

III. RESEACH DESIGN

The design of this research is organized in a manner that allows composition between pre-test and post-test result. To do this, analytical data measuring the caliber of students' writing was collected using pre-test and post-test. Using a controlled analysis of the result as channeled through the research design, the transformation of the subjects' writing skills can be adequately revealed and composed across the two-test period.

A. Research Design

This research is a qualitative study which is intended to see the students' narrative writing improvement after the implementation of the contextual teaching and learning. The research design is intact group posttest-pretest design. Intact group design is pre-experimental designs in which the sample is chosen randomly. The design used two classes, one as the experimental class which received the treatment of contextual teaching and learning (CTL) and the other as control class which was taught with regular teaching learning activity by the classroom teacher. This design used pretest to find out the students' initial ability before the treatment (Hatch and Farhady, 1982: 21-22). It can be illustrated as follows:

G1 = T1 X T2

G2 = T1 O T2

Note:

G1 : experimental class

G2 : control class

T1 : pretest

T2 : posttest

X : contextual teaching and learning (CTL)

O : regular teaching learning (Hatch and Farhady, 1982:22)

B. Population and Sample

The population of this research was the second grade students of SMUN 9 Bandar Lampung. The researcher selected the sample randomly one of the classes by using lottery since the second grade had some appropriate materials and ability related to the issue of the research. The treatment was conducted in three meetings, where the researcher taught the experimental class and the control class was taught by the classroom teacher. This research was conducted in the second semester of 2009/2010 academic year. It means that there was no doubt that the sample had had the concept of narrative text writing in their first semester. It can be said that the writing test administered in this research was related to their knowledge they had learned.

There were nine classes of the second year students in this school. Each class consisted around 25 students. Before the researcher selected the sample, there were three classes offered by the classroom teacher which were needed to be considered by the researcher. The three classes belong to SBI (International Based School) program. They were XI science 1, XI science 2, and XI science 3. Finally the classroom teacher and the researcher decided to choose class XI science 2 as control class and class XI science 1 as experimental class since both of the class were studying narrative text at that time. The treatment conducted in three meetings. The length of the meeting was 90 minutes. Both experimental class and control class received different treatment. The experimental class received contextual teaching and learning (CTL) as the treatment.

The researcher used picture sequence during the implementation of CTL in experimental class, in order to help students to develop the main idea/plot of the narrative text. While the control class received regular teaching and learning by the classroom teacher. The pretest and posttest were free narrative writing. During the teaching and learning process there were only 18 students who participated effectively. Because of that the researcher only chose 18 students as the sample of the research.

C. Data Collecting Technique

To gain the data of the text analysis instruction impact on the students' narrative text writing performance, a series of procedures was set out as follows:

1. Pre-test

The pre-test was administered before the treatments. The pre-test was administered to the experimental class and control class. It was to see the basic quality of students' writing performance before receiving the treatment. The pretest was free narrative writing. The pre-test was conducted in 90 minutes.

2. Post-test

The post test was administered to the students after they got the treatments. It was done to find out the improvement of students' narrative text writing after being taught using contextual teaching and learning (CTL). The researcher used picture sequences as the media. The post-test was free narrative writing. The post test was conducted in 90 minutes.

D. Procedures of DataCollecting Technique

In collecting the data the researcher used the following procedures:

1. Selecting materials for treatment

In selecting the materials for treatment, the researcher selected some samples of narrative text from some English books, and magazines and short story collection books. The researcher also used picture sequences as a media to help students in developing the main idea/plot of narrative text. The researcher selected the pictures based on students' interest by choosing interesting story that was closed to their life, e.g. the story about friendship, fairytale, love, and mystery. The pictures were taken from the internet, magazines, and short story collection books.

2. Determining the population and selecting sample

The population of the research is the second year student of SMAN 9 Bandar Lampung. The researcher chose experimental class and control class randomly by using lottery, since every class had the same opportunity to be chosen as the experimental class and control class.

Introduction and observation was done during this step. The researcher spent one day to come to three classes which was offered by the classroom teacher with the consideration that those classes were studying narrative text at the moment. Finally the researcher chose XI science 3 as the experimental class and XI science 2 as the control class, with the consideration that both classes were studying narrative text at that moment. There were 25 students in experimental class and control class. However, there were only 18 students of each class who participated actively during the three meetings treatment.

3. Administering the pre-test

The researcher conducted the pre test before giving contextual teaching and learning (CTL) as a treatment which lasted 90 minutes. The pre test was conducted to investigate the students' present narrative writing ability. Pretest was given to measure the students' competence in narrative text writing. The students were asked to develop narrative writing freely.

4. Conducting the Treatment

After giving the pretest to the students, the experimental class was given treatment by using contextual teaching and learning (CTL) as an approach and picture sequence as a media.

