## CHAPTER III

## RESEARCH METHOD

## A. Research Design

The method of this research was quantitative method that is essentially collecting numerical data to explain a particular phenomenon. The design of this research was a correlational design which was intended to find out the correlation between students' reading English habit and their reading comprehension. Creswell (2008, p.338) stated that correlational design are procedures in quantitative research in which investigators measure the degree of association or relation between two or more variables using the statistical procedure of correlational analysis. Correlational designs provide an opportunity for investigators to predict scores and explain the correlation among variables.

Furthermore, there are two types of correlational research design; those are "Explanatory Design" and "Prediction Design". In this research, the writer used the type of explanatory design. Creswell (2008, p.340) stated that, the basic objective of explanatory design is used to explain the association between or among two or more variables. In an explanatory design, the purpose and subsequent analysis would focus on explaining interrelationships between or among phenomena.

There were two variables used in this research; first was the students' reading English habit which was symbolized by " X " as independent variable, and second was the students' reading comprehension which was symbolized by " Y " as dependent variable. The design of the research is pictured by the following diagram:


## B. Location and Time of the Research

This research was conducted at Vocational High School Dwi Sejahtera Pekanbaru. It is located on Dirgantara Street No. 4 Arengka, Pekanbaru, Riau. This research was conducted on May to July 2016 in 2015/2016 of academic year.

## C. Subject and Object of the Research

The subject of this research was the tenth grade students at Vocational High School Dwi Sejahtera Pekanbaru in 2015-2016 academic year. While the object of this research was students' reading English habit and their reading comprehension.

## D. Population and Sample of the Research

## 1. Population of the Research

The target population of this research was the tenth grade students at Vocational High School Dwi Sejahtera Pekanbaru. The total number of the population consisted of 70 students.

Table III. 1
The Total of Population at the Tenth Grade Students of
Vocational High School Dwi Sejahtera Pekanbaru

| No. | Class/Major | Number of Students |
| :---: | :--- | :---: |
| 1 | X. R2 | 14 |
| 2 | X. R4 | 21 |
| 3 | X. Teknik Instalasi Listrik | 11 |
| 4 | X. Teknik Komputer dan Jaringan | 9 |
| 5 | X. Perbankan | 5 |
| 6 | X. Akuntansi | 10 |
| Total |  | 70 |

## 2. Sample of the Research

Creswell (2008, p.142) stated that a sample is a subgroup of the target population that the researcher plans to study for generalizing about the target population. In this research, the writer used total sampling as the sampling technique. Sugiyono (2015, p.85) stated that total sampling is a type of sampling technique that involves the whole population as sample of the research. The reason of using this sampling technique was because the population of the tenth grade students in Vocational High School Dwi Sejahtera was less than 100 students, thus all the population became the sample. Sugiyono also states that, using this total sampling

## E. Technique of Collecting Data

In order to collect data from the sample on this research, the writer used two techniques of collecting data, they were questionnaire and multiple choices test.

## 1. Questionnaire

Some instruments which can be used in measuring habit are questionnaire, interview, or observation. The teacher may want the students to write their like or dislike down in a systematic manner by answering a questionnaire. Because habit is an attitude or behavior a scale used to measure the habit is attitude scale. Attitude scale according to Sudjana is used to measure person's attitude toward certain object (2007).

One of the scales to measure attitude scale is Likert Scale, in which students will be asked to choose strongly agree, undecided, disagree and strongly disagree. As stated by Sudjana (2007) that in Likert Scale, expression asked, whether positive or negative expression, marked by the subject, strongly agree, agree, undecided, disagree or strongly disagree. Additionally, Sugiyono (2015, p.92) stated that Likert Scale is used to measure attitude, opinion and perception of individual or group of individual about social phenomena.

In conclusion to measure the students' habit, the simple way used is questionnaire, which use Likert Scale because it deals with students' habit and their preference among activities, hobby or other aspects. The questionnaire is a widely used and useful instrument for collecting survey information, providing structured, often numerical data, being able to be administered without the presence of the researcher, and often being comparatively straightforward to analyze.

