



CHAPTER III

RESEARCH METHOD

A. The Research Design

The type of this research is experimental research, precisely quasi experimental research. According to Creswell (2012, p.295), experimental research is used when the researcher wants to establish possible cause and effect between the independent and the dependent variables. Based on Creswell (2012, p.313), Quasi experiment research is testing an idea (practice) to determine whether it influences an outcome or dependent variable. Then, Cohen (2007, p.278) also said that this design is commonly used in educational experiment. This research design involved an experimental group and a control group, both were given a pretest and a posttest. Experimental group received the treatment, however the control group did not.

In conducting this research, the students of Islamic Senior High School Darel Hikmah Pekanbaru are given pre-test at the beginning in order to know their ability in comprehending the narrative text. After that, they are given the treatment at the middle. At the end, they are given a post-test. The researcher using kind of quasi experimental design, non-equivalent control group. According to Gay (2012, p.395), non-equivalent control group involves random assignments of groups to treatment, non-random assignment of individuals.

In this design, the researcher using two classes as the sample; a control group and an experimental group. Both groups take a pre-test and post-test. There are two

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variables; independent variable (X) and dependent variable (Y). Variable X that refers to the effect of using Survey, Question, Read, Recite, Review, Reflect(SQ4R)strategy and variable Y that refers to students' reading comprehension.

Therefore, the experimental class is treated by usingSQ4R(Survey, Question, Read, Recite, Review, Reflect) strategyand the control class is treated without usingSQ4R (Survey, Question, Read, Recite, Review, Reflect) strategy.This research design involved an experimental group and a control group, both are given a pretest and a posttest.

In brief, the design can be seen in the following table:

Table III.1
Table of the Research Design

Group	Pre-test	Treatment	Post-test
Experimental	X1	T	Y1
Control	X2	-	Y2

Where:

- E : Experimental group
- C : Control group
- X1 : Pre-test in experimental group
- X2 : Pre-test in control group
- Y1 : Post-test in experimental group
- Y2 : Post-test in control group
- T : Treatment.

B. The Subject and Object of the Research

The object of this research is the first year students of Islamic Senior High School Darel Hikmah Pekanbaru in 2016/2017 academic calendar. The object of the research is the effect of using SQ4R (Survey, Question, Read, Recite, Review, Reflect) strategy on students' reading comprehension of narrative text.

C. The Location and Time of the Research

This research will be conducted at Islamic Senior High School Darel Hikmah Pekanbaru. The research will be carried out as a regular class and will be started from February until April 2017. It is located on JL. Manyar Sakti, Pekanbaru of Riau Province.

D. The Population and Sample of the Research

1. Population of the Research

The population of the research will be the first year students of Islamic Senior High School Darel Hikmah Pekanbaru. It has seven classes. The number of the first year student of Islamic Senior High School Darel Hikmah Pekanbaru is 159 students.

2. Sample of the Research

Considering that this population of the research is bigger, thus the researcher takes the sample of the population of the research. In this research, the researcher uses cluster random sampling technique. According to Gay and

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Airasian(2010, p.123), random sampling is the process of selecting a sample in such a way that all individuals in the defined population have an equal and independent chance of being selected for the sample. Cluster random sampling technique is most useful when the populations are very large or spread out over a wide geographic area. Cluster sampling randomly select the groups, not individuals. In this research, the researcher take two of seven classes as the samples. Class X.1is as an experimental class and class X.2is as a controlclass. The class X.1 consist of 28 students and the class X.2 consist of 30 students, so that the total sample of this research is 58 students.

E. The Technique of Collecting Data

The data collection of this research is obtained by using tests (pre and post). According to Brown (2007, p.3), test means that a method of measuring of a person's ability, knowledge or performance in given domain. Then, Brown (2003, p.195) explained several kinds of tests that are appropriate for assessing students. The kind of tests are multiple-choice, matching tasks, short answer task, cloze test, open ended question, editing task, picture-cued tasks, and gap-filling task. Thus, in this research the researcher choose multiple choice to measure students' reading comprehension of narrative text.

