

III. RESEARCH METHOD

This research was intended conducted to find out whether there is any increase of students' ability in writing narrative text taught through CTL or not. This chapter includes the research design, the population and sample, data collecting technique, validity and reliability, scoring criteria, and research procedure.

3.1 Research Design

This research was designed in the form of quantitative research. The researcher used control group pre test-post test design. The researcher used two classes as the subjects of the research, they were: the experimental class (G1) and the control class (G2). Because the writer took two classes, the research design could be represented as follow:

G1: T1 X T2

G2: T1 O T2

G1 : Experimental Class
G2 : Control class
T1 : Pre-test
T2 : Post-test
X : Treatment
O : Regular teaching (ordinary technique)

(Hacth and Farhady 1982:22)

The research was conducted in 8 (eight) meetings in each class. The first meeting was used for a pre test, three meetings for treatments (each treatments took 4 x 45 minutes or two meetings) and one last meeting for a post test. The pre test was done to find out the students' basic ability in writing a narrative text. Next, treatments were done to guide the students in

making some clues from pictures that is given by researcher as media for examples, they are trying to think about the picture, to compose the generic structure, the orientation, what happened in, and resolution from the pictures given in a group. Then, after making some clues, the students were asked to make a fable individually.

In control class, the researcher did not give any special treatment because the students were treated by the method used by their English teacher there. Their teacher used conventional method. The last, post test was done to find out their improvement in writing a narrative text and also to make sure that there was significant improvement in their writing. Each meeting took 4 (four) lesson hours (4 x 45 minutes).

The criteria whether there is progress on the students' writing achievement is determined by the differences between the results of pre test and post test in each class. If the result of post-test is higher than pre-test, it means there is improvement in their narrative text writing. On the other hand, if there is no improvement of the result from pre-test to post-test, it means there is no improvement and the researcher needs to evaluate the implementation of CTL on the students' text writing.

3.2 The Population and Sample

This research was conducted at second years of SMA Negeri 1 Natar Lampung Selatan in second semester on 2009/2010 academic year. Based on the information that researcher got from the school, there were 9 classes in class XI that are divided randomly, 6 classes were science class and 3 classes were Social class. It assumed that all the students were homogeneous in their ability in writing. In determining the experimental class and control class as representative of population in class XI, the researcher used lottery technique, because those all second year classes have the same chance to be the sample. Thus, the

experimental class was XI IPA 2 and Control class was XI IPA 3. Each class consisted of 30 students.

3.3 Data Collecting Technique

The data were collected based on pre test, treatment and post test.

1. Pre-test

The pre-test was administered in order to find out the students' basic ability in writing narrative text. It required 90 minutes for the test. In this test, the researcher provided some topics to be chosen by the students to write. The topics in this test were writing the story about The Turtle and The Rabbit and Cinderella. The students were asked to write a narrative text chronologically based on the topics provided that consists of 150 – 250 words.

2. Treatment

The researcher gave a treatment in experimental class. She applied CTL method to teach them. Meanwhile in control class, their English teacher taught them by using conventional method. The material was about Fable and Fairy tales based on guidelines of KTSP 2006. In the classroom teaching, the researcher acted as the teacher and asked another English teacher to observe her teaching. Based on the information that researcher got from the observer, she always followed education workshop and also applied CTL in her teaching learning. So the observer is very understood about CTL.

3. Post-test

The post-test was administered after treatment in order to measure the increase of students' ability in writing. The post-test was exactly the same as in the pre test. The

students had to choose the same topic as the topic they had chosen in the pre test. It took 90 minutes for this test. The topics were writing story about The Turtle and The Rabbit and Cinderella. The students were asked to write a narrative text chronologically based on the topics provided that consists of 150 – 250 words.

