CHAPTER III

RESEARCH METHODOLOGY

III.1 Design of the Research

This research was a quasi-experimental research. According to L.R Gay (200:364), the quasi-experimental design involves selecting two groups or more differing on some independent variables and comparing them to some dependent variables. The groups may differ in a number ways. One group may possess a characteristic that the other does not, one group may possess more of a characteristic than the other, or the two groups may have had a different kind of experiences. Gay (2000:367) states that experimental research is the only type of research that can test hypothesis to establish cause-and-effect relationships. Creswell (2008:299) states that, this research is used when the writer wants to establish possible cause and effect between the independent and dependent variables. The design of this research was quasi-experimental research. Gay (2000:394) states that quasi-experimental design is used when the research keeps students in existing classroom intact and entire classroom are assigned to treatments. In this research, the researcher decided the independent variables as variables X1; that is, Role, Audience, Format, Topic (RAFT) Strategy and Planning, Organizing, Writing, Editing, Revising (POWER) Strategy as X2, while the students' writing ability is dependent variable. Therefore, the experimental classeswere provided with a pre-test, a treatment and a post-test as presented in the following table:

Table III.1 Research Design

Group	Independent Variable	Dependent Variable
E1	X1	Y
E2	X2	Y

Figure (Gay, 2000: 353)

Note:

E1   : Experimental Group 1

E2   : Experimental Group 2

X1   : Independent Variable 1 (RAFT Strategy)

X2   : Independent Variable 2 (POWER Strategy)

Y   : Dependent Variable (Students' Writing Ability)

Based on the diagram above, Gay (2000:354) states that definition and selection of comparison group are very important parts of the quasi experimental design procedure. The independent variable which differentiates the groups must be clearly and operationally defined since each group represents a different population. The way in which the group was defined affect the generalizee ability of the results.

III.2 Location and Time of the Research

The research was conducted at SMPN 1 Bangkinang. It is located on Bodi Kelurahan Pulau Street, Bangkinang District, Kampar regency from July to August 2017.

III.3 Subject and Object of the Research

The subject of the research was the eighth grade students' at SMPN 1 Bangkinang, and the object of this study was comparison between students' using Role, Audience, Format, Topic (RAFT) and Planning, Organizing, Writing, Editing, Revising (POWER) strategy toward students' writing ability.

III.4 The Population and the Sample

III.4.1 Population

The population of this research was the eighth grade students at SMPN 1 Bangkinang. The total number of the population was 150. The target population was the eighth grade which consisted of 5 classes. Based on the population of this research, the sample was selected by using cluster sampling. According to (Gay and Airasian, 2000), cluster sampling randomly selects groups not individuals. All the members of selected groups have similar characteristics, and two classes are chosen by using cluster sampling in this research.

Table III.2.Population of the Eighth Grade Students of SMP N 1 Bangkinang

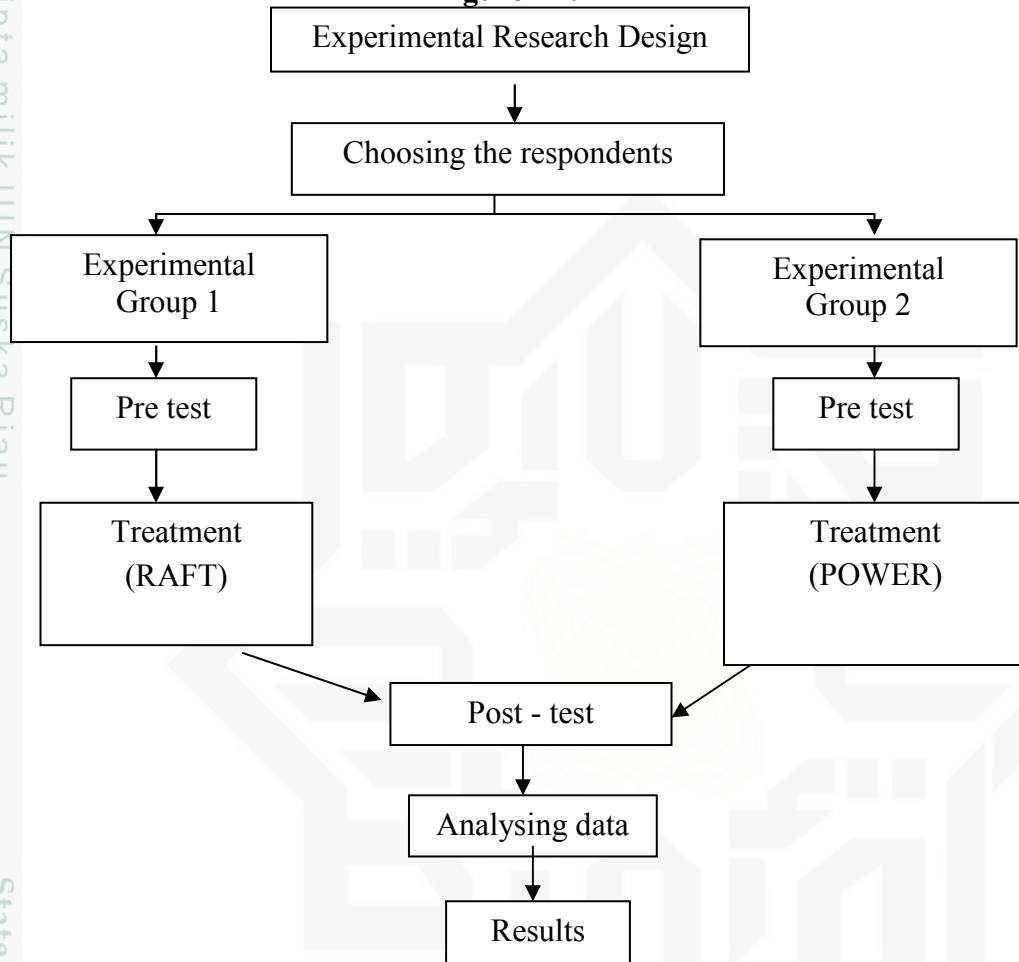| Class	Total of Students
VIII/A	30
VIII/B	30
VIII/C	30
VIII/D	30
VIII/E	30
Total Population	**150**

