CHAPTER III

RESEARCH METHODOLOGY

III.1 Research Design

The design of this research was an experimental research. Gay and Airasian (2000:367) argue that experimental research is the type of research that can test hypotheses to establish cause-and effect relationships. The design of this research is a quasi-experimental design which is focused on the pre test and post test non-equivalent control group which is an appropriate one to this research in order to find out the significant effect of using Gallery Walk Strategy on students' reading comprehension and writing ability.

In this research, there were two classes; one class was an experimental group which were treated by Gallery Walk Strategy and another one was a control group taught by using non Gallery Walk Strategy. For both experimental and control groups, pre-test and post-test were administered to the students. Pre-test was given at the beginning of the teaching learning in order to identify the students' English reading comprehension and writing ability. Then, the experimental group was given a treatment by using Gallery Walk Strategy and the control group non Gallery Walk Strategy. During the treatment, the writer was accompanied by an observer, and at last, both groups were given post-test at the end of the teaching and learning processes in order to determine the effect of using Gallery Walk Strategy on students' reading comprehension and writing ability.The design of this research can be illustrated as follows:

Table. III.1
The Research Design

E	O1	X1	O2
C	O1	-	O2

Figure (Gay, 2000:353)

Explanation: E = Experimental Group

C = Control Group
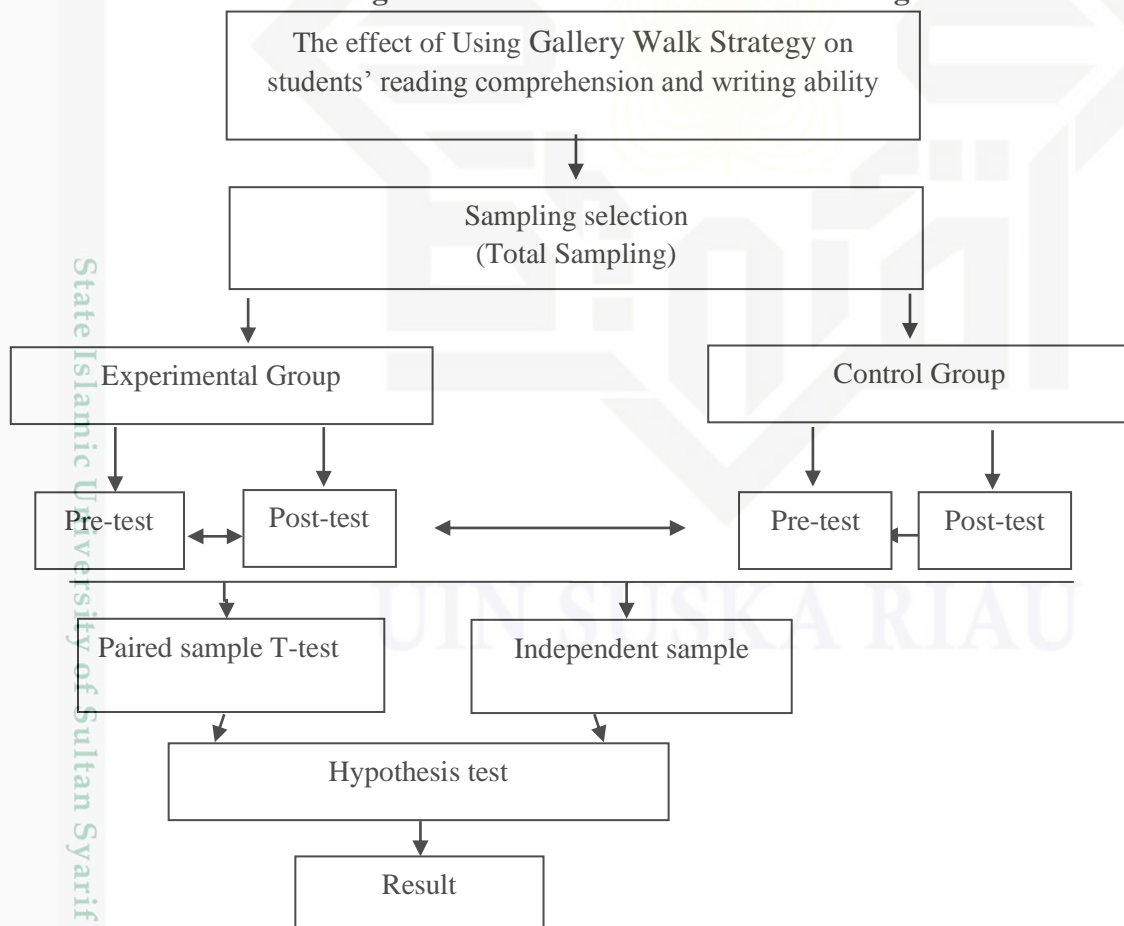
X1 = Independent Variable 1

