CHAPTER III

THE RESEARCH METHOD

A. Research Design

The type of this research is Experiment research that is testing an idea (or practice or procedure) to determine whether it influences an outcome or dependent variable.[1] In addition, an experiment is the quantitative approach that provides the greatest degree of control over the research procedures.[2] In this research, the researcher used quasi-experimental design with nonequivalent control group. The quasi-experimental design is not possible to randomly assign individual participants to group.[3] The types of quasi-experimental design is nonequivalentp control group design. A nonequivalent control group design includes random assignments of intact groups to treatments, not assignments individuals.[4]It was an appropriate one to this research in order to know the significant effect of using KWL Plus strategy toward students' reading comprehension on exposition text of the second grade at Islamic senior high school Al-Kautsar Pekanbaru.

In conducting this research, the researcher took two classes; one class was as an experiment class taught by using KWL Plus strategy and one other was as a control class taught by using conventional strategy; talking stik. In

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[1] John.W.Cresswell, *Educational Research; Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. Pearson Education, New Jersey. 2008.P. 299

[2] L.R Gay, and Peter Airasian, *Educational Research Competencies for Analysis and Application.SixEd.*: Prentice-Hal, New Jersey. 2000. P. 15

[3] *Ibid.*, P. 394

[4] *Ibid.*, P. 395

the experimental class, the students were administered by giving pre-test at the beginning of the teaching learning in order to know the students' reading comprehension. Then there was treatment in the middle. During treatment, the writer cooperated with the observer, and post-test was at the end of the teaching learning processes in order to know the significant effect of using KWL plus strategy toward students' reading comprehension. So, the design of this research is able to be illustrated as follows:

TABLE III.1
THE DIAGRAM OF RESEARCH DESIGN

No.	Classes	Time		
		Pre-Test	**Treatment**	**Post-Test**
1	Experiment Class	Yes	Yes	Yes
2	Control Class	Yes	No	Yes

B. The Location and the Time of the Research

This research was conducted at the second grade of Islamic senior high school Al-Kautsar Pekanbaru that is located at Hangtuah Street, in 2013/2014 of academic year. The length of time to apply the strategy was about eight meetings including pre-test, treatment, and post-test. The research was done from september to october 2013.

C. The Subject and Object of the Research

1. The Subject of the Research

The subject of this research was the first semester of the seecond grade at Islamic senior high school Al-Kautsar Pekanbaru in the academic year 2013/2014.

2. **The Object of the Research**

The Object of this research was the significant effect of using KWL Plus strategy toward students' reading comprehension, especially in analytical exposition text.

D. The Population and Sample of the Research

1. **The Population of the Research**

The population of this research was the second grade students at Islamic senior high school Al-Kautsar Pekanbaru in the academic year 2013/2014. The population is the group of interest to the researcher, the group to which students would like to results of the study to be generalizable.[5]There were two classes that consisted of social departments. The total number of the second grade of Islamic senior high school Al-Kautsar Pekanbaru was 60 students.

2. **The Sample of the Research**

The population above was less than 100 students, it consisted of two classes. The researcher took all of the population as sample: experiment class and control class. They were 30 students for experiment class and 30 students for control class.

E. The Technique of Collecting Data

The researcher used test as the technique of collecting data. This study gave test; pre-test and post-test to the students. The students were tested by

[5] *Ibid.,* P. 122

reading comprehension test. The test was given after the students learned by using KWL Plus strategy. The test was done in order to know the influence and the effectiveness of using KWL Plus strategy toward the students' reading comprehension in ananalytical exposition text. To get the data about the students' reading comprehension, the researcher used the assessment based on the indicators of reading comprehension that had been explained in operational concept.

The technique of test used was objective test (multiple choices). Reading by making a mark against one out of a number of alternatives.[6] Multiple choices technique was a technique that was designed by using four choices and respondents chose one, it was based on the questions. The technique could assess the students' reading comprehension. The test consisted of 30 items. The writer constructed or adapted the test from the book and intenet which were related.

Before questions were given to the students at experiment and control classes, it was tested about validity and reliability, called as try out. Therefore, the test was tried out to other students to know whether the test was reliable and valid or not.

1. Validity

There are some types of validity namely; content validity, criterion related validity and construct validity, etc. This research applied content validity, concerned with how well the test measures the subject and learning

[6] Arthur Hughes, *Testing for Language Teachers. Second Edition.* Cambridge University Press. Cambridge. 2003. P. 143

outcomes covered during instruction period. The content validity of the test must show that a test represent all materials obtained by the students. In giving the test for respondents, the test should be valid. The research instrument should be qualified. The instrument could be valid if the instrument is measuring what the writer wants to find out. Scarvia B. Anderson et.al in Suharsimi claims the statement "a test is valid if the measure what is purposed to measure.[7]The value itself was used to find out the level of difficulties of each item.

