

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

In conducting this research, experimental research was applied. Experiment is a test an idea to determine whether it influences an outcome of dependent variable (Creswell, 2012, p. 299). . There were two variables : independent variable (variable X) and dependent variable (variable Y). This research was intended to identify cause and effect between both variables. In this case, WebQuest was used as independent variable to know whether it influences dependent variable or not. Dependent variable of this research was student's reading skill. Pre experimental research was used to conduct this research in one class and focusing on quantitave approach.

The design from this research was using experiment class. The experiment class was given treatment by using WebQuest. This research was conducted within 6 meetings.

Table 3.1 The Research Design

Class	Pre-test	Treatment	Post-test
XI	T ₁	X	T ₂

Note:

X : The Pre-test

T₂ : The Post-testclass

T : Treatment

After giving particular treatment to the experimental group by using WebQuest, the scores of students was analyzed by statistical analysis. It aimed to know whether there was or not the significant difference of using WebQuest in improving students' reading skill.

3.2 Time and Location of the Research

The research was conducted on february 2017 and the location of this research was at SMA YLPI Pekanbaru Jl. Kaharidding Nasution. The schedule of this research as follow :

NO	ACTIVITY	DATE	TOPICS/TITLE
1	Pre-Test	February, 22 nd 2017	Taking Pretest
2	Treatment 1	February, 23 rd 2017	The Origin of Keloyang
3	Treatment 2	March, 1 st 2017	Princess Pinang Masak
4	Treatment 3	March, 2 nd 2017	Dayang Kumunah
5	Treatment 4	March, 8 th 2017	The Legend of the Chained Stones
6	Post- Test	March 9 th 2017	Taking Post-Test

3.3 Research Population and Sample

3.3.1 The Population

The population of this research was the second year students of SMA YLPI Pekanbaru. The population of this research consistested of four class within science and social class. There were two class of science and two class of social. There were 125 students from 4 classes.

Table 3.2

Total Population of the Research

Number	Classes	Population
1	XI SC 1	32
2	XI SC 2	32
4	XI S 1	31
5	XI S 2	30
TOTAL		125

3.3.2 The Sample

Since the number of total population is quite large, sampling technique was applied in which cluster random selection was selected because the students were already formed into classes. Cluster random selection in procedure where entire groups and not individuals are randomly selected (Lodico, Spaulding, & Voegtle, 2006, p. 145).

In this research, one class from total population of four classes were selected. They were XI Social 1 (31 students) to be included as sample based on the reason: (1) intended to improve students' reading skill, (2) promoting WebQuest as a model in teaching learning.

The specification of the research sample could be seen on the table below:

Table 3.3
The Sample of the Research

Class	Population	Sample
XI	31 students	31 students

3.4 Research Material

Material used in pre-test and post-test was narrative texts which adopted from the internet. The topic in pre-test and post-test was different.

Table 3.4 Blueprint of Research Material

No	Meeting	Topic/Title
1	Meeting 1	The Origin of Kelayang
2	Meeting 2	Princess Pinang Masak
3	Meeting 3	Dayang Kumunah
4	Meeting 4	The Legend of Chained Stones

3.5 Instrument of the Research

In this research, the research instrument was reading test. There was two series of test, Pre-test and Post-test. Pre-test was used to determine student's reading skill before conducting treatment. Post-test was given after giving the treatments.

Table 3.5 The Blue Print of Pre-Test and Post-Test

No	Pre-test		Post-test	
	Topic/Title	Number of item	Topic/Title	Number of Item
1	The Legend of Dedap Island	1,2,3,4,5	Batu Belah Batu Bertangkup	1,2,3,4,5
2	The Legend of Dang Keduana	6,7,8,9,10	The Story of Hang Tuah	6,7,8,9,10
3	The Story of Bujang Buta	11,12,13,14,15	The Seventh Princess	11,12,13,14,15
4	The Legend of Dedap Island	16,17,18,19,20	Princess Kaca Mayang	16,17,18,19,20

3.6 Research Procedure

1. Pre-Test

Before giving treatment, students was given a pre-test in order to know students' reading skill before treatment. Pre-test took one meeting in the first meeting. The pre-test was reading test.

2. Treatment

After pre-test, the students were given treatment by using WebQuest to their reading activity. The treatment was conducted in four meetings in XI social class. During the treatment, there were several treats to develop students' reading performance by enhancinh some reading skills.

a. Meeting 1

the first meeting, teacher had already given a link to the students before the treatment began. In the first meeting, teacher asked students to bring their laptop. While treatment, they were sitting based on their groups. After that, they opened the link. The link was a webquest which contained their material. The first narrative text was " The Origin of Kelayang". The students were asked to see the Webquest and some explanation there. There where some question which stated on webquest , including the main idea, difficult words, and generic structure. After that, they were asked to work in group to answer some following question which related to the narrative text.

b. Meeting 2

In the second meeting, teacher had already given a link to the students before the the second treatment began. The students were still sitting in their own groups.

