

III. RESEARCH METHOD

A. Research Design

The design of this research was *one group pretest posttest design* (Hatch and Farhady, 1982:20) that investigated was a significant improvement in students' reading comprehension achievement through Schema Activation Strategy. In this design, pretest and posttest were administered to see whether Schema Activation Strategy can be used to improve students' reading comprehension achievement.

This research used one class as experimental class. This class had both pretest and posttest and three treatments. The design of the research is described as follows:

T1 X T2

Where:

T1 : Pretest

X : Treatment (using Schema Activation Strategy)

T2 : Posttest

(Hatch and Farhady, 1982:20)

B. Population and Sample

1. Population

The population of the research was the first year students of SMA YP Unila Bandar Lampung. There were 10 classes in this school for the first grade. The total number of the population is 396 students, consisting of 207 female students and 189 male students. In this research, the researcher chose the first year students to be investigated. There were ten classes of the first year students: X1, X2, X3, X4, X5, X6, X7, X8, X9, X10 and each class consists of 37-40 students. Their ages range from 15-16 years old.

2. Sample

From the population above one class were taken as the sample of this research, as the experimental class, that was given the treatment (teaching reading using Schema Activation Strategy). In determining the experimental class, the writer used the random sampling technique by using a lottery, so that all the first year classes got the same chance to be the sample in order to avoid subjectivity and to guarantee that every class had the same opportunity.

C. Data Collecting Technique

In collecting the data the writer used the following technique:

1. Pre Test

After getting the result of try out test, the researcher gave the pre-test. The pre-test was administered in order to find out the students' reading comprehension achievement before the treatment.

2. Post Test

This test was administered after conducting the treatments to the students. The aim of this test was to find out the students' reading comprehension achievement after the three-time treatments.

D. Research Procedures

In conducting this study, the researcher used the following procedures:

1. Planning

Before applying the research procedure, some planning was made so the application would run well. The procedure of making plans for this research can be seen as follows:

- Preparing the try out

The test was prepared (called try out test) and given to the students in order to know the quality of the test as an instrument of the research. This test was multiple choices and consisted of 50 numbers.

- Determining the quality of the test

The result of the try out test was analyzed in order to know which items were good to be used in the pre-test.

- Preparing the pre-test

The good items from tryout test that had been analyzed before were prepared to be given in the pre-test. This test was multiple choices and consisted of 20 numbers.

- Preparing the materials

The materials that were prepared for the students relate to the curriculum that is used in the school and also introduce Schema Activation Strategy to teach reading to the students in the experimental class.

- Preparing the post-test

The test was prepared by providing the number of items and materials that will be tested. The topic given in the test was based on the materials that had been taught before. This test was multiple choices and consisted of 20 numbers.

2. Implementation

After planning, the research procedures that had already planned were applied, there were some steps that should be applied, and they were:

- In the first meeting, try out was given to the students. Students were administered the test paper, asked to do the test, and then asked to hand in their answer sheet. This test was multiple choices and consisted of 50 items.
- After giving the try out test to the students and getting the result, the test items were analyzed in order to know which items were good to be used in the pre-test.
- In the second meeting, the pre-test was given. The test papers were given to the students in the experimental class, and they were asked to do the test and then to hand in the test. This test was multiple choices and consisted of 20 items.

- After the pre-test, the treatment was conducted. The experimental class was taught through Schema Activation Strategy. The researcher taught the students in the experimental class three times.
- The post-test was given in the last meeting. The test papers were administered to the students in the experimental class, and they were asked to do the test and then to hand in the test. This test was multiple choices and consisted of 20 items.

3. Reporting

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

- Analyzing the data from pre-test and post-test. The researcher analyzed the data by comparing the average score (mean) of the pre-test and post-test to know whether there increased of students' reading ability through Schema Activation Strategy.
- Making a report on the findings.

E. Scoring System

In scoring the result of students' work, the researcher used Arikunto's formula (1997: 212). The researcher 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 answer

N : The total items

F. Analysis Research Instrument

A good test should meet four criteria: a good validity, reliability, and level of difficulty and discrimination power.