While the control class was given regular teaching and learning by the classroom teacher. The treatment was conducted in 90 minutes, based on the time allocation in the syllabus of the second grade of SMA. The treatment was conducted in three meetings, where the researcher held the experimental class, and the classroom teacher held the control class. The reason why the treatment conducted only in three meetings was because the advancements in the writing ability of students (in a narrative format) could be seen when the students were trying to develop the plot that they had made

5. Administering the post-test

Post-test was conducted to measure the students' narrative writing achievement after being taught contextual teaching and learning (CTL). This test was administered to both experimental class and control class. The test was in form of writing. The students were asked to develop their narrative text writing freely based on their interest. The post-test was conducted in 90 minutes.

6. Analyzing the Data

After collecting the data that refers to the content, organization, vocabulary, language use, and mechanic, the data gained was done. First, the data, in form of score, gained from pre-tests

and post-tests was tabulated. Then, the mean of the pretest and the posttest and its standard deviation was calculated. Repeated Measures T-Test was used to draw the conclusion to see whether the hypothesis proposed by the writer was accepted or not. The comparison of two means tell us the difference of students' writing ability of narrative text before and after the treatments that indicates the correlation itself. The data was computed through SPSS 16 that showed t-value, degree of freedom (*df*), and two tail significance for equal variances.

E. Instrument of the Research

Writing test is a device which requires the students to compose their own idea, and extended responses to problems set by the teacher. The instrument of this research was narrative text writing. The researcher administered writing test to find out whether there was significant improvement of students' narrative text writing ability taught through contextual teaching and learning or not. That is why, the students were asked to write a narrative text. The students were given a chance to make writing composition for about 90 minutes.

The test was free narrative text writing. The test was given by following instructions including, among others, time allocated, some key words, etc, instruction. To be clearer below is the sample of writing test.

Direction:

1. Write a narrative text (complication and resolution) by following the orientation provided!
2. The time provided is 90 minutes
3. You may use these words in your passage, e.g. first, second, then, next, before, after, finally, etc.

4. You may also use these key words, e.g. One day, a long time ago, Once upon a day, Last year, One year ago, Two years ago, etc.
5. To make your writing unified and coherent, pay attention in your spelling, capital letter and punctuation. For examples period (.), coma (,), colon (:), semi colon (;), exclamation point (!), question mark (?), apostrophe ('), quotation mark (" ") etc.
6. And also pay attention to your grammatical structure. Check them carefully before you submit it.

Due to the subjectivity of a writing test, it was decided that two raters would be used to reduce subjectivity in judging the writing ability of students. The two raters were the researcher himself and a native English teacher who currently resides in Bandar Lampung.

The reason why the researcher chose a native English teacher was because he has completed his Bachelor of Art (B.A.) in McGill University in Canada and listed as one of English teacher in English First (EF) Bandar Lampung. He also has experience in teaching English and can professionally rate the student's writing. This allows for a higher degree of accuracy in gauging the writing skill of those tested. Both of the raters worked collaboratively to score the result of the students writing. Before marking any papers, the two raters scanned a sample of papers to decide upon standards. They found, for example, a high, high-medium, low-medium, and low caliber papers to serve as models. Then, as they scored the papers, they returned occasionally to the models to ensure that their standards were not shifting.

F. Validity

Validity refers to the extent to which the test measures what is intended to measure. This means that it relates directly to the purpose of the test (Shohamy, 1985:74). There are four types of

validity, and empirical validity or criterion-related validity, content validity, construct validity, and empirical validity or criterion-related validity. To measure whether the test has a good validity, the researcher used content validity and construct validity. Face validity only concerns with the layout of the test while the criterion-related validity is concerned with measuring the success in the future, as the replacement test, (Hatch and Farhady, 1982:251). These two validities taken into consideration in this research can be illustrated as follow:

a. Content Validity

Content Validity is the extent to which the test measures a representative sample of the subject matter content. The focus of the content validity is adequacy of the sample and not simply on the appearance of the test (Hatch and Farhady, 1982:251). The assistance from rater's assessment was used to justify the content validity of the test

b. Construct Validity

Construct validity is concern with whether the test is actually in the line with the theory of what it means to know the language (Shohamy, 1985:74).

G. Reliability

Reliability refers to whether the test is consistent and its scoring and gives us an indication of how accurate the test score are (Shohamy, 1985:70). Reliability is a measure of accuracy, consistency, and fairness of the scores resulting from administration of particular examination.