The writer distributed the questionnaires to the sample students which were aimed to know their reading habit score. The validity and reliability of the questionnaires were analyzed first to 21 students before the questionnaires were given to the sample of this research. The questionnaires used Likert's Scale types which measured attitude, opinion, or perception based on the certain object or phenomena. The five alternative answers of Likert's Scale for the questionnaires are explained as follow:
A: Selalu (Always)
D: Jarang (Seldom)
B: Sering (Often)
E: Tidak pernah (Never)
C: Kadang-kadang (Sometimes)

The questionnaires which were given consisted of some indicators. The indicators were taken from Julio Cesar's journal about reading habit aspects, which are represented in the following table:

Table III. 2
Reading Habit Indicators

| No | Reading Habit (X) Indicators | Item Number |
| :---: | :--- | :---: |
| 1 | Reading Amount of Books | $1,2,3,4,5$ |
| 2 | Academic Reading | $6,7,8,9,10$ |
| 3 | Reading Frequency | $11,12,13,14,15$ |
| 4 | Non Academic Reading | $16,17,18,19,20$ |
| 5 | Motivation in the Academic Environment | $21,22,23,24,25$ |
| 6 | Motivation in the Family Environment | $26,27,28,29,30$ |
| Total |  | 30 |

## 2. Multiple Choices Test

Cohen (2005, p.317) stated that a test is a systematic procedure for observing one's behavior with the aid of numerical or category system. The writer collected data for students' reading comprehension by using multiple choices test as instrument for measuring their reading comprehension. The test was an objective test in form of multiple choice test which consisted 25 items. The texts used in the test were descriptive text, report text, and news item which have been studied by the students. The validity and reliability of this test were also analyzed first to 21 students before the test were given to the sample.

The indicators of reading comprehension test were taken from Anderson, which are described in a table below:

## Table III. 3

Reading Comprehension Indicators

| No | Aspects | Items | Total |
| :---: | :--- | :---: | :---: |
| 1 | Reading for Details | $2,8,14,21$ | 4 items |
| 2 | Reading for Main Ideas | $1,7,13,20$ | 4 items |
| 3 | Reading for Sequences | $3,9,15,22$ | 4 items |
| 4 | Reading for Inferences | $4,10,16,23$ | 4 items |
| 5 | Reading for Classifying | $11,17,24$ | 3 items |
| 6 | Reading for Evaluating | $5,12,18$ | 3 items |
| 7 | Reading for Comparing | $6,19,25$ | 3 items |
| Total |  |  | 25 items |

## 3. Validity

Before the test and the questionnaire were given to the students, the writer analyzed the validity and reliability of the test and questionnaire first. An instrument is valid if it is able to measure what the researchers are going to measure. Creswell (2008, p.159) stated that, validity is the individual's scores from an instrument that makes sense, meaningful, enable you, as the researcher, to draw good conclusions from the sample you are studying to the population.

## a. Validity of Questionnaire

To analyze the validity of the questionnaire, the writer used Construct Validity. The data gathered from questionnaire which were given to 21 students were analyzed by using SPSS 16.0 program. Then the writer compared $r_{o}$ and $r_{\text {table }}$ in Product Moment Pearson Correlation formula. There are two criteria to determine validity of the items, as follow:

1) If $r_{o}>r_{\text {table }}$ at the level significance of $5 \%$, it means that the instrument is valid.
2) If $r_{o}<r_{\text {table }}$ at the level significance of $5 \%$, it means that the instrument is not valid.

For $\mathrm{N}=21$ on the significant 0.05 in table of critical values for Pearson's Correlation Coefficient (See Appendix 11), the $r_{\text {table }}$ is 0.4132. The following table is the comparison of $r_{o}$ and $r_{\text {table }}$ :

Table III. 5
The Analysis of Questionnaire Validity

| No | $\boldsymbol{r}_{\boldsymbol{o}}$ | $\boldsymbol{r}_{\text {table }}$ | Category |
| :---: | :---: | :---: | :---: |
| 1 | 0.917 | 0.4132 | Valid |
| 2 | 0.769 | 0.4132 | Valid |
| 3 | 0.646 | 0.4132 | Valid |
| 4 | 0.872 | 0.4132 | Valid |
| 5 | 0.590 | 0.4132 | Valid |
| 6 | 0.519 | 0.4132 | Valid |
| 7 | 0.657 | 0.4132 | Valid |
| 8 | 0.667 | 0.4132 | Valid |
| 9 | 0.492 | 0.4132 | Valid |
| 10 | 0.656 | 0.4132 | Valid |
| 11 | 0.726 | 0.4132 | Valid |
| 12 | 0.736 | 0.4132 | Valid |
| 13 | 0.590 | 0.4132 | Valid |
| 14 | 0.696 | 0.4132 | Valid |
| 15 | 0.473 | 0.4132 | Valid |
| 16 | 0.873 | 0.4132 | Valid |
| 17 | 0.532 | 0.4132 | Valid |
| 18 | 0.462 | 0.4132 | Valid |
| 19 | 0.526 | 0.4132 | Valid |
| 20 | 0.776 | 0.4132 | Valid |
| 21 | 0.547 | 0.4132 | Valid |
| 22 | 0.769 | 0.4132 | Valid |
| 23 | 0.530 | 0.4132 | Valid |
| 24 | 0.582 | 0.4132 | Valid |
| 25 | 0.544 | 0.4132 | Valid |
| 26 | 0.587 | 0.4132 | Valid |
| 27 | 0.589 | 0.4132 | Valid |
| 28 | 0.586 | 0.4132 | Valid |
| 29 | 0.726 | 0.4132 | Valid |
| 30 | 0.587 | 0.4132 | Valid |
|  |  |  |  |