3.4 Validity and Reliability of the Test

3.4.1 Validity

Validity is a matter of relevance. It means that the test measures what is claimed to measure. Furthermore in the research, the researcher reported 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 kind of the test that is used to measure the ability. In this research the researcher administer a writing test. The scoring aspect cover by five aspects of writing, they are content, organization, vocabulary, grammar, and mechanic. After calculating the result of students' writing ability, the researcher found that her test has a high validity

3.4.2 Reliability

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 was:

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

Where:

- \square : Rank-Diference
- $\square D$: The sum of diference 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 of Inter-Raters in Experimental Class

Reliability	Pre Test	Post Test	Criteria
	0.66	0.73	

Reliability of Inter-Raters in Control Class

Reliability	Pre Test	Post Test	Criteria
	0.52	1.06	

Reliability of Intra-Rater

Reliability	Pre Test	Post Test	Criteria
	0.73		

From the criteria of the reliability above, it can be concluded that the reliability of the raters in experimental and control class are high. It means that the second rater's way of scoring was similar to the researcher (the first rater). They have the same scoring system so that there is no subjectively in scoring the students' writing. Besides, the scoring criteria help the raters in scoring the students' writing accurately. In addition, the result shows that the raters scored the students' writing consistently and fairly.

3.5 Scoring Criteria

The five aspects of evaluated by the researcher are content, grammar, form/organization, vocabulary and mechanic. This research used computation as follows:

1. Content is scored as much as 20% from the total sentences support the main idea (unity).
2. Grammar is scored as much as 20% from sentences use a correct grammar.

3. Form is evaluated as much as 20% from the total sentences are written in chronological order (coherence)
4. Vocabulary is scored as much as 20% from vocabularies used correctly.
5. Mechanic is evaluated as much as 20% from use punctuations, spelling, and capitalization correctly.

The criteria of scoring are devised from Harris (1969:68) are evaluated 20% of each aspects as follows:

1. Content

- 20 Excellent: all developing sentences support the main idea.
- 15 Good: three of developing sentences support the main idea.
- 10 Fair: two of the developing sentences support the main idea.
- 5 Poor: one of the developing sentences supports the main idea.
- 0 Very poor: there is no developing sentences support the main idea.

2. Grammar

- 20 Excellent: all the sentences use a correct grammar.
- 15 Good: three of the sentences use a correct grammar.
- 10 Fair: two of the sentences use a correct grammar.
- 5 Poor: one sentence uses a correct grammar.
- 0 Very poor: there is no sentences use a correct grammar.

3. Organization/Form

- 20 Excellent: all the supporting sentences are written in chronological order.
- 15 Good: three of all the supporting sentences are written in chronological order.
- 10 Fair: two of all the supporting sentences are written in chronological order.
- 5 Poor: one of all the supporting sentences is written in chronological order.
- 0 Very poor: there is no supporting sentence written in chronological order.

4. Vocabulary

- 20 Excellent: all of the vocabularies are used correctly.
- 15 Good: 75% of the vocabularies are used correctly.
- 10 Fair: 50% of the vocabularies are used correctly.
- 5 Poor: 25% of the vocabularies are used correctly.
- 0 Very poor: there is no of the vocabulary are used correctly.

5. Mechanic

- 20 Excellent: all punctuations, spelling, and capitalization are used correctly.
- 15 Good: 75% punctuations, spelling, and capitalization are used correctly.
- 10 Fair: 50% punctuations, spelling, and capitalization are used correctly.
- 5 Poor: 25% punctuations, spelling, and capitalization are used correctly.
- 0 Very poor: no punctuations, spelling, and capitalization are used correctly.

Scoring sheet of each test

Ss[*] Code	Content	Grammar	Organization	Vocabulary	Mechanic	Total Score
	0-5-10 15-20	0-5-10 15-20	0-5-10 15-20	0-5-10 15-20	0-5-10 15-20	0-100
1						
...						
30						

Based on the content above, the researcher would evaluate the aspects of narrative text writing based on content, grammar, form, vocabulary, and mechanic. The lowest score is 0 and the highest score is 100.

3.6 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 subjectively. Because the writer took the data

from pretest and post test design. the writer used two raters in scoring students' writing test.

The formula is:

$$FS = \frac{S_1 + S_2}{2}$$

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 researcher focused on their writing components. The researcher made list of the scores and calculate 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.