III.4.2 Sample

Best (1981:130) asserts that a sample is a small proportiona of population selected for observation and analysis. Additionally, Kerlinger (1965:118) states that a sample is a part of population, which is supposed to represent the characteristics of the population.The method used to select the sample of this study was cluster sampling. Gay (2000:129) states that cluster sampling randomly selects groups, not individuals. All the members of selected groups had similar characteristics. The homogenous characteristics were the consideration. Because all classes were homogenous classes, the sample was select randomly, VIII A as the experimental class 1, VIII D as the experimental class 2. Two classes were taken as the sample as follows:

Table III.3.Sample of the research

Class	Population		Total	Sample
	Male	Female		
Group 1 / VIII A	14	16	30	Experimental Class 1
Group 2/ VIII D	18	12	30	Experimental Class 2
Total of Samples	32	28	60	

III.5 Research Procedure

Figure III.1

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                    ┌─────────────────────────────────┐
                    │ Experimental Research Design    │
                    └─────────────────────────────────┘
                                     │
                    ┌─────────────────────────────────┐
                    │ Choosing the respondents        │
                    └─────────────────────────────────┘
              ┌──────────────────┴──────────────────┐
    ┌──────────────────┐                  ┌──────────────────┐
    │ Experimental     │                  │ Experimental     │
    │ Group 1          │                  │ Group 2          │
    └──────────────────┘                  └──────────────────┘
              │                                     │
        ┌───────────┐                         ┌───────────┐
        │ Pre test  │                         │ Pre test  │
        └───────────┘                         └───────────┘
              │                                     │
        ┌───────────┐                         ┌───────────┐
        │ Treatment │                         │ Treatment │
        │ (RAFT)    │                         │ (POWER)   │
        └───────────┘                         └───────────┘
                 └──────────┐      ┌──────────┘
                        ┌───────────────┐
                        │ Post - test   │
                        └───────────────┘
                                │
                        ┌───────────────┐
                        │ Analysing data│
                        └───────────────┘
                                │
                        ┌───────────────┐
                        │ Results       │
                        └───────────────┘
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Some procedures needed to be passed through in this research. First of all, a pre-test was administered to both experimental classes. It was conducted to see whether or not the all groups were homogenous. Afterward, the experimental class 1 was taught by using RAFT Strategy and the experimental class 2 was taught by using POWER Strategy. Each of the class was taught for four meetings or eight-hours class.

III.6 Research Instruments

To collect the data, a writing test was administered as the instrument of this study. A pre-test and a post- test were administered to three classes which consists of VIII/A, VIII/D. The pre-test was administered before the treatment and the post-test aimed at finding out the students' writing ability after treatment. In the treatments was given by teaching with Role, Audience, Format, Topic (RAFT) and Planning, Organizing, Writing, Editing, Revising (POWER) Strategy. This activity was also intends to find out whether the students' could observed the materials after the treatment.

The classification of the students' scores shown based on Suharsimi (2007:245) as follows:

Table III.4

Classification Scores

Score	Categories
80-100	Very Good
66-79	Good
56-65	Fairly Good
40-55	Poor
0-39	Very Poor

III.7 Data Collection Technique

In this research, the data was collected by making observation and administering test. The tests were taken from the students' textbook and internet materials.In order to get the data to support this study, the following techniques were used:

1. Observation

   The observation was used to observe directly the students used RAFT and POWER strategies in writing ability in descriptive text and to observe the influence of RAFT and POWER strategy toward the students' ability in writing abilityof descriptive text. In observation technique the researcher had a list of observation items to be observed in the class during teaching and learning process by using RAFT and POWER strategy.

