

CHAPTER III

RESEARCH METHOD

In this chapter the researcher discuss about research design, subject of the study, research instrument, validity and reliability testing, normality and homogeneity testing, data collecting method, and data analysis.

A. Research Design

To conduct this study the researcher use quantitative research approach. Quantitative approach is a methodology of research that studying phenomena by collecting quantitative data in form of numerical data, and then analyzed them statistically. Perry stated on his book that quantitative mainly comes from psychology field and emphasis by statistics to make generalization from samples to populations. (2005:75).

For research design, the researcher use Pre-Experimental Design. Research design here is set of plan of study that uses to answer the research problem or test the hypothesis. According to Perry, research design is the overall structural designs used include the variables, technique, treatment, and others. And the purpose in the study to answer the research question (s). Here Pre-Experimental Design is used to investigate the cause change effect of a treatment that is given to student in writing hortatory text. The treatment here is by applying RAFT strategy. The researcher use single group (one class) in two different tests they are pre-test and post test. Post-test is used to know the result of treatment.

Research here concern on the effectiveness of using RAFT strategy toward students' achievement in writing hortatory exposition text. There are RAFT strategy as independent variable and students' achievement as dependent variable. Independent variable is variable that gives influence or affecting another variable, whereas dependent variable is variable that being affected. The researcher use single group in different treatment, before use RAFT strategy as pre-test and after treat by RAFT strategy as post test. There is pre-test and post test, to investigate the effectiveness of RAFT strategy in writing hortatory exposition text. The design of this research can be summarized as follows:

Table 3.1 The illustration of research design

Pre-Test	Treatment	Post-Test
Y ₁ (DV)	X (IV)	Y ₂ (DV)

X : RAFT strategy (Independent Variable)

Y₁ : Students' achievement on writing hortatory exposition text before taught by using RAFT strategy (Dependent Variable)

Y₂ : Students' achievement on writing hortatory exposition text after taught by using RAFT strategy (Dependent Variable)

B. Subject of the study

1. Population

The population means the whole subject as the target of study. The population in this study is the second grade students of science class of Madrasah Aliyah As-Salam

Jambewangi in academic year 2015/2016. The second grade of this school consist of three classes they are XI IPA, XI IPS 1, XI IPS 2 with total students are 61 students. The population is drawn as below.

Table 3.2 Table of population

No	Class	Gender	
		Male	Female
1	XI IPA	8 students	14 students
2	XI IPS 1	5 students	16 students
3	XI IPS 2	5 students	13 students
Total Students		61 students	

2. Sample

Sample is a part of population that is being studied. Perry (2005:55) stated that a sample is subjects or objects as the source from which data are drawn to answer the research question(s) and/ or test any hypothesis that might be made.

To choose the participants of study the researcher use purposive sampling technique. According to Perry (2005:57) purposeful sampling strategy is used to indicate that the sample is chosen to answer the research question as relevant as possible. Based on the objective of the research, the researcher uses purposive sampling technique. It used to get more specific data. To get specific data the sample should has good qualification. And the XI IPA class has this criterion. In addition, the teacher gave suggestion to choose this class because the time to conduct the research is limited. The teacher suggested conducting in XI IPA because the class is more cooperative than other class. Then the characteristic of student

is homogeneous in writing, not too good and not too bad in one side in English, it proved by their score as recorded by the teacher.

Table 3.3 Table of sample

Sample of XI IPA		Total Participants
Male	Female	
8 students	14 students	22 students

C. Research Instrument

Research instrument refers to the instrument or tool to obtain the data. Instrument is used by the researcher is writing test. Test here used to measure students' achievement in writing hortatory exposition text before and after being taught by RAFT strategy. Students face two kind of test they are:

1. Pre-Test

Pre-test is given to the students to know their achievements in writing hortatory exposition text before they treat by RAFT strategy. Pre-test is done on Thursday, 4 March, 2016. For pre-test the researcher give the students hortatory exposition prompt. Students are asked to make an essay about hortatory exposition text based on the instruction (prompt). To analyze the pre-test result, the researcher oriented on writing scoring rubric.

2. Post-test

Post-test is a test that given to the students after they being taught by RAFT strategy. The purpose of post-test is to know students' achievement after they treat by RAFT strategy.

