

CHAPTER III

METHODOLOGY OF THE RESEARCH

A. The Research Design

This research is correlational research. According to Creswell (2012), the writer used the correlation statistical test to describe and measure the degree of association (or relationship) between two or more variables or sets of scores. Correlational designs provide an opportunity for writer to predict scores and explain the relationship among variables.

This research consisted of two variables. Students' metacognitive awareness is independent variable symbolized by "X", while the students' reading comprehension in narrative text is dependent variable symbolized by "Y".

B. The Location and Time of the Research

This research was conducted at State Islamic Junior High School Bukit Raya Pekanbaru. It was located at Unggas Street no. 543 Bukit Raya Pekanbaru. This research was conducted on September 2015.

C. The Subject and Object of the Research

1. Subject of the Research

The subject of this research was the second year students at State Islamic Junior High School Bukit Raya Pekanbaru.

2. Object of the Research

The object of this research was the students' metacognitive awareness and their reading comprehension in narrative text.

D. The Population and Sample of the Research

1. Population

The population of this research was the second grade students of State Islamic Junior High School Bukit Raya Pekanbaru. The total number of population was 280 students divided into eight classes.

Table III.1
The Total Population of Second Grade Students of State Islamic Junior High School Bukit Raya Pekanbaru

No	Class	Male	Female	Total
1	VIII 1	17	18	35
2	VIII 2	15	20	35
3	VIII 3	13	22	35
4	VIII 4	14	21	35
5	VIII 5	11	24	35
6	VIII 6	12	23	35
7	VIII 7	14	21	35
8	VIII 8	11	21	35
Total				280

2. Sample

The population of this research was 280 students. Because the population was too large, so the writer used random sampling. According to Sugiyono (2010) random sampling is the way to select the sample that the number of population can be

selected randomly. Moreover, According to Suharsimi Arikunto (2006) also 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, according to Gay (2000) the sample for a correlational study is selected using an acceptable sampling method, and 30 participants are generally considered to be a minimally acceptable sample size. Based on the statements above, the writer considered taking 30 students as sample of the research. The followings was the steps used by the writer to take the sample by using random sampling method:

1. The writer identified and defined the population which had been done, it was 280.
2. The writer determined the desired sample size, which had been done too, it was 30.
3. The writer took a list of all the members of the population representative by numbering per class.
4. The writer wrote all listed individuals into number 001 until 035 on pieces of paper per classes.
5. The writer put all written papers per class into a case.
6. The writer selected a number randomly.
7. After getting the selected number, the writer wrote it on a paper as the taken sample.

8. The writer put back the selected number into the case.
9. The writer repeated steps number 6 and 7 until reaching the targeting sample.

E. The Technique of Collecting Data

To collect the data involved in this research, the writer used two techniques:

1. Questionnaires

In order to get data of the students' metacognitive awareness, the writer used a set of questionnaire. The writer used Likert Scale questionnaires. According to Cohen (2007) a Likert scale (named after its deviser, Rensis Likert 1932) provides a range of responses to a given question or statement. The questionnaires consisted of 30 items in which there was 1 up to 5 scale. The questionnaires given to the students were to obtain their metacognitive awareness in reading comprehension in narrative text (see appendix 1).

2. Test

Tests are assessment instruments that pose problems for students to solve. The writer give a test to obtain the students' reading comprehension in narrative text and consisted of 20 items. The test used was the objective test.

F. The Technique of Data Analysis

In order to find out whether there was a significant correlation between students' metacognitive awareness and their reading comprehension in narrative text, the data were analyzed by using statistical formula. The writer used the score of questionnaire of variable X and test score of variable Y. To analyze the data of students'

metacognitive awareness (Variable X), the writer used the formula (Anas Sudijono, 200):

$$P = \frac{f}{N} \times 100\%$$

Where:

P = Number of percentage

F = Frequency

N = Number of sample

Furthermore, the data of reading comprehension in narrative text should be scored by formula below:

$$S = \frac{R}{N} \times 100\%$$

Where:

S = Individual Score

R = Number of Correct Answer

N = Number of Items

Meanwhile, to analyze the correlation between students' metacognitive awareness and reading comprehension in narrative text, the writer used serial correlation coefficient (r) technique as follows (Hartono, 2012):

1. Total deviation

$$SD_{tot} = \frac{\sum fX^2}{N} - \frac{\sum fX^2}{N}$$

2. Serial correlation coefficient

$$r_{ser} = \frac{\sum or - ot M}{SD_{tot} \cdot \sqrt{\frac{\sum \frac{or - ot^2}{p}}{p}}}$$

3. Substituted to the formula “r” chotomization :

$$r_{ch} = r_{tris} \cdot \sqrt{\frac{\sum \frac{o_r - o_t^2}{p}}{p}}$$

Description:

 r_{ser} = Serial Correlation Coefficient o_r = The Lower Ordinate o_t = The Higher Ordinate

M = Mean (Average Value)

 SD_{tot} = Total Standard Deviation

P = Individual Proportion in Group

Table III.2**Interpretation of Correlation Coefficient**

Coefficient Interval	Level of Correlation
0.00-0.200	Very Low
0.200-0.400	Low
0.400-0.700	Middle
0.700-0.900	Strong
0.900-1.00	Very Strong

The serial correlation coefficient was obtained by considering the degree of freedom ($df = N-2$; ($N =$ number of sample)).