Based on the table above, it can be concluded that each question in the questionnaire of reading habit is valid.

## b. Validity of Multiple Choices Test

In validity of the instrument of the test, it can be seen by the difficulties of the test. On the other hand, the test is not too easy and is not too difficult. The standard level of difficulty is $0.30 \leq$ and $\leq$ 0.70 (Arikunto, 2003). It means that the items are accepted if the level of difficulty is between $0.30-0.70$ and rejected if the level of difficulty is below 0.30 (too difficult) and over 0.70 (too easy). The levels of difficulties were calculated by using this following formula:

$$
P=\frac{B}{J S}
$$

Note:
$P=$ index of difficulty or facility
$\mathrm{B}=$ the number of correct answers
$\mathrm{JS}=$ the number of examiners or students
Based on the try out result of the instrument validity to the 25 items, it showed that all of the 25 items were valid. The analysis can be seen in the following table:

Table III. 6
The Analysis of Multiple Choices Test Validity

| No | r count | Status |
| :---: | :---: | :---: |
| 1 | 0.67 | Valid |
| 2 | 0.67 | Valid |
| 3 | 0.67 | Valid |
| 4 | 0.38 | Valid |
| 5 | 0.67 | Valid |
| 6 | 0.62 | Valid |
| 7 | 0.67 | Valid |
| 8 | 0.48 | Valid |
| 9 | 0.57 | Valid |
| 10 | 0.67 | Valid |
| 11 | 0.67 | Valid |
| 12 | 0.67 | Valid |
| 13 | 0.57 | Valid |
| 14 | 0.43 | Valid |
| 15 | 0.43 | Valid |
| 16 | 0.57 | Valid |
| 17 | 0.52 | Valid |
| 18 | 0.67 | Valid |
| 19 | 0.33 | Valid |
| 20 | 0.67 | Valid |
| 21 | 0.52 | Valid |
| 22 | 0.57 | Valid |
| 23 | 0.57 | Valid |
| 24 | 0.57 | Valid |
| 25 | 0.57 | Valid |

## 4. Reliability

Reliability has to do with accuracy of measurement. Reliability in test refers to consistency if the instrument used repeatedly for different occasion or with different instruments or by different person. Creswell (2008, p.159) stated that internal consistency reliability is the instrument administered once, using one version of the instrument and each participant in the study completes the instrument. The instrument is reliable if:

1) alpha Cronbach $>\mathrm{r}_{\text {table }}$ at the level significance of 5\%, it means that the instrument is reliable.
2) alpha Cronbach $<\mathrm{r}_{\text {table }}$ at the level significance of 5\%, it means that the instrument is not reliable.

The following table is the level of the reliability of the questionnaire and test:

## Table III. 7

## The Level of Reliability

| No | Reliability | Level of Reliability |
| :---: | :---: | :---: |
| 1 | $0.0-0.20$ | Very Low |
| 2 | $0.21-0.40$ | Low |
| 3 | $0.41-0.60$ | Moderate |
| 4 | $0.61-0.80$ | High |
| 5 | $0.81-1.00$ | Very High |
| (Arikunto, 2003) |  |  |

## a. Reliability of Questionnaire

To obtain the reliability of the questionnaire given, the writer used SPSS 16.0 program to find out whether the questionnaire was reliable or not.

## Table III. 8

Cronbach Alpha Table
Reliability Statistics

| Cronbach's Alpha | N of Items |
| ---: | ---: |
|  | .913 |

From the table above, it can be seen that the value of Cronbach's alpha is 0.913 . The value of internal consistency was $0.913 \geq 0.81$, so the reliability of questionnaire was very highly reliable.

