

III. RESEARCH METHOD

A. Research Design

The objective of this research is to find out whether SQ4R strategy can increase students' achievement in reading comprehension of recount text. In this research the researcher only used one class. The research was conducted based on the one group pretest posttest design. The researcher used this type of design because she compared the pretest with the posttest to know the result of the research. The design can be presented as follows:

T1 X T2

T1 : Pretest

X : Treatment (by using SQ4R strategy)

T2 : Posttest

(Hatch and Farhady, 1982:20)

In this research, the students were given pretest (T1), the result of the pre-test was used to indicate students' reading comprehension before treatment (X) in order to

measure their previous ability. And at the end of the program students were given posttest (T2) in order to know their achievement after the treatment through SQ4R.

B. Population and Sample

The population in this research was the second year students of SMPN 5 Bandar Lampung. The researcher had one class as the sample of this research, and one class as a try out class which were determined by using lottery.

The second year of SMPN 5 Bandar Lampung has eight classes with each class consists of around 40 students. The classes in SMPN 5 Bandar Lampung are 8 A, 8 B, 8 C, 8 D, 8 E, 8 F, 8 G, and 8 H. In determining the experimental class, the writer uses the random sampling technique by using lottery, but the researcher used lottery only in 8 E, 8 F, 8 G, and 8 H. this decision was made based on the consideration of the fact that the classification system in grouping students in one class in SMPN 5 Bandar Lampung is based on students' rank, this classification technique makes 8E to 8 H has the lowest ability than other classes, and to conduct an objective research equal level of classes has to be taken. Based on the consideration above, lottery had been applied only in 8E to 8 H to give every class the same opportunity to be selected and to avoid subjectivity. The result of the random sampling made 8 H as try out class, and 8 F as experimental class.

C. Data Collecting Technique

There are two techniques in collecting data, which are:

1. Pre-test

Pre-test was used in 8 F as an experimental class, to find out how far the competence of the students basic ability in reading comprehension. In pre-test, the students were asked to answer multiple choices question about recount text given. Students' score in pre-test was used as a data to see the increase of students' comprehension of recount text.

2. Post-test

Post-test is used to find out the increase of students' achievement in reading comprehension after receiving the treatments. After doing treatments to the students by using SQ4R strategy, the students got post-test. Students' score in post-test was used as a data and averaged with their result in pre-test. By doing so, the researcher can measure students increase in comprehending recount test.

D. Research Procedures

The procedures of this research are:

1. Determining the population and sample of the research

To determine the population and sample of the research, the researcher chose one class from four classes in the second year students in SMPN 5 Bandar Lampung taken randomly by using lottery.

2. Conducting try out test

In the first meeting, the researcher conducted try out test in 8 H. Students were administered the test paper, asked to do the test and handed in their answer sheet. This multiple choice test consists of 50 items. After conducted the try out test to the students and got the result, the test items were analyzed in order to know which items were good to be used in pre-test and post-test. From the 50 items, 40 items were taken to be used as pre-test 20 items, and post-test 20 items.

3. Presenting the pretest

Pretest was given in both experimental and control class in order to find out students' basic ability of recount text. Pretest was also conducted to find out the English reading ability of these two classes. There were 20 items used in pre-test, this item is taken from tryout test, and included five aspects of reading.

4. Conducting treatment

In this research, the treatment was conducted four times. In the treatment, the researcher explained about SQ4R strategy to help them comprehend recount text given. After giving explanation of SQ4R strategy, the researcher guided them to apply SQ4R by asking them to look at the text in a glance (*survey*), make question about text that have been scanned by them (*question*), read text carefully (*read*), recite or answer question that they made directly and summary with their own language (*recite*), relate the text that they read to their own experience (*relate*), and the last review text to compare their understanding of the text that has been answer directly with

the real understanding of the text (*review*), if they made mistake in answering their own question they have to reread the text. After they got deeper understanding of the text, the researcher gave them exercise to answer questions to measure their understanding objectively and to be used as a data of the research.

5. Presenting posttest

The test is given after the treatments to the class in order to know students' increase after they have received the treatment. The test items were in multiple choice. Similar with pre-test, post-test questions were also taken from tryout test, there were 20 items taken and these items were also covered five aspects of reading

6. Analyzing the test result

After conducting the pretest and posttest, the researcher analyzed 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 was increase of students' reading ability through SQ4R strategy.