= Independent Variable 2

O1 = Pre-test

O2 = Post-test

Figure III.1 The scheme of research design

The effect of Using Gallery Walk Strategy on students' reading comprehension and writing ability

Sampling selection
(Total Sampling)

Experimental Group   Control Group

Pre-test   Post-test   Pre-test   Post-test

Paired sample T-test   Independent sample

Hypothesis test

Result

III.2. Location and Time of the Research

The research was conducted on the first grade student of the Islamic Senior High School of Islamic Boarding School Technology of Riau, located on Lintas Timur KM. 22 streets, Pekanbaru and it was conducted on January 2017.

III.3. Subject and Object of the Research

Based on the title of the research, the subject of the research was the first grade students of the Islamic Senior High Schoolof Islamic Boarding School Technology of Riau. The object of the research was the effect of using Gallery Walk Strategy on students' reading comprehension and writing ability.

III.4. Population and Sample

III.4.1 Population

The population of this research was the first grade students of the Islamic Senior High Schoolof Islamic Boarding School Technology of Riau. They consisted of 2 classes. The total number of students were 40.

Table III.2
The Population of the firstgrade students of Islamic Senior High School of Islamic Boarding School Technology of Riau

No	Classes	Male	Female	Population
1	X A	9	11	20
2	X B	8	12	20
	Total			40

III.4.2 Sample

According to Gay (2000), sampling is the process of selecting a number of individuals or a study in such a way that they represented the larger group from which they are selected. The total sample of this research was 40students, which was divided into two classes, class XA as a Control group, XB as an Experimental Group. The sample was taken by *Total Cluster Sampling*. According to Sugiyono (2007),he states that *Total sampling is* the technique for taking sample where the total number of samples are same with the total number of population. All the members of selected groups had similar characteristics.

Table III.3.
The Total Sample of the Research

NO.	Class	Male	Female	Number of Students	Sample
1	X A	9	11	20	control Class
2	X B	8	12	20	Experimental Class
	Total			40	

III.5. Research Instrument

To collect the data, reading and writing test were administered as the instrument of this study. The pre-test and post- test were administered to two classes which consisted of X A and X B. The pre-test was administered before the treatment and the post-test aimed at finding out the students' reading comprehension and writing ability after treatment. After the treatments, it was given by teaching with Gallery Walk Strategy. This activity was also intended to find out whether the students' skill kept holding of the material after doing the treatment.

III.6. Technique of Data Collection

In order to get the data to support this study, the researcher used the technique as follows:

1. Observation

   Observation is used to observe directly the students which use Gallery Walk Strategy in reading and writing narrative text and to observe the influence of Gallery Walk Strategy on students' reading comprehension and writing ability narrative text. In observation technique, the researcher has a list of observational items to be observed in the class during teaching and learning process by using Gallery Walk Strategy .

2. Test

   To find out the effect of using Gallery Walk Strategy on students' reading comprehension and writing ability of the first grade students of the Islamic Senior High Schoolof Islamic Boarding School Technology of Riau, the researcher administered the test to assess students' English ability, especially in narrative text. The test will be in two stages. The first is pretest done before doing the treatment. The second is a posttestdone after doing the treatment. The researcher measured the total score from the result of the students' English reading comprehension and writing ability test. The classification of the students' score is shown below.

