

III. RESEARCH METHOD

This chapter discusses the design of this research and how to collect the data on reading comprehension. The writer encloses the data collecting technique and the procedures of this research. The writer also gives the scoring system and how the data are analyzed.

3.1 Research Design

The writer used one group pretest-posttest design (Hatch and Farhady, 1982:20). She used one class as the experimental class and another one as a try out class. This research is intended to see whether there is an increase of students' reading comprehension in narrative text after being taught using DRTA strategy.

The pretest was conducted to measure students' reading comprehension achievement before treatments, and the posttest was conducted to find the students' reading comprehension achievement after being taught using DRTA strategy. Then, the means of both pretest and posttest was compared to find out the progress before and after the treatment.

This research design conducting includes pretest, treatments, and posttest. The research design is represented as follow:

T1XT2

T1 : Pre-Test

T2 : Treatments

T3 : Post-Test

(Hatch and Farhady in Setiyadi 2006:131)

Firstly, a pre-test was administered to the students. Then, the students were given three treatments by using DRTA strategy. After that, a post-test was administered to identify students' reading comprehension achievement after they were taught through DRTA technique. If the average score of the pre-test (mean) is higher than the average score (mean) of the post-test, it indicates that DRTA strategy cannot be used to increase students' reading comprehension achievement of narrative text. However, if the average score (mean) of the post-test is higher than the average score of the pre-test (mean), it shows that DRTA strategy can be used to increase students' reading comprehension achievement of narrative text.

3.2 Population and Sample

The population of the research was the first year students of SMP PGRI 2 Katibung Lampung Selatan in first semester of 2012/2013 academic year. In this research, the writer chose the first year students to be investigated. The writer used two classes, one class as an experimental class, and another one as a try out

class. In determining the experimental class, the writer used random sampling technique by using lottery, so that all the first year classes got the same chance to be sample in order to avoid subjectivity and to guarantee every class had the same opportunity.

3.3 Data Collecting Technique and Instrument

In collecting the data the writer used the following strategy:

1. Giving Try-Out Test

It was done in order to know the level of difficulty and discrimination power, and also to find out the reliability. Therefore, 40 items were arranged and made before the students were given for pre-test and post-test items. The same items were used for the pre-test and post-test taken from try-out items.

2. Giving Pre-Test

Pre-Test was given before treatments in order to know the basic of students' reading comprehension of narrative text.

3. Treatments

The treatments were given three times.

4. Giving Post-Test

Post-Test was given after giving treatment. The students were given the post-test in order to know the result of the class in teaching learning process whether they had progress or not.

3.4 Procedures of Collecting Data

In conducting this study, the writer conducted the following procedures:

1. Planning

There were some steps that were planned in order to make the research run well.

The procedure of making planning of this research could be seen as follows:

a. Preparing the Try-out

A kind of test (called Try-out test) that was given to the students was prepared. It used an objective test in form of 40 multiple choice items in 60 minutes time. It was done in order to know the level of difficulty, discrimination power and also to find out the reliability. Split-half method was used to measure the reliability in which requires the writer to provide the items into two same groups, first half and second half.

b. Preparing the Pre-Test

A kind of test (called Pre-Test) that was given to the students was prepared. It used an objective test in form of 30 multiple choice items in 40 minutes time. It was done to know the students' reading comprehension before treatments.

c. Determining the material to be taught

The material that should be taught to the students was determined. The material was about narrative text. Each treatment was held for 80 minutes.

d. Preparing the Post-Test

A kind of test (called Post -Test) that was given to the students was prepared. It was done to know the result of students' reading comprehension after applying narrative text and to measure the increase of students' reading

achievement after taught through narrative text. The researcher used an objective test in form of 30 multiple choice items in 40 minutes time. It was done to find out whether there is any significant increase of students' reading comprehension achievement after the treatments.

2. Application

After making the planning, the writer procedure which had been planned was applied. There were some steps that had been applied:

- a. In the first meeting, try-out was given.

The test papers were administered to the students and the students were asked to do the test and the last, they answered in their answer sheet. This test was in the form of multiple choices that consisted of 40 items.

- b. In the second meeting, pre-test was given.

This test was in the form of multiple choices that consist of 30 items.

- c. After giving the pre-test, the treatments consisting of three meetings were conducted.

- d. In the last meeting, post-test was given.

The test papers were administered to the students and the students were asked to do the test and the last, they were answer in their answer sheet. This test was in the form of multiple choices that consists of 30 items.

3.5 Research Instrument

The research instruments for collecting the data were pre-test and post-test. The writer used an objective test ; it was a multiple choice (MC) test which items consist of four options (A,B,C,D), since it was easy to correct and to give the

score. The material was about narrative text, the researcher used 30 items for pre-test and 30 items for post-test.

3.6 Try Out of Instrument

In doing this research, to prove whether the test items were applicable or not, the writer found the validity, the reliability, the level of difficulty and discrimination power of the test. It was done in order to know that 40 items before being given for pre-test and post-test items had a good quality or not. There are four criteria of a good test should be met: validity, reliability, reliability, level of difficulty, and discrimination power.

