# CHAPTER III

# METHOD OF THE RESEARCH

## A. Design of the Research

The design of this reseach is correlation. According to Ary, Jacobs, Sorensen & Razavieh (2010, p.349) correlational research is a research that assesses the relationships among two or more variables in a single group. In line with this idea, Fraenkel & Wallen (2012 p.331) stated that in their simplest form, correlational studies investigate the possibility of relationships between only two variables, although investigations of more than two variables are common. In contrast to experimental research, however, there is no manipulation of variables in correlational research.

In addition, there are two types of correlational research design; these are "Explanatory Design" and "Prediction Design". In this research, the researcher used the type of explanatory design. According to Cresswell (2012, p. 340), an explanatory correlation design explains or clarifies the degree of association among two or more variables at one point in time. It means that, when the researcher collects the data, the researcher correlate two or more variables and then collect the data at one point in time.

In this research, the researcher has two kinds of variables, the independent variable and dependent variable. The independent variable is students' autonomy in reading symbolized by "X" and the dependent variable is students' reading comprehension symbolized by "Y".

**B. Location and the Time of the Research**

The research was conducted at State Senior High School 1 Kampar. It is located in Kampar Regency. The research was conducted on January, 17th - 22[nd]2018.

**C. Subject and Object of the Research**

The subject of this research was the tenth grade students of State Senior High School 1 Kampar, while the object of this research was the correlation between students' autonomy in reading and their reading comprehension.

**D. Population and Sample of the Research**

1. Population

The population of this research was the tenth grade students of State Senior High School 1 kampar. The students were divided into 8 classes. The total number of this population was 288 students.

**Table III.1**
**The total population and sample of the tenth grade students of State Senior High School 1 Kampar**

| No | Class | Number of Students | Sample |
|---|---|---|---|
| 1 | XMIPA 1 | 37 | 6 |
| 2 | XMIPA 2 | 36 | 5 |
| 3 | XMIPA 3 | 36 | 6 |
| 4 | X MIPA 4 | 36 | 5 |
| 5 | X IPS 1 | 37 | 6 |
| 6 | X IPS 2 | 35 | 5 |
| 7 | X IPS 3 | 35 | 5 |
| 8 | X IPS 4 | 36 | 6 |
| **Total** | | 288 | 44 |

2. Sample

The population of this research was 288 students. Because the population was too large, so the researcher used random sampling, especially simple random sampling technique. According to Ary, Jacobs, Sorensen & Razavieh (2010, p.150), simple random sampling technique is a sampling technique which all members of the population have an equal and independent chance of being included in the random sample.

Moreover, Suharsimi Arikunto (2006) states that if the total population is less than 100, it is better to take all of them as the sample but if the total populations are more than 100 students, the sample can be taken between 10-15 % or 20-25% or more. Regarding the previous idea, the researcher took 15% of the sample. Thus, the researcher took 44 students as sample of the research.

The sample were taken randomly from 8 classes of the tenth grade which consisted of 288 students by using lottery technique. Every students had the same opportunity to be sample of this research. The researcher took 5-6 students per class. Here are the steps to take the sample:

a) The researcher cut paper into 37 pieces.

b) The researcher wrote number 1 to 6 in the six pieces of paper and the the other pieces of paper were blank.

c) The researcher rolled them and put them into a bottle.

d) The researcher shook the bottle, then asked the students from the population to take the pieces of paper.

e) The students who got the number would be the sample of the research.

f) Then, the sample chosen were collected in one class.

**E. Technnique of Collecting Data**

In this research the researcher used two kinds of techniques for collecting the data, they were:

1. Questionnaire

According to Arikunto (2010, p. 151), questioners are the statements or questions used to get the particular information from the respondent. Questionnaire has some weaknesses when it is used in collecting the data. The weaknesses are as follow (Cohen, 2000) :

a) Missing of data, because not all of the questionnaire distributed will completely returned.

b) It is possible if the respondents fill the questionnaire not based on their own. It will make the data less effective.

In this study, the researcher used questioners to measure the students' autonomy in reading. The questionnaire was adapted from Deng Dafei (2007), and the researcher modified it based on the indicators of autonomy in reading from Westwood (2008) that consisted of 25 items. The researcher adapted the questionnaire by Dafei because the indicators used by Dafei was similar to hers. It dealt with the respondent's opinion in responding the following option based on the Likert's scale:

a. Strongly agree

b. Agree

c. Disagree

d. Strongly disagree.

For further information about the contents of the questionnaire, the researcher shows the blueprint of the questionnaire as follows:

**Table III.2**
**The Blueprint of Questionnaire**

| Number | Indicator of items | Number of items | Items number |
|--------|--------------------|-----------------|--------------|
| 1 | Ability in determining the reading materials. | 5 | 1,6,11,16,21 |
| 2 | Ability in setting the reading objectives. | 5 | 2,7,12,17,22 |
| 3 | Ability in selecting the strategies of reading. | 5 | 3,8,13,18,23 |
| 4 | Ability in monitoring the reading progress. | 5 | 4,9,14,19,24 |
| 5 | Ability in evaluating the products of reading | 5 | 5,10,15,20,25 |

2. Test

Test is one of things that is used for collecting data. According to Cohen et Al (2007, p. 421), test is subject to items analysis. The point that examined can measure and evaluate the indicator of test that has been formulated in operational concept of reading comprehension.