2. Test

   To find out the comparison of using RAFT and POWER and the writing ability of the eight grade students' of SMP N 1 Bangkinang, the researcher administered the test to assess students' English ability, especially in descriptive text. The test was administered into two stages. The first was a pretest done before being given the treatment. The second was a post-test done after being given the treatment. The researcher measured the total score from the result of the students' English writing ability test. If the students were able to achieve to goal, this means that assessment of students' ability needed to be correlated with

purposes of achievement. Hughes (2003), there are many techniques that can be assessed to the students' English writing ability, but in this case, it uses written test.

III.8 Data Analysis Technique

To analyze the data about the significant difference of the students' writing ability in descriptive paragraph between they who were being taught by using RAFT strategy and taught by using POWER strategy at eighth grade at SMPN 1 Bangkinang, the data were analyzed statistically.

The writer used Independent sample t-test and paired sample t-test.

1. **Independent sample t-test**

To find out whether there was significant difference or there was no significant difference between two or more variables can be analyse by using Independent Sample t_{test}. Gay added that the t-test for independent sample was use to determine whether there was probably a significant difference between the mean of two independent samples. Independent sample t-test was used to find out the results of the first and second hypotheses. They are as follow:

1. To find out a significant difference of students writing ability before giving the treatment by using Role, Audience, Format, Topic (RAFT) and Planning, Organizing, Writing, Editing, Revising (POWER) Strategy for experimental class.

2. To find out a significant difference of writing ability after giving the treatment by using Role, Audience, Format, Topic (RAFT) and Planning,

Organizing, Writing, Editing, Revising (POWER) Strategy for experimental class.

To analyze the final-test scores of experimental group, the following formula is used:

$$t = \frac{M_X - M_Y}{\sqrt{\dfrac{(SD_X)^2}{N_1 - 1} - \dfrac{(SD_Y)^2}{N_2 - 1}}}$$

Where:

t	=	The value of comparing two means
M_x	=	Mean of the score in pre-test
M_y	=	Mean of the score in post-test
SD_x	=	Standard deviation of experimental group
SD_y	=	Standard deviation of control group
N_1	=	Number of the sample in pre-test
N_2	=	Number of the sample in post-test
1	=	The constant number

The t-table has the function to see if there was a significant difference among the mean of the score of both experimental. The t-obtained value is consult with the value of t-table at the degree of freedom (df) = (N1+N2)-2 which is hypothesized

Ha: to > t-table

Ho: to < t-table

Ha was accept if to > t-table or there was effect after giving the treatment Role, Audience, Format, Topic (RAFT) and Planning, Organizing, Writing, Editing, Revising (POWER) on students' writing ability.

Ho was accept if to< t-table or there was no effect after giving the treatment Role, Audience, Format, Topic (RAFT) and Planning, Organizing, Writing, Editing, Revising (POWER) Strategy on students' writing ability.

2. Paired Sample T-Test

Non-independent sample t- t_{test} was known also as Paired-Sample t_{test}. The researcher uses this formula to obtain the result of the seventh, eleventh and fourth hypothesis that was to find out whether there was significant effect of using Role, Audience, Format, Topic (RAFT) and Planning, Organizing, Writing, Editing, Revising (POWER) and conventional teaching technique on students' writing ability at the eighth grade students of SMPN 1 Bangkinang. L.R Gay states that t-test for non-independent sample was used to compare groups that are formed by some types of matching or to compare a single group's performance on a pre-test and post-test or on two different treatments. (L.R Gay, 2000: 488).

Pre-test and post-test scores were used in the experimental class in order to find the significant effect of using Role, Audience, Format, Topic (RAFT) and Planning, Organizing, Writing, Editing, Revising (POWER) Strategy on students' writing ability of the eighth grade students at SMPN 1 Bangkinang. To obtain the data, SPSS 20 was used.

The formula of paired-sample t_{test}:

$$t = \frac{\overline{D}}{\sqrt{\frac{\sum D^2 - \frac{(\sum D)^2}{N}}{N(N-1)}}} \qquad D \text{ : Gain Score (D=X2-X1)}$$

The t-table has the function to see if there was a significant improvement among the mean of the score of both pretest and posttest. The t-obtained value was consulted with the value of t-table at the degree of freedom (df) = N-1 which was statistically hypothesis:

Ha: to > t-table

Ho: to < t-table

Ha was accepted if to > t-table or there was significant effect after giving the treatment Role, Audience, Format, Topic (RAFT) and Planning, Organizing, Writing, Editing, Revising (POWER) Strategy toward students' writing ability at the eighth grade students at SMPN 1 Bangkinang

Ho was accepted if to< t-table or there was no significant effect after giving treatment Role, Audience, Format, Topic (RAFT) and Planning, Organizing, Writing, Editing, Revising (POWER) Strategy toward students' writing ability at the eighth grade students at SMPN 1 Bangkinang

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