Sd = standard deviation

n = number of students

(Hatch and Farhady, 1982:116)

H1: CTL can improve students' ability in writing recount text.

H0: CTL can not improve students ability in writing recount text.

The criteria are:

Ha (alternative hypothesis) is accepted if *alpha level* is lower than 0.05 ($\alpha < 0.05$)

H0 (null hypothesis) is accepted if *alpha level* is higher than 0.05 ($\alpha > 0.05$)