This type of instrument was chosen because it is practically, and easily administered, and can be scored quickly. Paris (2005, p.16) said that multiple choices are standardized test that will be the inevitable result. The researcher decide the

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multiple choice items as the research instrument because of some considerations; reliability, efficiency, and also rather sophisticatedly. It is also supported by Siregar (2013, p.87), the research instrument should be a valid and reliable, the multiple choice items can cover those requirements. The result of the test cannot be denied by the people.

The test would be given twice. The first is pretest and the last is posttest. In this research, the test are divided into two ways; pretest which is given before the treatment and posttest which is given after doing treatment.

1. The Procedures of Collecting Data for Experimental Class

a. Pre-test

The pre-testis carried out to determine the students' reading ability with their score.

b. Treatment

The treatment is conducted for the experimental class. It is useSQ4R(Survey, Question, Read, Recite, Review, Reflect)strategy and it is applied for about six meetings.

c. Post-test

After giving the treatment, the post-test is administered and analyzed as final data for this research.

2. The Procedures of Collecting Data for Control Class

a. Pre-test

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The control class is given pre-test to know their reading ability. The test is the same as experimental class.

- b. No treatment
- c. Post-test

Post-test is also given to control class, and the result is analyzed and used as final data for this research.

After the researcher apply the strategy well, the researcher provide the test for both control and experimental class. After the students administer the test, the researcher take the total score from the result of the reading comprehension test. According to Suharsimi Arikunto (2013, p. 281), there are some categories to evaluate the students' comprehension in reading text. The students' score can be seen in the table below:

Table III.2
The Blue Print of Test

No.	Indicators	Questions Number
1.	Identify the generic structure	4, 6, 13, 18, 21
2.	Identify the purpose of narrative text	5, 10, 12, 16, 23
3.	Identify the meaning of words	3, 9, 15, 17, 25
4.	Identify the references of word	1, 8, 11, 19, 24
5.	Identify the specific information	2, 7, 14, 20, 22

TABLE III.3

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The Classification of Students' Score

The Score of Reading Comprehension Level	Categories
80-100	Very Good
66-79	Good
56-65	Enough
40-55	Less
30-39	Fail

F. The Validity and Reliability

1. The Validity

Every test, whether it is a short, informal classroom test or a public examination should be as valid as the test constructor can make it. The test must aim at providing a true measure of the particular skill intended to measure.

Heaton states (2008, p.178) the validity of a test is the extent to which it measures what it is supposed to measure and nothing else. There are three kinds of validity that consist of content validity, construct validity, and empirical validity. To obtain the data about to compare the result of the test between snowballs throwing type strategy on reading ability, the researcher acquired to show each score. It was used based on the most important characteristic of an item to be accurately determined by its difficulty. Then, the test given to students

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was considered not too difficult or not too easy than often show the low reliability.

Item difficulty is determined as the proportion of correct responses. This is held pertinent to be index difficulty, in which it is generally expressed as the percentage of the students who answer the questions correctly. The formula the item difficulty is as follows:

The formula for item difficulty is as follows:

$$FV = \frac{R}{N}$$

Where

- FV : Index of difficulty or Facility value
- R : The number of correct answers
- N : The number of examinees or students taking the test

The formula above was used to find out the easy or difficulties of each item test that the researcher gave to the respondents. The item that did not reach the standard level of difficulty were excluding from the test and they are changed with the new items that are appropriate. Stated that prepared in practice to accept items with facility values between 0.30 and 0.70.

2. The Reliability

A test must firstly shows reliability as the measuring instrument. Reliability is a necessary characteristic of any good test. According Brown (2003, P. 19), reliability has to do with accuracy of measurement. This kind of accuracy was reflected in the obtaining of similar results when measurement was

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repeated on different occasions or with different instruments or by different persons. The characteristic of reliability was sometimes termed consistency. It means that, we can say the test is reliable when an examinee's results are consistent on repeated measurement. To obtain the reliability of the test, the researcher used software SPSS(Statistical Product and Service Solution)22.0 version program to find out whether the test is reliable or not.