To ensure the reliability of scores and to avoid the subjectivity of the researcher, inter rater reliability was applied in this research. Inter rater reliability is used when score of the test is

independently estimated by two or more judges. Jacobs (1981), also mentions that the key to high reliability is evaluating students writing is using a focused evaluation guide, selecting and training reader, and obtaining multiple readings for each composition. To achieve such reliability, in judging the students' writing performance, the researcher:

1. Used a single standardized evaluation guide in evaluating each student's paragraph that is the ESL Composition Profile provided by Hartfiel, Hugney, Jacobs, Wormuth, Zinkgraf (1981:92-96).
2. Involved second experienced rater in using the profile to read and give judgment for each student's writing performance. The second rater was native English teacher. The reason why the researcher chose native English teacher was because he has completed his Bachelor of Art (B.A.) in McGill University in Canada and listed as one of English teacher in English First (EF) Bandar Lampung. He also has experience in teaching English and can professionally rate the student's writing. This was meant to provide a consistent and fair judgment.

Thus, to determine the level of reliability of the scoring system, the Spearman Rank Correlation was applied on the data. The formula of this is:

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

Notes:

R : Reliability

N : Number of students

d : The different of rank correlation

1-6 : Constant number

(Sudijono, 2006:228)

The researcher considered it was reliable for the test if the test has reached range 0.60-0, 79. The standard of reliability:

- | | |
|----------------------------|---------------------------|
| 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 0.100 |

Slameto (1998:147).

The researcher considered that both raters would achieve the reliability if the inter-rater reliability had reached range 0.60-0,79 (a high reliability).

In this research, it was found that the result of inter-reliability of pre-test was as follows:

Control group

Inter-rater Reliability in Pretest:

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

$$= 1 - \frac{6 \cdot (57)}{18 \cdot (18^2 - 1)}$$

$$= 1 - \frac{342}{5814}$$

$$= 1 - 0.058$$

$$= 0.94$$

It means that both raters have a very high reliability.

Inter-rater Reliability in Posttest:

$$\begin{aligned} R &= 1 - \frac{6 \cdot \sum d^2}{N(N^2 - 1)} \\ &= 1 - \frac{6 \cdot (24)}{18 \cdot (18^2 - 1)} \\ &= 1 - \frac{144}{5814} \\ &= 1 - 0.024 \\ &= 0.97 \end{aligned}$$

It means that both raters have a very high reliability.

Experimental group

Inter-rater Reliability in Pretest:

$$\begin{aligned} R &= 1 - \frac{6 \cdot \sum d^2}{N(N^2 - 1)} \\ &= 1 - \frac{6 \cdot (6)}{18 \cdot (18^2 - 1)} \\ &= 1 - \frac{36}{5814} \\ &= 1 - 0,006 \\ &= 0.994 \end{aligned}$$

It means that both raters have a very high reliability.

Inter-rater Reliability in Posttest:

$$\begin{aligned}
R &= 1 - \frac{6 \cdot \sum d^2}{N(N^2 - 1)} \\
&= 1 - \frac{6 \cdot (9)}{18 \cdot (18^2 - 1)} \\
&= 1 - \frac{54}{5814} \\
&= 1 - 0,009 \\
&= 0.991
\end{aligned}$$

It means that both raters have a very high reliability.

H. Data Analysis

The result of students' writing ability in each test was evaluated based on content, organization, vocabulary, language use, and mechanism. The result of the students' performance in pre-test, then, compared with result of their performance in post test to the impact of the instruction in their writing performance. To analyze data gained from writing test, the researcher treated the data through the following steps:

1. Sorting the data

Each rater scored the students' writing of pre-test and post test of both groups. Then, the scores between two raters were taken the average to be the final score that would be analyzed statistically using *Repeated Measured T-Test (Paired sample T-Test)* that was to show the differences between pretest and posttest of experimental class for answering the hypothesis. In order to enhance the result, the researcher also compares the pretest and posttest of both groups using *Independent group T-Test* to draw the conclusion of the research. It was aimed to check

whether the effect of the treatment was really because of the treatment or not. The data computed through SPSS version 13.0

2. Drawing conclusion

The scores of the pre test and post test of two groups was statistically analyzed using *Repeated Measured T-Test (Paired Sample T-Test) and Independent Group T-Test* to draw a conclusion. It was computed through the Statistical Package for Social Science version 13.0

I. Hypothesis Testing

The hypothesis is stated as follow:

H_0 : “There is no positive effect of Contextual Teaching and Learning in Improving Students’

Narrative Text in terms of: content, organization, vocabulary, language used, and mechanic”.

$$H_0: X_1 = X_2$$

H_1 : “There is positive effect of Contextual Teaching and Learning in Improving Students’

Narrative Text in terms of: content, organization, vocabulary, language used, and mechanic”.

$$H_1: X_1 \neq X_2$$

Repeated Measure T-test (Paired Sample T-test) and Independent group T-test was used to test the hypothesis. The analysis was computed using the SPSS version 13.0. The hypothesis was analyzed at the significant level of 0.05 ($p < 0.05$) in which H_0 was approved if $\text{Sign} > \alpha$. It means that the probability of error in the hypotheses was only about 5%.