Statistically the hypotheses are:

$$H_a : r_o > r_{table}$$

$$H_o : r_o \leq r_{table}$$

H_a is accepted if $r_o > r_{table}$ or there is a significant correlation between the students' metacognitive awareness and their reading comprehension in narrative text.

H_o is accepted if $r_o \leq r_{table}$ or there is no significant correlation between the students' metacognitive awareness and their reading comprehension in narrative text.

G. The Validity and Reliability of Instrument

To obtain the data from the respondents, the writer made try out the questionnaire to determine the validity and reliability of the instruments.

1. Validity

Creswell (2008) stated that validity is the individual's scores from an instrument make sense, meaningful, enable you, as the researcher, to draw good conclusions from the sample you are studying to the population. It means that validity is the extent to which inferences made from assessment results are appropriate, meaningful, and useful in terms of the purpose of the assessment.

a. Validity of Metacognitive Awareness

To analyze the validity of variable X, the writer used SPSS 20.0 program version. The standard level of difficulty is 0.30 (Soegiyono in Siregar, 2013).

Based on the try out result of the instrument validity to the 30 items, it showed that all items were valid. It means that there were 30 items that were used in this research. In the following table is the result of the instrument validity.

Table III.3
The Analysis of Metacognitive Awareness Questionnaire Validity

No	r count	Status
1	0.802	Valid
2	0.720	Valid
3	0.660	Valid
4	0.839	Valid
5	0.802	Valid
6	0.660	Valid
7	0.669	Valid
8	0.668	Valid
9	0.802	Valid
10	0.631	Valid
11	0.802	Valid
12	0.734	Valid
13	0.537	Valid
14	0.689	Valid
15	0.477	Valid
16	0.729	Valid
17	0.569	Valid
18	0.456	Valid
19	0.481	Valid
20	0.774	Valid
21	0.532	Valid

22	0.438	Valid
23	0.578	Valid
24	0.622	Valid
25	0.591	Valid
26	0.802	Valid
27	0.585	Valid
28	0.595	Valid
29	0.519	Valid
30	0.548	Valid

b. Validity of Reading Comprehension in Narrative text

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 the test is not too difficult. The standard level of difficulty is 0.30 and 0.70, Arikunto (2009). 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). Based on the try out result of the instrument validity to the 20 items, it showed that 20 items were valid. It means that all the items were used in this research. It can be seen in the following tables:

Table III.4
The Analysis of Reading Comprehension in Narrative Text Test Validity

No	r count	Status
1	0.464	Valid
2	0.464	Valid
3	0.678	Valid
4	0.700	Valid
5	0.686	Valid
6	0.675	Valid
7	0.700	Valid
8	0.678	Valid
9	0.667	Valid
10	0.587	Valid
11	0.700	Valid
12	0.678	Valid
13	0.434	Valid
14	0.434	Valid
15	0.462	Valid
16	0.434	Valid
17	0.434	Valid
18	0.434	Valid
19	0.434	Valid
20	0.462	Valid

2. Reliability

Brown (2003) says that reliability has to do with accuracy of measurement. This kind of accuracy was reflected in obtaining of similar result when measurement was

repeated on different occasion or with different instruments or by different person. The characteristic of reliability was sometimes termed consistency. The following table was the level of internal consistency of Cronbach Alpha, Cohen.

Table III. 5

A commonly accepted rule of thumb for describing internal consistency by using Cronbach Alpha

Cronbach Alpha	Internal Consistency
.90	Very highly reliable
.90 > .80	Highly reliable
.80 > .70	Reliable
.70 > .60	Minimally reliable
.60 > .50	Unacceptably low reliability

a. Reliability of Metacognitive Awareness Test

To obtain the reliability of the questionnaire given, the writer used SPSS 20.0 program to find out whether or not the questionnaire was reliable.

Table III. 6

Cronbach Alpha Table
Reliability Statistics

Cronbach's Alpha	N of Items
.951	30

From the table above, it can be seen that the value of cronbach's alpha is that 0.951. Then, the writer compared r_{11} to r_{table} . The $r_{11} = 0.951$ was higher than r_{table} at significance level of 5%, was 0.369 and at 1% level of significance was 0.505,

where r_{table} ($dk = N-1 = 23$). It means that the items were reliable, where the value of internal consistency was $0.951 > 0.90$, so the reliability of questionnaire was very highly reliable.

b. Reliability of Reading Comprehension Test

To obtain the reliability of the questionnaire given, the writer used SPSS 20.0 program to find out whether or not the questionnaire was reliable.

Table III. 7
Cronbach Alpha Table
Reliability Statistics

Cronbach's Alpha	N of Items
.884	20

From the table above, it can be seen that the value of cronbach's alpha is that 0.884. Then, the writer compared r_{11} to r_{table} . The $r_{11} = 0.884$ was higher than r_{table} at significance level of 5%, was 0.369 and at 1% level of significance was 0.505, where r_{table} ($dk = N-1 = 23$). It means that the items were reliable, where the value of internal consistency was $0.90 > 0.884 > 0.80$, so the reliability of questionnaire was highly reliable.