# III. RESEARCH METHOD

This research was conducted to find out whether reading habit and reading comprehension had a strong correlation or not. The writer assumed that reading habit can be improving student's reading comprehension achievement. This chapter includes the research design, population and sample, data collecting technique, data analysis, research procedure, validity, reliability and analysis of the instrument.

## 3.1 Research Design

This research intends to investigate whether there is a significant correlation between students' reading habit and their reading comprehension achievement. The writer used a quantitative methodology.

In this research, the writer used ex post facto research design because she did not give any treatment but collecting the data by seeing the correlation between cause and effect that happened.

The research design of Ex post facto co-relational study as follow:

$$T1 \longrightarrow T2$$

In which,      T1: Students' reading habit.

                T2: Students' reading comprehends.

In collecting the data, the writer used questionnaire (T1) to measure the students' reading habit, the purpose of it is to know reading habit of the students. After that, reading test (T2) was given to them to see their reading comprehension scores. Then, the writer match between students' reading habit and their reading comprehension.

## 3.2 Population and Sample

The population of this research was the second year students of SMA SURYA DHARMA 2 Way Halim Bandar Lampung. As sample, one class was taken, which consisted of 21 students. The writer took the sample from one class of the second year. The class was taken purposively, because she thought that this class has better ability than the other class. The writer used the reading habit questionnaires and reading comprehension test which consisted of 20 items each.

## 3.3 Data Collecting Technique

In collecting the data, the writer used the following technique. They are questionnaire and reading comprehension test. The questionnaire here was to

know the reading habit of the students, and reading comprehension test here was to know how far the comprehending of the students from the text.

### 3.3.1 Questionnaire

The aim of questionnaire was to find out the reading habit done by learners in reading text. In this research, each questionnaire had four options. This was done to clarify the data by transferring the answer into number. There were 20 items of questions. The items of the questionnaire were in English. Items numbers 1 to 20 measured the reading habit of the students. The questions number 1,2,3,4,5,8,9,12,13,14,15,16,17,18,19,20 were used to identify good habit in reading, meanwhile, questions number 6,7,10 and 11 were used to identify bad habit in reading. The writer used the questionnaire which consists of 20 items that mostly adopted and modified from Atram (2008).

### 3.3.2 Reading Comprehension Test

The objective of reading comprehension test was to know the students' reading scores. In reading comprehension test, objective test used four options A, B, C, and D. The objective test was used rather than other types of test because it was assumed that the objective test was more familiar to the students than other types of the test. So, they might understand the instruction of the test more easily. Besides, it was easier to score. The writer used the reading comprehension test which consists of 20 items that adapted and modified from Lukito W (1987).

**3.4 Data Analysis**

In this research, the writer measured the correlation between two variables.

a) Independent variable (X)

Reading habit is classified as independent variable because it is assumed that reading habit of the students has an influence toward their reading comprehension.

b) Dependent variable (Y)

Reading comprehension is classified as dependent variable because it is assumed that reading comprehension is influenced by reading habit.

Scores of X variable shows the students' reading habit and it has an ordinal scale. While scores of Y variable shows the students reading comprehension and it has a continous scale.

**3.5 Research Procedure**

In conducting the research, the writer used the steps as follow:

a) Determining the problem

   In order to determine the problem, the writer read the book that related to the topic.

b) Determining the instrument

   In this research, the writer used appropriate instrument in order to be able to be interpreted. The instruments are:

1. The reading comprehension test, which consisted of 20 items, is adapted and modified from Lukito W (1987).

2. The questionnaire which consisted of 20 items is mostly adopted and modified from (Atram: 2008).

c) Finding the sample

The sample of this research was one class of the second year students of SMA Surya Dharma 2 Way Halim Bandar Lampung. The class was taken purposively. Moreover, the sample was taken as many as 21 students from one class of XI IPA.

d) Trying out the instrument

Before distributing the instruments, the writer was tried out them first in order to guarantee the result to be more valid.

e) Distributing the instrument

Both of the instruments were distributed on the same day.

f) Scoring the data

There are 20 items of questionnaire, each item provides four options which has different score. The score ranges from 1-4, 1 refers to never, 3 refers to often, 2 refers to seldom , 1 refers to never.

g) Analyzing the data

The data was analyzed to investigate whether there is significant correlation or not between the students' reading habit and their reading comprehension.

**3.6 Validity, Reliability, and Analysis of the Instruments**

To see whether the instrument can be used or not, the writer measured the validity, reliability and analyzed the instrument.

**3.6.1 Validity**

According to Hatch and Farhady (1982:250) validity refers to the extent to which the result of the procedure serve the uses for which they were intended. Validity refers to to the results of the test not to test itself. Also validity is a matter of degree. It is not an all or nothing trait. A test can be highly valid for one purpose but not for another.

**3.6.2 Reliability**

Hatch and Farhady (1982:244) say that reliability is the degree to which a test produces consistent results under these limitations. Reliability can be defined as the extent to which a test produces consistent results when administered under similar conditions.

**3.6.3 Analysis of the Instruments**

**A. Questionnaire**

The writer measured the reliability of the questionnaire by using alpha formula which is taken from Azwar (2003:184):

$$\alpha = \frac{k}{k-1} \left[ 1 - \frac{\Sigma s^2 j}{s^2 x} \right]$$

where:  $\alpha$  = Alpha reliability coefficient

  $k$  = sum of the split

  $S^2 j$  = split scores variance

  $S^2 x$ = total scores variance.

It is stated in Azwar (2003:186) that "Reliability coefficient is an indicator of the accuracy of measurement result". Thus it can be assumed that by measuring the reliability coefficient, it might claim whether the questionnaire is believable or not.