The students still brought their laptop. They opened the link. The link was a webquest which contained their material. The second narrative text was “Princess Pinang Masak”. The students were asked to see the Webquest and some explanation there. There where some question which stated on webquest , including the main idea, difficult words, and generic structure. After that, they were asked to work in group to answer some following question which related to the narrative text.

c. Meeting 3

In the third meeting, teacher had already given a link to the students before the the second treatment began. The students were still sitting in their own groups. The students still brought their laptop. They opened the link. The link was a webquest which contained their material. The second narrative text was “Princess Pinang Masak”. The students were asked to see the Webquest and some explanation there. There where some question which stated on webquest , including the main idea, difficult words, and generic structure. After that, they were asked to work in group to answer some following question which related to the narrative text.

d. Meeting 4

In the last meeting of treatment, teacher had already given a link to the students before the the second treatment began. The students were still sitting in their own groups. The students still brought their laptop. They opened the link. The link was a webquest which contained their material. The second narrative text was “Princess Pinang Masak”. The students were asked to see the Webquest and some explanation there. There where some question which stated on webquest ,

including the main idea, difficult words, and generic structure. After that, they were asked to work in group to answer some following question which related to the narrative text.

3. Post- Test

After finishing treatment, post-test was given to students in last meeting aiming to know how far the development of reading performance of students after getting treatment. The result of the post-test was analyzed and used for the final data of this research.

3.7 Data Collecting Technique

In this research the data was collected by checking the attendance of students. Then, pre-test was given to students as a test before giving some treatment. This pre-test analyzed students's prior knowledge about reading skill.

Next phase, treatments were given to them by asking the read and learn narrative text by using WebQuest. In WebQuest, there were some texts which contained narrative texts and some questions that must be answered by students. It was used to develop their reading performance.

Last, post-test was given to students in order to know if there was any significant progress from students after giving treatment. The result of pre-test and post-test will be compared statistically. It aimed to know the effect of Webquest toward reading skill on narrative text of second year students of SMA YLPI Pekanbaru.

3.8. Data Analysis Technique

After presenting the class by using WebQuest, statistical analysis was used to analyze the data. In order to know if the result was statistically significant, it was analyzed by using test.

Pre-test was a beginning of treatment. The score of pre-test was a data of research. The purpose of pre-test was to find out the students' prior knowledge before treatment.

Post-test is conducted after all of treatment implement. The score of test was compared to pre-test score. After the result of test was obtained, the data was analyzed. T-test was used in this research. At first, the students' individual score from the test was calculated by using this following formula:

1. Mean score of each group

$$\text{Mean : } Mx = \frac{\sum X}{N}$$

Where : Mx = mean score

$\sum x$ = total Score

N = Number of cases/students

(Sudijono, 2012:81)

2. Difference (D) $\sum D$

$$D = X - Y$$

Where: D = Difference

X = The score of variable I (pre-test)

Y = the score of variable II (post- test)

(Sudijono, 2012:305)

3. Mean of Difference (MD)

$$MD = \frac{\sum D}{N}$$

Where: MD= mean of difference

$\sum D$ = the amount of D

N = number of case (students)

(Sudijono, 2012:305)

4. The amount of D quadrate (D²)

Next, each D is quadrated to find D². After that we can sum up all of D² and get the amount of D² ($\sum D^2$).

5. Standard Deviation (SD_D)

$$SD_D = \sqrt{\frac{\sum D^2}{N} - \left(\frac{\sum D}{N}\right)^2}$$

Where: SD D = standard deviation

$\sum D^2$ = the amount of D quadrate

$\sum D$ = the amount of S

N = the number of students

(Sudijono, 2012:306)

6. Standard error of mean difference (SE MD)

Standard error of the mean:

$$SE \text{ MD} = \frac{SD \text{ D}}{\sqrt{N-1}}$$

Where:

SE MD = standard Error of the mean difference

SD D = standard deviation

N = Number of students

1 = constant number

(Sudijono, 2012:307)

7. T-Test (To)

$$t_o = \frac{MD}{SE MD}$$

where :

SE MD = standard Error of the mean difference

SD D = standard deviation

N = number of students

(Sudijono, 2012:307)

8. Formula to test the hypothesis

After get T-test (to) it will find the Degree of Freedom (df) with this formula:

$$Df = N - 1$$

Note:

Df : the degree of freedom of two group

N : the number of individual of two groups

1 : constant number

(Sudijono,2012:308)

If the value of T_{test} is equal or lower than the value T_{table} on the degree of freedom (df) at $\alpha = 0,05$ for two-tailed test, the null hypothesis is accepted. On the other hand, if the T_{test} is great than value of T_{table} the null hypothesis is rejected.

Therefore, the alternative hypothesis is accepted. Its mean that, there is significant effect of strategy on reading comprehension. (Hatch and Farhady, 1982).

Table 3.6
The Scoring Category

No	Range of Score	Level of Ability
1	90-100	Excellent
2	81-89	Very Good
3	71-80	Good
4	60-70	Fair
5	<59	Less

(Sudijono,2008)