In this research, the researcher administered a test to obtain the students' reading comprehension. The researcher used multiple choice test that consisted of 25 items. The test consisted of five kinds of text which had been learned by the students at tenth grade of State Senior High School 1 Kampar. The texts are: letter, descriptive text, narrative

text, announcement and recount text. Then, the text followed by 5 questions for every text. The five questions were arranged based on the blue print.

For further information about the instruction of the text, the researcher shows the blueprint of the test as follows:

**Table III.3**
**The Blueprint of the Test**

| Number | Indicator of items | Number of items | Items number |
|--------|--------------------|-----------------|--------------|
| 1 | Identify main idea | 5 | 1,6,11,16,21 |
| 2 | Locate the meaning of vocabulary in the context | 5 | 2,7,12,17,22 |
| 3 | Identify generic structure | 5 | 3,8,13,18,23 |
| 4 | Finding communicative purpose | 5 | 4,9,14,19,24 |
| 5 | Finding language features | 5 | 5,10,15,20,25 |

## F. The validity and Reliability of the Instruments

### 1. Validityof the Instruments

Before the test and questionnaire were given to the sample of this research, they were tried out to the tenth grade students of State Senior High School 1 Kampar. The purpose of the try out is to obtain validityand reliability of the test. Validity is the most critical criterion and indicates the degree to which an instrument measures what it is supposed to measure (Kothari, 2004, p. 17). In other words, validity is the extent to which differences found with a measuring instrument reflect true differences among those being tested.

In this research, the researcher used construct validity for measuring the instruments. Sanjaya (2014, p. 225) stated that construct validity is relating to whether the test will be tested able to measure characteristics of subject. This validity test was used for determining the characteristics of the subjects such as an intelligence test, a motivation test, an interest test, and skill test of persons.

To know whether the data is valid, the data was calculated by using SPSS 16.0 windows program. The researcher examined and noted the differences between $r_{item}$ and $r_{table.}$ Siregar (2014, p.) stated that the item is valid if the value of $r_{item}$ is higher that $r_{table}$ at significance level of 5%. The data was consulted with $r_{table}$ at significance level of 5% ($\alpha = alpha = 0.05$). The questionnaire and the test were tried out to 20 students, meaning that N= 20 with. The researcher took N 20, so $r_{table}$ acquired was 0.444 (See in appendic r table).

The result of questionnaire indicated that all items were valid. It can be seen as follow:

**Table III.4**
**The Validity of Students' Autonomy in reading Questionnaire**

| Items | $r_{item}$ | $r_{table}$ | Status | Information |
|-------|-------|--------|--------|-------------|
| 1 | 0.507 | 0.444 | Valid | Used |
| 2 | 0.493 | 0.444 | Valid | Used |
| 3 | 0.497 | 0.444 | Valid | Used |
| 4 | 0.498 | 0.444 | Valid | Used |
| 5 | 0.527 | 0.444 | Valid | Used |
| 6 | 0.548 | 0.444 | Valid | Used |
| 7 | 0.589 | 0.444 | Valid | Used |
| 8 | 0.65 | 0.444 | Valid | Used |
| 9 | 0.49 | 0.444 | Valid | Used |
| 10 | 0.527 | 0.444 | Valid | Used |

| 11 | 0.558 | 0.444 | Valid | Used |
|----|-------|-------|-------|------|
| 12 | 0.58 | 0.444 | Valid | Used |
| 13 | 0.525 | 0.444 | Valid | Used |
| 14 | 0.559 | 0.444 | Valid | Used |
| 15 | 0.619 | 0.444 | Valid | Used |
| 16 | 0.542 | 0.444 | Valid | Used |
| 17 | 0.484 | 0.444 | Valid | Used |
| 18 | 0.505 | 0.444 | Valid | Used |
| 19 | 0.555 | 0.444 | Valid | Used |
| 20 | 0.495 | 0.444 | Valid | Used |
| 21 | 0.68 | 0.444 | Valid | Used |
| 22 | 0.592 | 0.444 | Valid | Used |
| 23 | 0.499 | 0.444 | Valid | Used |
| 24 | 0.488 | 0.444 | Valid | Used |
| 25 | 0.536 | 0.444 | Valid | Used |

The table above shows the validity of students' autonomy in reading questionnaire try out. Based on the table, all items are valid because $r_{item} > r_{table}$. Because all items are valid, the researcher used all the items to be tested to the sample.