Table III.4
The Classification of Students' Score

Score Range	Categories
80 – 100	Good to excellent
60 – 79	Average to good
50 – 59	Poor to average
0 – 49	Poor

(Harris at al, 1986)

If the students are able to achieve the goal, this meant that assessment of students' ability need to be correlated with the purpose of achieving.

III.7. Validity and Reliability of Instrument Test

To obtain the data from the participants, the writer made try out the reading comprehension test to determine the validity and reliability of the instruments, then, analyzing the reliability and validity is used SPSS 20.

1. Reliability

Brown, (2003) says that the reliability has to do with accuracy of measurement. This kind of accuracy was reflected in obtaining similar results whenthe measurement was repeated on different occasion or with different instruments or by different persons. Brown stated that the characteristic of reliability was sometimes termed consistency. The following table is the level of internal consistency of Cronbach Alpha.

Table III.5
A commonly accepted rule of thumb for describing internal consistency by using cronbach alpha

Cronbach Alpha	Internal Consistency
α ≥ .9	Excellent
.9 > α ≥ .8	Good
.8 > α ≥ .7	Acceptable
.7 > α ≥ .6	Questionable
.6 > α ≥ .5	Poor
.5 > α	Unacceptable

To obtain the reliability of the test given, the writer used SPSS 20 program to find out whether or not the test was reliable.

Table III. 6
Cronbach Alpha Table
Reliability Statistics

Cronbach's Alpha	N of Items
.841	30

From the table above, it can be seen that the value of Cronbach's alpha is that 0.841. It means that the items are reliable, in which the value of internal consistency is .9> .841 ≥ .8, so the reliability of the test is **Good**.

2. Validity

Creswell states that validity is the individual's scores from an instrument make sense, meaningful, enables you, as the researcher, to draw good conclusions from the sample you are studying to the population (Creswell 2008:169). 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.

To analyze the validity of data, the researcher analyzed by inter item validity used SPSS 20 program. The following table is the criteria of items validity.

Table III. 7
The criteria of items validity

R	Interpretation
$0{,}80 < r \leq 1{,}00$	Very High
$0{,}60 < r \leq 0{,}79$	High
$0{,}40 < r \leq 0{,}59$	Average
$0{,}20 < r \leq 0{,}39$	Low
$0{,}00 < r \leq 0{,}19$	Very Low

Table III. 8
The analysis of try out reading comprehension validity

Item	R	Interpretation of Validity	Status
1	1.00	Very high	Valid
2	0.92	Very high	Valid
3	0.84	Very high	Valid
4	0.92	Very high	Valid
5	0.92	Very high	Valid
6	0.76	High	Valid
7	0.84	Very high	Valid
8	0.69	High	Invalid
9	0.53	Average	Invalid
10	0.38	Low	Invalid
11	0.92	Very high	Valid
12	0.92	Very high	Valid
13	0.07	Very low	Invalid
14	0.92	Very high	Valid
15	0.84	Very high	Valid
16	0.61	High	Invalid
17	0.92	Very high	Valid
18	0.84	Very high	Valid
19	0.07	Very low	Invalid
20	0.76	High	Valid
21	0.76	High	Valid
22	0.38	Low	Invalid

23	0.92	Very high	Valid
24	0.69	High	Invalid
25	0.69	High	Invalid
26	1.00	Very high	Valid
27	0.92	Very high	Valid
28	0.84	Very high	Valid
29	0.92	Very high	Valid
30	0.92	Very high	Valid

Based on the tryout result of the test instrument validity of the 30 items, it shows that 21 of the items are valid. It means that the instrument can be used in this research.