1. Validity

A test can be said to be valid if it measures the object to be measured and suitable with the criteria (Hatch and Farhady, 1982:250). According to Hatch and Farhady (1982: 251), there are four types of validity: face validity, content validity, construct validity and empirical or criterion-related validity. To measure whether the test has good validity, the researcher uses content and construct validity since the other two are considered be less need. Face validity only concerns with the layout of the test. Criterion-related validity is concern with measuring the success in the future, as in replacement test (Hatch and Farhady, 1982:251). The two type uses in this research are:

a. Content Validity

According to Hatch and Farhady (1982: 251), *Content validity* is the extent to which the test measures a representative sample of the subject matter content. A good test is the test that appropriate with the material that have been taught, and the material is developed from the

education goal. In the other word, content validity is the appropriateness of the test instrument with the goal and the material.

The procedure for determining content validity is to compare the test content with the universe of content supposedly being measured (Hatch and Farhady, 1982: 252). The content being measured is students' skill in reading comprehension i.e. determining main idea, finding the detail information, reference, inference, and understanding vocabulary as stated by Nuttal (1985).

Furthermore, the researcher compares the test items with a table of specification. The test is based on 2006 English curriculum, and the syllabus of first-year SMA students and represent of the materials that have been taught by the teacher. The content of the test is presented in the table of specification below:

Table 1. Table of specification

No	Skills of Reading	Item Number	Percentage of item
1	Identify the main idea	8, 12, 14, 24, 29, 30, 31, 34, 38, 47	20%
2	Specific information	3, 4, 7, 9, 15, 19, 20, 25, 27, 33, 35, 40, 42, 45, 49	36%
3	Inference	2, 6, 11, 18, 23, 39, 41	12%

4	Reference	10, 16, 22, 28, 37, 44, 46	12%
5	Vocabulary	1, 5, 13, 17, 21, 26, 32, 36, 43, 48, 50	20%

b. Construct Validity

Construct validity is concerned with whether the test is actually in line with the theory of what reading comprehension means. (Hatch and Farhady, 1982:252).

To know the test is true reflection of the theory in reading comprehension, the researcher examines whether the test questions actually reflect the means of reading comprehension or not.

2. Reliability

Reliability refers to the extent to which the test is consistent in its score and gives us an indication of how accurate the test score are. (Hatch and Farhady, 1982: 244).

Reliability of the test can be determined by using the Split half method in order to estimate the reliability of the test. To measure coefficient of the reliability the first and second half group, the researcher uses the following formula:

$$r_l = \frac{\sum XY}{\sqrt{[\sum X^2 \sum Y^2]}}$$

Where:

r_l : The coefficient of reliability between first half and second half group

X : The total numbers of first half group

Y : total numbers of second half group

X² : The square of X

Y² : The square of Y

(Lado in Hughes, 1991:3)

Then the researcher uses “Spearman Brown’s Prophecy Formula” (Hatch and Farhady, 1982:

256) to determine the reliability of the test as follow:

$$Rk = \frac{2rl}{1 + rl}$$

Where:

Rk : the reliability of the test

rl : the reliability of half test

The criteria of reliability are:

0.90 – 1.00 = high

0.50 – 0.89 = moderate

0.00 – 0.49 = low

3. Level of Difficulty

To see the level of difficulty, the writer uses the following formula:

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

Where:

LD : level of difficulty

R : the number of the students who answer correctly

N : the total number of the students

The criteria is:

< 0.30 = difficult

0.30 – 0.70 = average

> 0.70 = easy

(Shohamy, 1985: 79)

4. Discrimination Power

To see the discrimination power, the writer uses 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)

G. Data Analysis

The researcher examined the students' scores using the following steps:

1. Scoring the pre-test and post-test.
2. Tabulating the results of the test and calculating the scores of the pretest and posttest.
3. Drawing conclusion from the tabulated-result of the pretest and posttest administered, that is by statistically analyzing the data using statistical computerization i.e. *Repeated Measure T-Test of Statistical Package for Social Science (SPSS) version 15.0 for windows* to test whether the increase of students' gain is significant or not, in which the significance is determined by $p < 0.05$. It is uses as the data come from the two samples. (Hatch and Farhady, 1982:111)

H. Hypothesis Test

After collecting the data, the researcher recorded and analyzed them in order to find out whether there is significant increase in students' ability in reading comprehension of narrative and recount texts or not after the treatment. The researcher uses *Repeated Measure T-Test* to know the level of significance of the treatment effect.