Table III. 4
The Reliability of Statistics

Cronbach's Alpha	N of Items
.764	2

From the table above, it can be seen that the value of Cronbach's Alpha is 0.764. Then the researcher compared r_{11} to r table. The $r_{11} = 0.764$ was higher than r table at significance level of 5% was 0.304 and at level 1% was 0.393 r table ($dk = N-2 = 27$). It means that the test was reliable, in which the value of internal consistency was $0.764 > 0.304$, so the test was reliable.

Moreover, the standard reliability was considered as follows (Heaton, 1980, p.159):

0.00 – 0.20 =Reliability is low

0.21 – 0.40 = Reliability is sufficient

0.41 - 0.70 = Reliability is high

0.71 - 1 = Reliability is very high

In sum, the reliability of the test as calculated above (0.764) was categorized into very high level.

G. The Test of Normality and Homogeneity

a. Test of Normality

Before analyzing the data, the researcher should know the data normally distributed or not. According to Siregar (2013, p.153) the purpose of normality test on the data set is to determine whether the data are normally distributed population or not. When the data are normally distributed, then the manifold can be used parametric statistical tests. Whereas when the data are not normally distributed, it can be used non parametric statistical tests. Therefore, before the researcher used statistical techniques as a parametric analysis, the researcher had to prove first, whether the data were in the analysis of normal the result computation of normality test through SPSS can be seen in the following table:

Table III.5
Test of Normality of Experimental Class

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Pre-test	.152	28	.096	.927	28	.051
Post-test	.158	28	.070	.948	28	.181

a. Lilliefors Significance Correction

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Table III.6
Test of Normality of Control Class

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Pre-test	.153	30	.071	.946	30	.130
Post-test	.133	30	.183	.953	30	.210

b. Lilliefors Significance Correction

According to table IV.5 and IV.6 above, it was found that the significance of the normality test for pretest experimental class was 0.096 and 0.070 for the post-test. If the "Sig" column of either test is above 0.05, your data are normally distributed. The pretest experimental class $0.096 > 0.05$, and post-test experimental class $0.070 > 0.05$, it means that the data were distributed normally.

Thus, the significance of the normality test for pretest control class was $0.071 > 0.05$, so it can be concluded that the data were normally distributed, and for the post-test control class $0.183 > 0.05$, it means that the data were also normally distributed.

Test of Homogeneity

By knowing the data distributed normally, the researcher did test of homogeneity. This test was used to know some variant of population homogeneity or not. This test was also used as the requirement in analyzing the data before conducting independent sample t-test. The researcher analyzed the homogeneity variant of population by using SPSS. The result computation of homogeneity test through SPSS can be seen in the following table:

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Table III.7
Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
.959	6	23	.474

According to table IV.7 above, it was found that the significance of the homogeneity was 0.474. If the "Sig" column of either test is above 0.05, your data is homogeneity distributed (Sireger: 2013, p.178). Thus, the significance of the homogeneity test was $0.474 > 0.05$, so it can be concluded that the data were homogeny distributed.

H. The Technique of Analyzing Data

In analyzing the data, the researcher use t-test formula. According to Gay and Airasian (2000, p. 512), t-test is one of the statistics tests used to determine whether two means are significantly different at a selected probability level. Therefore, the researcher use independent sample t-test. The data will be analyzed by using SPSS 22.0 version in order to find out the result of the students in narrative text who are taught and who are not taught by using SQ4R (Survey, Question, Read, Recite, Review, Reflect) strategy. The researcher conclude that:

1. H_a is accepted if the value in the **Sig. (2-tailed)** column is *equal or less* than .05 (e.g. 0.03, .01, .001). It means that there is a significant difference of students' reading comprehension of narrative text between those who are taught by using

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1. SQ4R(Survey, Question, Read, Recite, Review, Reflect)strategy and those who are taught without using SQ4R(Survey, Question, Read, Recite, Review, Reflect)strategy at Islamic Senior High School DarelHikmahPekanbaru.
2. H_0 is accepted if the value is *above* .05 (e.g. 0.06, 0.10). It means that there is no significant difference of students' reading comprehension of narrative text between those who are taught by using SQ4R (Survey, Question, Read, Recite, Review, Reflect)strategy and those who are taught without using SQ4R (Survey, Question, Read, Recite, Review, Reflect)strategy at Islamic Senior High School DarelHikmahPekanbaru.