3.6.1 Validity of the Test

Validity refers to the extent to which the test measures what it was intended to measure. This means that it relates directly to the purpose of the test (Shohamy, 1985; 74). Validity is concerned with the study's success at measuring measure. In this research, to measure whether the test had good validity or not, the researcher analyzed its content and construct validity.

Content validity means that the test is good reflection of what has been taught and the knowledge which the teacher wants the students to know (Shohamy, 1985:74).

It means that the items of the test should present the material being discussed.

Then the test is determined according to the materials that have been taught to the students. In other words, the test is based on materials in the English curriculum, so that it can be said that the test has content validity since the test is good representation of material studied in the classroom.

Construct validity examines whether the test is actually in line with the theory of what it means to know certain language skill (Shohamy, 1985:74). It means that the test item should really test the students or the test items should really measure the students' ability in listening comprehension. Therefore to know the construct validity of test, then the researcher used table of specification to judge the validity of the test in order to know whether the test represented the materials that were discussed.

Table 1. Specification of the Validity test

No	Skills of Reading	Items Numbers	Percentage of Items
1	Determining main idea	19,24,28,30	13,3%
2	Finding specific information	1,3,7,10,13,17,18,20,22,23,26	36,6%
3	Inference	5,6,11	10%
4	Reference	12,25,29	13,3%
5	Vocabulary	2,4,8,9,14,15,16,21,27	30%

3.6.2 Reliability of The Test

To find out the reliability of the test, split-half technique was used. It required to split the test in two similar parts, first and second half (Hatch and Farhady, 1982:246). To measure the coefficient of the reliability between first and second half, Pearson Product Moment formula was used (See Appendix 11).

The formula is:

$$r_1 = \frac{\sum xy}{\sqrt{\sum X^2 \sum Y^2}}$$

Where,

- r_1 = coefficient reliability between 1st half and 2nd half
- X = total number of the 1st group
- Y = total score of 2nd group
- X^2 = square of x
- Y^2 = square of y

Then to know the coefficient of the whole items, the writer used Spearman Brown

Formula:

$$r_k = \frac{2r_1}{1 + r_1}$$

- r_k = reliability of full test
- r_1 = reliability of half of the test

The criteria of reliability are :

- 0.80 - 1.00 = very high
- 0.60 - 0.79 = high
- 0.40 - 0.59 = average
- 0.20 - 0.39 = low
- 0.00 - 0.19 = very low

(Hatch and Farhady, 1982:246)

3.6.3 Level of Difficulty

To know whether the test items were easy or difficult from the students'

perception who took the test, then the researcher found out the level of difficulty.

To see the level difficulty, the researcher used this formula:

$$LD = \frac{R}{N}$$

Where,

- LD = Level of difficulty
- R = Number of the students who answer correctly
- N = Total number of the students

The criteria are :

- LD < 0.30 = Difficult
 LD = 0.30 – 0.70 = Satisfactory
 LD > 0.70 = Easy

(Heaton, 1986:178)

3.6.4 Discrimination Power

To see the discrimination power (see Appendix 10), the writer used the following formula:

$$DP = \frac{\text{the proportion of upper SS} - \text{the proportion of lower SS}}{\frac{1}{2} \text{ total number students}}$$

(Shohamy, 1985: 81)

The criteria are:

1. If the value is positive, it has discrimination because a large number or more knowledgeable students than poor students get the item correct. If the value is zero, it means no discrimination.
2. If the value is negative, it has negative discrimination because more low-level students than high level students get the item correct.
3. In general, the higher discrimination index, the better, in the classroom situation most items should be higher than 0.20 index.

(Shohamy, 1985: 82)

3.7 Scoring System

In scoring the results of students' work, the researcher used Arikunto's formula (1997: 212). The writer gave score for each correct answer 10 and calculated the student's score of the pre-test and post-test by using this formula:

$$S = \frac{R}{N}100$$

Where:

S : The score of the test

R : The right answers

N : The total items

3.8 Data Analysis

In order to know the students' progress in attempt to master the reading comprehension of narrative text through DRTA strategy, the researcher computed the students' score by doing three activities:

- a. Scoring the pre-test and the post-test
- b. Tabulating the results of the test and calculating the score of the pre-test and post-test.
- c. Data analysis was done by tabulating the result of the test given, that was by statistically analyzing the data using statistical computerization i.e. repeated measures *T-Test of SPSS (Statistical Package for Social Science) version 16.0 for Windows* to see whether or not the difference between pre-test and the post-test was significant, in which the significance was determined by $p < 0.05$. It was used as the data come from the same sample or known as paired data (Hatch and Farhady, 1982:114). To find out the significant difference of students' reading comprehension of narrative text, the researcher used T-Test, while to find out the significant increase of students' reading comprehension

achievement of narrative text, it can be seen from the gain score of pre-test and post-test.

3.9 Hypothesis Testing

After getting the mean of the pre-test and the post-test, the data was analyzed by using repeated measures T-Test in order to know the significance of the treatment effect. Hypothesis of this research:

“There was significant increase of students’ reading comprehension achievement of narrative text after they are taught through DRTA strategy.”

The hypothesis was statistically analyzed by using Repeated Measures T-test that was used to draw the conclusion at the level of 0.05 ($p < 0.05$). It can be seen from 3 treatments result of try out, pre-test and post-test, because there is increase from 70.84 up to 77.51.