**Table 1. Specification of Questionnaire**

| NO | Reading Habit Test | Item Number | Percentage |
|----|--------------------|-------------|------------|
| 1 | Reading Frequency | 1, 8, 14, 16, 20 | 25 % |
| 2 | Reading Habit | 2, 4, 5, 9, 12, 13, 15, 17, 18, 19 | 50 % |
| 3 | The purposes of reading | 3, 6, 7, 10, 11 | 25 % |

**B. Reading Test**

The writer measured the validity and reliability of the test. Validity was used to measure the test valid or not. While, reliability is the consistency of the test. Moreover, the writer also analyzed the test.

**B.1 Validity of the Test**

As Nazir (1988:174) says, "validity refers to thing whether we have measured what we have to measure".

In this research, the writer analyzed three kinds of validity:

1) Content validity, by analyzing the percentage of the elements of reading test.

2) Construct validity, by analyzing the elements of the test items, whether they test what really should test or not.

3) Predictive validity, by predicting on the fenomenon in the future, it showed how far the test has a coorelation with the success of study in the future.

**Table 2. Specification of Reading Comprehension Try Out Test**

| NO | Reading Comprehension Test | Item Number | Percentage |
|----|---------------------------|-------------|------------|
| 1 | Determining main idea | 5, 6, 16, 23 | 13 % |
| 2 | Identifying specific information | 4, 7, 8, 9, 10, 11, 12, 14, 15, 17,  24, 25, 27, 28, 29, 30 | 66 % |
| 3 | Reference words | 19, 22, 26 | 10 % |
| 4 | Inference words | 13, 21 | 6 % |
| 5 | Vocabulary | 18, 20 | 5 % |

**B.2 Reliability of the Test**

The writer measured reliability of the test by using the Pearson Product Moment

formula:

$$r_{xy} = \frac{N\left(\sum XY\right) - \left(\sum X\right)\left(\sum Y\right)}{\sqrt{\{N\sum X2 - (\sum X)2\}\{N\sum Y2 - (\sum Y)2\}}}$$

(Arikunto, 1997:69)

where:    $\sum X$  = total score of odd number
    $r_{xy}$    = the correlation of odd group and even group
    $X^2$    =  square of X
    $Y^2$    = square of Y
    N      = total number of students

**To see the reliability of the whole try out test, the reseacher uses Spearmen**

**Brown formula as follow:**

$$r_{11} = \frac{2\left(r_{xy}11/22\right)}{1 + r11/22}$$

(Arikunto, 2001:93)

Where      $r_{11}$ = coefficient reliability between odd and even number
    $r_{22}$ = coefficient reliability for all items.

**The criteria of reliability:**

a)   A very low reliability ranges from 0.00 to 0.19
b)   A very 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 1.00

## C. Normality Test

Normally test was used to know whether the data is distributed normally or not. In this case, the writer used SPSS version 12.0 for window to analyze the data with the level of significant of 0.01 ($\alpha$=0.01). From the result of normality test of reading habit test (appendix 19) and normality of reading comprehension test (appendix 21), we can see that p>0.01 in all the test (reading habit and reading comprehension test). It proves that all the data were distributed normally.

## D. Test Analysis

Test analysis refers to techniques for analyzing test scores in terms of some number of underlying factors. The complexity of procedures and the difficulty associated with interpreting the results of factor analysis are well known by all reseachers (Hatch and Farhady, 1982:255).

## D.1 Try Out of the Test

Try out of the test was conducted to identify how accurate and effective the test before used to collect the data of the reseach and also to identify whether the test can be administered or not. It can be seen from the difficulty level, the descrimination power, the reliability and the validity of the test. The writer used 30 items for reading comprehension try out test. After that, she analyzed the test items to know the difficulty level and descrimination power. Here, the writer used only 20 items from 30 items in this reseach because there are some items that are ommited or change since they are not fulfill the criteria of good item test.

**D.2 Level of Difficulty**

To measure the level of difficulty of each test item, the writer used the following

formula:

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

where:     FV  = the index of difficulty
               R    = the number of the correct answer
               N    = the number of the students taking the test

(Heaton, 1991:179)

Classification:

a. An item with FV 0.00 – 0.30        ……………     hard
b. An item with FV 0.31 – 0.70        …………....     fair
c. An item with FV 0.71 – 1.00        …………..     easy

**D.3 Discrimination Power**

According to Arikunto (1993:213) discrimination power is the ability of the item

to differentiate between the students who have high ability and those who have

low ability.

To measure the discrimination power of each test item, the writer used the

following formula:

$$D = \frac{Correct\ U - Correct\ L}{\frac{1}{2}n}$$

where:     D   = discrimination power index
           U   = upper half
           L   = lower half
           n   = number of candidate in one group

(Heaton, 1991: 180)

Classification:

1. 0.00 – 0.20   ………………..     poor
2. 0.21 – 0.40   ………………     satisfactory
3. 0.41 – 0.70   ………………     good
4. 0.71 – 1.00   ………………     very good.

## 3.7 Hypothesis Testing

The hypotesis testing of the variables are:

$$H_0 = r_{xy} = 0$$

$$H_1 = r_{xy} \neq 0$$

where:

$H_0$ = there is no correlation between the students' reading habit and their reading comprehension.

$H_1$ = there is a correlation between the students' reading habit and their reading comprehension.

$r_{xy}$ = the coefficient correlation between the students' reading habit and their reading comprehension.

The hypothesis testing was used to prove whether the hypothesis propose in this reseach is accepted or not. The hypothesis were analyzed by using Pearson Product Moment through computing with Statistical Package for Social Science (SPSS) version 12.0 for window. The writer used the level of significant 0.01 in

which the hypothesis were approved if sign $<\alpha$. It means that the probability of error in the hypothesis only about 1%.