CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

This research was included in a correlational research with regressionalanalysis, and it is as one of quantitative research. This research was aimed to disclose the contribution of knowledge of text structure to reading comprehension in narrative text. There were two variables in this research; The students' knowledge of text structure that symbolized by "X" was as independent variable and as dependent variable was the students' reading comprehension in narrative text that is symbolized by "Y".

As Gay says that correlation research attempts to determine whether, and to what degree, a relationship exist between two or more variables. She says that the purpose of this research is to determine relationship between variables or how to use these relationships to rank prediction quantitatively.[1]

B. The Location and Time of the Research

The location of this research was at State Junior High School 17 Pekanbaru, which is located in JL. Pembangunan, Pekanbaru. This research was conducted on Desember 2013.

[1]L.R. Gay and Peter Airasian, *Educational Research Competencies for Analysis and Application Sixth Edition* (New Jersey: Pearson Education, 2000), p. 12

C. The Subject and Object of the Research

The subject of this research wasthe second grade students ofState Junior High School 17 Pekanbaru. Meanwhile, the object of this research was the students' knowledge of text structureand reading comprehension.

D. The Population and Sample

The population of this research wass the second year students of SMP N 17 Pekanbaru. They were 280 students grouped in seven classes. They were assumed to have the same level proficiency and the same background. The distribution of population of the second grade students at SMP N 17 Pekanbaru can be seen as follow:

TABLE III.2

Distribution of the Population

Classes	Number of the Students
8.1	40
8.2	40
8.3	40
8.4	40
8.5	40
8.6	40
8.7	40
Total of the students	280

The population above was large enough to be taken all as sample of the research. According to Arikunto,if the population that less than 100 the sample is taken 50% of the population and if the population is more than 100 the sample is taken 15% of the population[2]. Based on those statement, the writer decided to choose 40 students (15%) of the population as the sample of this research because the population is more than 100.

E. The Technique of Collecting Data

In order to get the data which are needed to support this study, the researcher used the techniques as follows :

1. Knowledge of text structure test

In order to obtain the students' knowledge of text structure, the researcher used test as instrument. The test is true false questions.

2. Reading Comprehension test

It wasused to obtain the data concerning reading comprehension and this technique carried out in terms of collecting the data of variable Y, with multiple choices in which the materials were about narrative text.

The researcher gave the criteria of knowledge of text structure test and reading comprehension test score as follow:[3]

[2]SuharsimiArikunto, *ProsedurPenelitianSuatuPendekatanPraktek*: Jakarta: PT. RinekaCipta. 2006 p. 134

[3]SuharsimiArikunto, *Dasar-Dasar Evaluasi Pendidikan (edisirevisi)*. Jakarta: PT. BumiAksara. *2008*.p. 245

Table III.3
Criteria of Score

Score	Categories
80-100	Very Good
66-79	Good
56-65	Enough
40-55	Less
30-39	Fail

F. The Technique of Data Analysis

In order to find out students' knowledge of text structure and students' reading comprehension, the writer use SPSS 16 calculation and analyzed by criteria of score.

In order to find out whether or not there was a correlation between students' knowledge of text structure towards reading comprehension, the data were analyzed statistically. To know if there was significant contribution or there was no significant contribution between two or more variables can be analyzed by using simple linier regression with SPSS 16 calculation

G. Reliability and Validity of the Test

According to Brown[4]that reliability has to do with accuracy of measurement. This kind of accuracy is reflected in the obtaining of similar results when measurement is repeated on different occasions or with different

[4] H. Doughlas Brown. *Language Assessment: Principles and Classroom Practices*. (New York: Pearson Education Inc, 2003) pp. 19-27

instruments or by different persons. The characteristic of reliability is sometimes termed consistenly. It means that, we can say that the test is reliable when an examinee's results are consistent on repeated measurement. To obtain the reliability of the test, it must be known from the Mean and Standard Deviation of test. Validity in general refers to appropriateness of a given test or any of its component parts as measure of what it is purposed to measure. It means the test will be valid to the extent that is measured what it is supposed to measure.

The validity and reliability have relation. It is possible for a test to be reliable without being valid for a specified purpose, but it is impossible for a test to be valid without first being reliable.

According to Arikunto the test is accepted if the degree of difficulty is between 0.30 – 0.70.[5] It is determined by finding the difficulty level of each item. The formula for item difficulty is as follows:[6]

$$P = \frac{B}{JS}$$

Where:

P : Index of difficulty

B : The number of correct answer

JS : The number of students

The difficulty level of an item shows how easy or difficult a particular item in a test. The items that do not reach the standard level of difficulty are excluded from the test and they are changed with new items that are appropriate.

[5]SuharsimiArikunto.*ProsedurPenelitian.* (Jakarta: PT. RinekaCipta, 1997). p. 208
[6] Ibid. p 208

The standard level of difficulty used is < 0.30 and > 0.70. It means that an item is accepted if the level of difficulty is between 0.30-0.70 and it is rejected if the level of difficulty is less than 0.30 (the item is too difficult) and over than 0.70 (the item is too easy). The proportion of correct is represented by "p", whereas the proportion of incorrect is represented by "q".

To obtain the reliability of the test given, the researcher used Kuder Richardson 20 (K-R 20) formula to calculate the reliability of the test. The formula is as follows:

$$r_{11} = \frac{n}{n-1} \quad \frac{S^2 - \sum pq}{S^2}$$

Where:

r_{11} = Reliability

p = Proportion the correct scores

q = Proportion the incorrect scores

$\sum pq$ = Total of p times q

n = Total items

S = Variance total of the test

1. Reliability of knowledge of text structure test

$$r_{11} = \frac{n}{n-1} \quad \frac{S^2 - \sum pq}{S^2}$$

$$r_{11} = \frac{25}{25-1} \quad \frac{5.039^2 - 5.44}{5.039^2}$$

$$= \frac{25}{24} \quad \frac{25.39 - 5.44}{25.39}$$

$= \frac{25}{24} \frac{19.95}{25.39}$

= 1.025 x 0.78

= 0.799

To know the test is reliable or not, the value of r_{11} must be compared with r product moment. The value of r_{11} must be higher than r table. From the calculation above, the value of r_{11} is 0.799. Then the r_t at 5% grade of significance is 0.312. While r_t at 1% grade significance is 0.403. So, it can be concluded that 0.312<0.799>0.403. In other words, the instrument is reliable because the value of r_{11} is higher than r_t.

2. Reliability of reading comprehension test

$$r_{11} = \frac{n}{n-1} \frac{S^2 - \sum pq}{S^2}$$

$$r_{11} = \frac{25}{25-1} \frac{5.002^2 - 5.36}{5.002^2}$$

$$= \frac{25}{24} \frac{25.02 - 5.36}{25.02}$$

$= \frac{25}{24} \frac{19.66}{25.02}$

= 1.025 x 0.785

= 0.80

To know the test is reliable or not, the value of r_{11} must be compared with r product moment. The value of r_{11} must be higher than r table. From the calculation above the value of r_{11} is 0.80.

Then the r_t at 5% grade of significance is 0.312. While r_t at 1% grade significance is 0.403. So, it can be concluded that 0.312<0.80>0.403. In other words, the instrument is reliable because the value of r_{11} is higher than r_t.