## b. Reliability of Multiple Choices Test

To obtain the reliability of the multiple choices test given, the writer used SPSS 16.0 program to find out whether the test was reliable or not.

Table III. 9
Cronbach Alpha Table
Reliability Statistics

| Cronbach's Alpha | N of Items |  |
| :--- | :--- | :--- |
|  | .444 |  |

From the table above, it can be seen that the value of Cronbach's alpha is 0.444 . The value of internal consistency was $0.444 \geq 0.41$, so the reliability of questionnaire was moderately reliable.

## 5. The Normality Test of the Data

## a. The Normality Test of Reading Habit Data

In questionnaire for reading habit data, the writer used Shapiro Wilk Formula through SPSS 16.00 for testing the normality.

Table III. 10
The Descriptive Statistic for the Normality Test of Reading Habit Data

| No | Description | Value |
| :---: | :--- | :---: |
| 1 | Statistic | 0.949 |
| 2 | Degree of Freedom (DF) | 21 |
| 3 | Significant | 0.329 |

The table above shows that the significance of the reading habit is 0.329 . According to Shapiro Wilk formula, if the variable $\mathrm{p}>0.05$ it can be said that data of variables distributed normally. From the table above, it can be said that the data of reading habit are normal because $0.329>0.05$. Below is the table of the normality of reading habit data.

## Chart III. 1 Normal Q-Q Plot of Score



The Q-Q plot above shows that the reading habit data are normal because the data points spread around the diagonal line and the spreading follows the diagonal line.
b. The Normality Test of Reading Comprehension Data

In multiple choices test for reading comprehension data, the writer used Shapiro Wilk Formula through SPSS 16.00 for testing the normality.

Table III. 11

## The Descriptive Statistic for the Normality Test of Reading Comprehension Data

| No | Description | Value |
| :---: | :--- | :---: |
| 1 | Statistic | 0.928 |
| 2 | Degree of Freedom (DF) | 21 |
| 3 | Significant | 0.124 |

The table above shows that the significance of the reading comprehension is 0.124 . According to Shapiro Wilk formula, if the variable $p>0.05$ it can be said that data of variables distributed normally. From the table above, it can be said that the data of reading comprehension are normal because $0.124>0.05$. Below is the table of the normality of reading comprehension data.

## Chart III. 2

## Normal Q-Q Plot of Score



The Q-Q plot above shows that the reading comprehension data are normal because the data points spread around the diagonal line and the spreading follows the diagonal line.

## F. Technique of Analyzing Data

In analyzing the data, the writer chose the product moment correlation as the formula. By using the product moment correlation, data of the score from questionnaire for variable X and score from test for variable Y were collected and calculated. Hartono (2008) stated that, if the variables are connected in interval form and the spread of the data is normal distribution, so the suitable formula is product moment correlation. In analyzing the data of students' reading English habit and their reading comprehension, the writer analyzed it statistically by using SPPS 16.0.

Then, to find out whether there is correlation between students' reading English habit and their reading comprehension, the writer used the Pearson Product-Moment Correlation Coefficient (r). Pallant (2001, p.132) stated that, if the significance 2-tailed value is bigger than 0.05 ( $\mathrm{p}>0.05$ ), this indicates that there is no violation of the assumption of equality of variance and that equal variances are assumed for the variable concerned. Then, if the significance 2-tailed value is smaller than 0.05 ( $\mathrm{p}<0.05$ ), this indicates that there is violation of the assumption of equality of variance and that equal variances are assumed for the variable concerned.

Then, to determine the level of correlation between the two variables, the following categories from Hartono (2008):

Table III. 12
The Interpretation of Correlation Coefficient

| No | Coefficient Interval | Level of Correlation |
| :---: | :---: | :---: |
| 1 | $0.00-0.200$ | Very Low |
| 2 | $0.200-0.400$ | Low |
| 3 | $0.400-0.700$ | Medium |
| 4 | $0.700-0.900$ | Strong |
| 5 | $0.900-1.000$ | Very Strong |

To find out the effect size of the two variables, according to Pallant (2001, p.128), the formula used as follows:

Table III. 13
The Formula of Coefficient Effect

| Coefficient effect $=\mathrm{r}^{2} \times 100 \%$ |
| :---: | :---: |
| $\mathrm{r}=$ pearson correlation |