III.8. The Research Procedure

1. Procedures of collecting data for experimental group

   There are three procedures were administered to collect the data.

   a. Pre-test

      A pre-test was given to the student before conducting of the teaching and learning process by using Gallery Walk Strategy. It is used to measure the students' reading comprehension and writing ability by using written test.

   b. Treatment by using Gallery Walk Strategy

      In the treatment, the students were taught by using Gallery Walk Strategy. The teacher taught and explained the narrative text by using the procedure of Gallery Walk Strategy with the procedure: pre activities, whilst activities and past activities.

c. Post-test

A post-test was conducted for the students of the experimental group after applying the treatment by using Gallery Walk Strategy. The result of the post-test was compared with the pre-test result in order to determine the effect of the Gallery Walk Strategy on the students' reading comprehension and writing ability after conducting 8 meetings of the Gallery Walk Strategy.

2. Procedures of collecting data for control group

a. Pre-test

A pre-test was administered to the students of the control group before they were taught by using conventional strategy. The pre-test was given to the students of the control group which was similar to those of the experimental group. Pre-test aimed to get homogeneity between both control and experimental groups.

b. Teaching by using non Gallery Walk Strategy

The students were taught reading and writing recount text by using conventional strategies with the same topics and materials that are given to the experimental group.

c. Post-test

A post-test was administered to the student of the control group after being taught for eight meetings by using conventional strategy. The result of the post-test was compared with the pre-test

result in order to compare their reading comprehension and writing ability.

III.9. Technique of Data Analysis

In analyzing the data, the researcher used scores of pre-test and post-test of experimental and control groups. The scoreswereanalyzed statistically for both descriptive and inferential statistics. In this research, the researcher used these following formulas:

1. Independent sample t-test

   To find out whether there is a significant difference or there is no significant difference between two or more variables can be analyzed by using independent sample t-test (Gay: 2000).

   Gay (2000: 484) states that t-test for independent sample is used to determine whether there is probable a significant difference between the means of two independent samples. Independent sample t-test is used to find out the results of the first, second,, fifth, and sixth hypotheses. They are as follows:

   a) To investigate whether there is a significant difference on students' reading comprehension, pre-test between experimental and control groups

   b) To investigate whether there is a significant differencein students' reading comprehension post-test between an experimental and control groups.

c) To investigate whether there is a significant differencein students' writing ability pre-test between anexperimentaland control groups.

d) To investigate whether there is a significant differencein students' writing ability post-test between experimental and control groups.

e) To investigate whether there is a significant difference of improvement on students' writing ability gain mean score between pre and post test in the experimental group and the control group.

In this research, the writer analyzed the data by using SPSS 20.

Ha is accepted if significant probabilities < 0.05 or there is effective after being given the treatment Gallery Walk Strategy on students' reading comprehension and writing ability.

Ho is accepted if significant probabilities > 0.05 or there is no effect after being given the treatment Gallery Walk Strategy on students' reading comprehension and writing ability.

3. Paired sample t-test

The researcher used this formula to obtain the result of the third, sixth, and seventh and eighth hypotheses. They are followed:

a) To investigate the difference between students' reading comprehension, pre-test and students' reading comprehension post-test in the experiment group

b) To investigate the difference between students' reading comprehension, pre-test and students' reading comprehension post-test in the control group

c) To investigate the difference between writing ability pre-test and writing ability post-test in the experiment group

d) To investigate the difference between writing ability pre-test and writing ability post-test in the control group.

L.R gay states that t-test for paired sample is used to compare groups that are formed by some types of matching or to compare a single group's performance on a pre and posttest or on two different treatments. (L.R Gay, 2000: 488).

Paired sample T-test was used in order to find out (a) the difference of scores between pretest and posttest of the experimental group, and (b) the difference in scores between pretest and posttest of the control group. In this research, the writer will analyze the data by using SPSS 20.

Ha is accepted if significant probabilities < 0.05 or there is effective after giving the treatment Gallery Walk Strategy on students' reading comprehension and writing ability.

Ho is accepted if significant probabilities > 0.05 or there is no effect after giving the treatment Gallery Walk Strategy on students' reading comprehension and writing ability.

Afterward, it is better to find the effect size of T-test by following a formula:

$$\tilde{\eta}^2 = \frac{t^2}{t^2 + n - 1}$$

eta squared = $\tilde{\eta}^2$ x 100%

Where:

eta squared   :   Coefficient effect

$\tilde{\eta}^2$:   Coefficient