The standard of value used was ≥ 0.30 *and* ≤ 0.70 .[8]The items that could not fulfill the standard value were replaced. The facility value under 0.30 is considered difficult and above 0.70 is considered easy. The good instruments are between 30 and 70 scores.

The product moment formula was used. Thus, the formula of validity could be seen below:[9]

The formulation of validity:

$$r_{XY} = \frac{N\sum XY - (\sum X)(\sum Y)}{N\sum X^2 - \sum X^2 \; N\sum Y^2 - \sum Y^2}$$

r_{XY} : Correlated Confession between X and Y

X : Odd Items (1,3,5,7,9,11,13,15,17,19,21,23,25,27,29)

Y : Even Items (2,4,6,8,10,12,14,16,18,20,22,24,26,28,30)

N : Respondents

[7] Suharsimi Arikunto, *Dasar-Dasar Evaluasi Pendidikan, Edisi Revisi*, Bumi Aksara, Jakarta. 2009. P. 65

[8] *Ibid.*, P. 76

[9] *Ibid.*, P. 213

2. Reliability

Reliability is a necessary characteristic of a good test. It is possible that the test can be reliable but it is not valid, whereas the test is valid automatically, it is automatic reliable. In this research, the writer found six questions rejected. And then the writer changed the questions to be better questions.

There are some factors that make a test be reliable, they are:

a. The extent of the sample of material selected for testing
b. The administration of the test, clearly this is an important factor in deciding reliability, especially in tests of oral production and listening.

To obtain the reliability of the test given, the researcher used the formula below:[10]

The formulation of reliability

$$r_{11} = \frac{2\, r_{1/2\,1/2}}{1 + r_{1/21/2}}$$

Based on the analysis of validity and reliability above, it can be seen that the r_{value} of validity is 0.53 and r_{value} of reliability is 0.69. The manually calculating of validity could be seen in appendix 6. And the manually calculating of reliability could be seen in appendix 7. According to Suharsimi Arikunto the value of correlation coefficients is as follows:[11]

[10] *Ibid,* P. 223
[11] *Ibid,* P. 75

1. Between 0.800 to 1.00 = Very High
2. Between 0.600 to 0.800 = High
3. Between 0.400 to 0.600 = Enough
4. Between 0.200 to 0.400 = Low
5. Between 0.00 to 0.200 = Very Low

In conclusion, the validity of the test is categorized into **Enough** level while reliability of the test is also categorized into **High** level.

F. The Technique of Data Analysis

After the instruments were valid, so the researchers gave the test to the students at experiment and control classes, and analyze the data. In analyzing the data of this research, the writer used the statistical calculation of T-test. T-test was used to find out the significant difference of mean between two variables. The T-test was used in order to find out whether or nor there was a significant effect of KWL Plus strategy toward students' reading comprehension in analytical exposition text. The data was calculated by using SPSS 16 program.

The t – table was employed to see whether or nor there was a significant difference between the mean score of both experiment and control groups. The data used formula as follows:[12]

$$M_x = \frac{\Sigma fx}{N}$$

$$M_y = \frac{\Sigma fy}{N}$$

M = mean

N = total frequency of the students

[12] Hartono, *Statistik untuk Penelitian.* Pustaka Pelajar, *Y*ogyakarta. 2004. P. 187

fx = total score of students experimental group

fy = total score of students control group

$$SD_x = \sqrt{\frac{\sum fx^2}{N} - \left(\frac{\sum fx}{N}\right)^2} \quad SD_y = \sqrt{\frac{\sum fy^2}{N} - \left(\frac{\sum fy}{N}\right)^2}$$

To analyze the data of this research, the researcher used the statistical calculation of T-test that was used in order to find out whether or not there was the significant difference of KWL Plus strategy toward students' reading comprehension. The formula of T-test is:[13]

$$t_0 = \frac{Mx - My}{\sqrt{\left(\frac{SD_x}{\sqrt{N-1}}\right)^2 + \left(\frac{SD_y}{\sqrt{N-1}}\right)^2}}$$

t_0 = the value of t- obtained

Mx= mean score of experimental sample

My= mean score of control sample

SD_x = standard deviation of experimental group

SD_y = standard deviation of control group

N = total number data (responden)

The t – table was employed to see whether or not there was a significant difference between the mean score of both experiment and control group. The t – obtained value was consulted with the value of t – table at the degree of freedom (df) = (N1+N2) – 2 statically hypothesis:

Ho : t_o< t – table

Ha : t_o> t – table

[13] *Ibid.*, P. 217

H_o is accepted if $t_o < t$ – table or there is no significant effect of using Know Want Learn (KWL) Plus strategy toward students' reading comprehension.

H_a is accepted if $t_o > t$ – table or there is significant effect of using Know Want Learn (KWL) Plus strategy strategy toward students' reading comprehension.