The following table is the validity result of reading comprehension test try out:

**Table III. 5**
**The Validity of Reading Comprehension Test**

| Items | $r_{item}$ | $r_{table}$ | Status | Information |
|-------|-----------|------------|--------|-------------|
| 1 | 0.479 | 0.444 | Valid | Used |
| 2 | 0.488 | 0.444 | Valid | Used |
| 3 | 0.584 | 0.444 | Valid | Used |
| 4 | 0.469 | 0.444 | Valid | Used |
| 5 | 0.522 | 0.444 | Valid | Used |
| 6 | 0.534 | 0.444 | Valid | Used |
| 7 | 0.50 | 0.444 | Valid | Used |
| 8 | 0.584 | 0.444 | Valid | Used |
| 9 | 0.504 | 0.444 | Valid | Used |
| 10 | 0.553 | 0.444 | Valid | Used |
| 11 | 0.584 | 0.444 | Valid | Used |
| 12 | 0.485 | 0.444 | Valid | Used |

| 13 | 0.593 | 0.444 | Valid | Used |
|----|-------|-------|-------|------|
| 14 | 0.483 | 0.444 | Valid | Used |
| 15 | 0.582 | 0.444 | Valid | Used |
| 16 | 0.561 | 0.444 | Valid | Used |
| 17 | 0.603 | 0.444 | Valid | Used |
| 18 | 0.534 | 0.444 | Valid | Used |
| 19 | 0.5 | 0.444 | Valid | Used |
| 20 | 0.538 | 0.444 | Valid | Used |
| 21 | 0.582 | 0.444 | Valid | Used |
| 22 | 0.522 | 0.444 | Valid | Used |
| 23 | 0.54 | 0.444 | Valid | Used |
| 24 | 0.521 | 0.444 | Valid | Used |
| 25 | 0.495 | 0.444 | Valid | Used |

Based on the table above, it can be seen that the all items are valid because $r_{item}> r_{table}$. So, the researcher used all the items to be tested to the sample.

2. **Reliability of the Instruments**

According to Brown, (2003 p.20), reliability has to do with accuracy of measurement. Furthermore, a reliable test is consistent and dependable (Brown, 2003 p.21). It means that a reliable test will stay to give unchangeable results in a few test conducted to the same group of people.

Siregar (2004) stated that reliability test can be done by having external and internal ways. In this research, the researcher used internal consistency in which the researcher tried out the questionnaire once and analyzed each item by using cronbach alpha technique. According to Sugiyono (2015), cronbach alpha technique can be used for interval data.

The categories below are the level of reliability:

**Table III.6**
**The Level of Reliability**

| No | Reliability | Level of Reliability |
|----|-------------|----------------------|
| 1 | 0.0 – 0.20 | Low |
| 2 | 0.21 – 0.40 | Sufficient |
| 3 | 0.41 – 0.70 | High |
| 4 | 0.71 – 1.0 | Very high |

Taken from Tinambunan in Ersika

To find out the reliability of the questionnaire and test, the researcher used *Cronbach's alpha* formula and test through SPSS 16.00.The following table is the reliability test of students' autonomy in reading questionnaire.

**Table III.7**
**Cronbach Alfa Table**
**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .897 | 25 |

Based on analysis above, the value of Cronbach's Alpha was 0.897 which was higher than 0.60. It could be said that the questionnaire is reliable. Due to 0.71-1.0, the level of reliability was very high reliable.

The following table is the reliability test of reading comprehension test try out:

**Table III.8**
**Cronbach Alfa Table**
**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .894 | 25 |

Based on analysis above, the value of Cronbach's Alpha was 0.894 which was higher than 0.60. It could be said that the test is reliable. Due to 0.71-1.0, the level of reliability was very reliable.

## G. The Normality Test of the Data

Kadir (2015, p.143) said that when researchers want to do an inferential statistic, they should do the normality test for the data. The normality test is used to know the distribution of data was normal or not. In order to know whether the data were normally distributed, the researcher did the test by using SPSS 16.0 versions. The result can be seen as follows:

**Table III.9**
**Normality test of the data**

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Students' Autonomy in Reading | .087 | 44 | .200[*] | .974 | 44 | .414 |
| Students' Reading Comprehension | .119 | 44 | .127 | .953 | 44 | .070 |

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

If the significance level sig. value> 0.05, the data distribution is normal. From the output of the table III.10 above, it can be seen that Kolmogorov-Smirnov sig. or p-value of students' autonomyin reading is 0.200 and sig or p-value of reading comprehension is 0.127,it is compared with 0.05 that 0.200> 0.05 and also 0.127> 0.05, it means that the data is normally distributed. On the other hand, the data of students' autonomy in reading scores and their reading comprehension scores are normal.

## H. Technique of Analyzing Data

In order to find out whether there is a significant correlation between students' autonomy in reading and their reading comprehension, the data was analyzed by using statistical formula. Because the data is normally distributed, the researcher used Pearson product-moment correlation technique to analyze the data. The hypothesis are as follow:

$H_0$ : Sig. (2-tailed) > α (0.05

$H_a$ : Sig. (2-tailed) < α (0.05)

$H_0$ is accepted if the value of sig. (2-tailed) > α (0.05). It means that there is no significant correlation between students' autonomy in reading and reading comprehension at tenth grade of state senior high school 1 Kampar.

$H_a$ is accepted if the value of sig. (2-tailed) < α (0.05). It means that there is a significant correlation between students' autonomy in reading and reading comprehension at tenth grade of state senior high school 1 Kampar.