3.6.2 Standard Deviation

Standard Deviation (SD) 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 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 the researcher used following formula:

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

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 whether the students get any progress, the following formula was used:

$$I = M2 - M1$$

Where:

I = The improve of students' ability.
 M2 = The average score of post test
 M1 = The overage score of pre test

(Arikunto 1997:68)

3.7 Research Procedure

The procedure of this research could be seen as follows:

1. Determining the population and samples

In this stage, the researcher chose SMA N 1 Natar Lampung Selatan as the population and sample of this research. There are 9 (nine) classes in the second year level. They are: XI.IPA 1, XI.IPA 2, XI.IPA 3, XI.IPA 4, XI.IPA 5, XI.IPA 6, XI.IPS 1, XI.IPS 2, and XI.IPS 3. The researcher took two classes as the samples of the research, XI.IPA 2 as experimental class and XI.IPA 3 as control class. The classes were determined by

using lottery. The researcher used this technique because all of the classes of the second year students have the same opportunity to be a subject of this research. Each class consists of 30 students.

2. Finding and selecting materials that are going to be taught and tested

In this stage, the researcher found some topics for the pre test. The topics were taken from the students' handbook and based on the teaching and learning syllabus. The topics were writing a story about: *The Turtle and The Rabbit, and Cinderella*.

3. Administering pre test to the students and getting the result.

In this stage, the researcher gave some topics that had been prepared in the previous stage and asked the students to choose one of the topics to be written by them in their text writing. The time was 90 minutes for this test. The researcher analyzed the results and recorded the results. This test was done in both of the classes with the same test item.

4. Giving treatments by teaching through CTL method.

Here, the researcher introduced CTL method to the students in the experimental class. The researcher explained clearly about CTL method and applied it during teaching learning process and asked the students to practice writing a text on the topic given. In here, the researcher also used some pictures as media when the students work in a group. The topics were *Fable, Worst Experience, and Folktales*. In control class, the researcher used the method by the English teacher there. The treatments were done in three times.

5. Administering the post test

After giving treatments to the students, the researcher gave the same topics again to the students. Then, they were asked to choose the same topic as they chose in pre test.

It required 90 minutes for this test. The researcher analyzed the result and recorded them. It was also done in the two classes to find out the increasing of their writing.

6. Analyzing the data

The researcher analyzed the result of pre test and post test of the experimental and control classes by combining the scores from the two raters, the scores from her first rater and scores from the researcher herself to get reliable scores or data. To see whether there is progress on the students' narrative text writing after being taught through CTL method, the researcher analyzed the improvement by comparing the scores of pre test and post test from two classes. If the score of post test is better than pre test, it means that there is a progress on the students' achievement. Then the researcher would try to compare which class has significant improvement in writing a narrative text.

7. Making a report

After analyzing the result of the tests, the researcher reported the increasing of the students' narrative text writing achievement after being taught through CTL method. If the result of post test is higher than pre test, it means that CTL is a good method to improve students' ability in writing narrative text.

Treatment of the Data

a. Random Test

The random test was used if the data from the experimental class and the control class is taken randomly still doubtful. The data should be tested again by using SPSS 15 to know the random test. In this research, the writer used Runtun Test to know whether the test is random or not.

b. Normality Test

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

Hypothesis Testing

After collecting the data, the writer treated the data by using T-test in order to know the significance improvement of treatment effect. According to Hatch and Farhady (1982;114), the assumptions 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 populations are equal, and the scores are normally distributed.

The hypothesis will be analyzed by using statistical computerization (SPSS 15.0), the formula is:

$$T = \frac{\overline{X_1} - \overline{X_2}}{S_{\bar{d}}} \quad \text{in which} \quad S_{\bar{d}} = \frac{s}{\sqrt{n}}$$

Where:

$\overline{X_1}$: mean of pretest

$\overline{X_2}$: mean of posttest

$S_{\bar{d}}$: standard error of differences between two means.

Sd : standard deviation
 n : number of students

(Hatch and Farhady, 1982:116)

Hypothesis for Research Question 1:

H1 : There is significant improvement of students' ability in writing narrative text after taught by using CTL.

Ho : There is no significant improvement of students' ability in writing narrative text after taught by using CTL.

Hypothesis for Research Question 2:

H1 : There is improvement of students' ability in writing narrative text in term of content, grammar, organization, vocabulary and mechanic.

Ho : There is improvement of students' ability in writing narrative text in term of content, grammar, organization, vocabulary and mechanic.

The criteria are:

With t-table (0.05) 1.671

Ho is accepted if the t-ratio is lower than t-table, or (t-ratio < t-table)

H1 is accepted if the t-ratio is higher than t-table, or (t-ratio > t-table)