7. Reporting the result

In reporting the data, the data was arranged systematically based on the pretest and posttest to see whether there was an increase on the students' achievement in reading recount text significantly.

E. Criteria of Good Test

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

1. Validity of the test

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 used content and construct validity since the other two are considered be less needed.

a. Content Validity

Content validity is the extent to which a test measures a representative sample of the subject matter content, the focus of content validity is adequacy of the sample and simply on the appearance of the test (Hatch and Farhady, 1982: 251). To know whether the test was good reflection of what has been taught and of the knowledge which the teacher wants the students to know, the researcher compares this test with the table of specification.

A table of classification is an instrument that helps the test constructor plans the test. To ensure the valid measure of the must rational objective and course content we use representative samples of pupils performance in

each of the area to be measured the instrument that that is widely used for this purpose is called table of specification.

Table 1. Table of Specification

No.	Skills of reading	Items number	Percentage of items
1	Determining main idea	1., 6., 11., 17., 23., 27., 31., 36., 41., 46.	20 %
2	Finding specific information	2., 7., 12., 13., 18., 19., 24., 28., 32., 38., 42., 47.	24 %
3	Inference	3., 8., 15., 21., 29., 33., 37., 43., 48.	18 %
4	Reference	4., 9., 14., 20., 25., 30., 34., 39., 44., 49.	20 %
5	Vocabulary	5., 10., 16., 22., 26., 35., 40., 45., 50.	18 %

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 reflected the means of reading comprehension or not.

2. Reliability

Reliability is a measure of accuracy, consistency, dependability or fairness of scores resulting from administration of particular examination.

Reliability of the test can be determined by using the Spilt 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

X^2 : The square of X

Y^2 : 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:

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

Where:

Rk : the reliability of the test

r_l : 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 researcher uses the following formula:

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

Where:

LD : level of Difficulty

R : number of students who answer correctly

N : the total number of students following the test

The criteria are:

<0.30 : difficult

0.30-0.70 : average

>0.70 : easy

(Shohamy, 1989:79)

4. Discrimination Power

To see the discrimination power, the researcher will use the following formula:

$$DP = \frac{U - L}{\frac{1}{2}N}$$

Where:

DP : discrimination power

U : the proportion of upper group students

L : the proportion of lower group students

N : total number of students

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 means that more low-students than high level students get the item correct
3. In general, the higher the discrimination index, the better. In the classroom situation most items should be higher than 0.20 indexes

F. Scoring System

In scoring the student's result of the test, this research uses Arikunto's formula.

The ideal highest score is 100. The score of pretest and posttest are calculated by using the formula as follows:

$$s = \frac{R}{N} \times 100$$

Where,

S = the score of test

R = total of the right answer

N = total items

G. Data Treatment

The researcher computes the students' score in order to find out the students' achievement in reading recount text SQ4R strategy using the following steps:

1. Scoring the pre-test and post-test.
2. Tabulating the results of the test and calculating the score of the pre-test and post-test.
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 determine 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 records and analyzes them in order to find out whether there is an increase in students' ability in reading comprehension of recount text or not after the treatment. The researcher uses *Repeated Measure T-test* in analyzing the data. It is used as the data comes from the same sample or known as paired data (Hatch and Farhady 1982:114). The hypothesis is analyzed at the significant level 0.05 in which the hypothesis is approved if $\text{sign} < \alpha$. It means the probability of error in the hypothesis is only about 5%.

The formulation is:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{S_{\bar{D}}}$$

With:

$$S_{\bar{D}} = \left(\frac{S_D}{\sqrt{n}} \right)$$

X_1 : Mean of pre-test

X_2 : Mean of post-test

$S_{\bar{D}}$: Standard error of differences between means

S_D : standard deviation

n : Subjects on sample

(Hatch and Farhady, 1982:111)

The criteria are:

1. If the t-ratio is higher than t-table: H_1 is accepted
2. If the t-ratio is lower than t-table: H_0 is accepted

Where:

H_0 : There is no significant increase of students reading comprehension achievement of recount text before taught through SQ4R strategy and after taught through SQ4R strategy.

H_1 : There is significant increase of students reading comprehension achievement of recount text before taught through SQ4R strategy and after taught through SQ4R strategy.