Post-test is done on Saturday, 12 March, 2016. In post-test students are asked to make a hortatory exposition text. Then their task result is processed by using writing scoring rubric and. The result of post-test will be compared by pre-test so that the researcher knows the result of RAFT strategy for writing hortatory exposition text.

Table 3.4 Analytical writing scoring rubric

Traits	(1)	(2)	(3)	(4)
Organisation	There is no clear introduction, structure, or conclusion.	The introduction includes the main goal or thesis. Most information is presented in a logical order. A conclusion is included, but it does not clearly state a personal opinion.	The introduction includes the goal or thesis and provides an overview of the issue. Information is presented in a logical order but does not always maintain the interest of the audience. A conclusion states a personal opinion.	The introduction is inviting, states the goal or thesis, and provides an overview of the issue. Information is presented in a logical order and maintains the interest of the audience. The conclusion strongly states a personal opinion.
Thesis	The personal opinion is not easily understood. There is little or no reference to the issue.	A personal opinion is not clearly stated. There is little reference to the issue.	There is one thesis that states a personal opinion and identifies the issue.	There is one thesis that strongly and clearly states a personal opinion and identifies the issue.
Argument / Supporting Details	One reason are made but with weak arguments.	Two reasons are made but with weak arguments.	Three or more reasons are stated, but the arguments are somewhat weak in places.	Three or more excellent reasons are stated with good support. It is evident that a lot of

				thought and research was put into this assignment.
Audience Intended	Argument does not seem to target any particular audience.	Argument demonstrates some understanding of the potential audience.	Argument demonstrates a clear understanding of the potential audience.	Argument demonstrates a clear understanding of the potential audience and anticipates counterarguments.
Vocabulary	Word choice is limited.	There is evidence of attention to word choice.	Word choice enhances the argument	Word choice is creative and enhances the argument.
Cohesion	The text contains few, if any, words, phrases, and clauses to link the major sections of the text. The text does not connect the claims and reasons.	The text contains limited words, phrases, and clauses to link the major sections of the text. The text attempts to connect the claim and reasons.	The text uses words, phrases, and clauses as well as varied syntax to link the major sections of the text. The text connects the claim and reasons. The text links the Counterclaims to the claim.	The text strategically uses words, phrases, and clauses as well as varied syntax to link the major sections of the text. The text explains the relationships between the claim and reasons as well as the evidence. The text strategically links the counterclaims to the claim.
Convention	There are numerous errors in grammar, mechanics, and/or spelling.	There are several errors in grammar, mechanics, and/or spelling.	There are few errors in grammar, mechanics, and/or spelling, but they do not interfere with understanding	There are no errors in grammar, mechanics, and/or spelling.

Table 3.5 Standard performance

25-28	= Excellent
20-24	= Good
15-19	= Average
10-14	= Poor
0-9	= Very Poor

D. Validity and Reliability Testing

An instrument should be has good quality and accurate to applied in the research. To make the instrument good and accurate the researcher considered about the standardized test. There are some aspect to be a standardized test; validity and the reliability of the test itself.

1. Validity

Validity is the accuracy of an instrument to measure what to be measure. It means that the test can measure students' achievement in writing hortatory exposition text accurately. Sárosdy (2006:133)A test is said to be valid to the extent that is measures what it is supposed to measure, if the test is not valid for the purpose for which it was designed, the scores do not mean what they are supposed to mean.

In this case, the researcher use test as instrument. The test has validation from the expert from some aspects they are from the content, construct validity and face validity.

a. Content Validity

Content validity means that the content of the test represent all aspects being tested. According to Perry (2005:141) an instrument meet the content validity is determined by how well its contents align with the treatment objectives by matching various components of the measurement procedure with the treatment objectives. To make sure the test is valid from

content aspect, the researcher oriented on curriculum, syllabus and lesson plan. The content validity of the test drawn as below:

Table 3.6 Content validity

Standard Competence	Reveal meaning of text monolog or written essay in form of hortatory exposition accurately, fluent and acceptable in daily context and access knowledge	
Basic Competence	Reveal meaning of text monolog or essay that use various written language accurately, fluent, and acceptable in form of hortatory exposition	
Indicator	Students are able to write monolog or essay in form of hortatory exposition	
Testing Objective	To measure student achievement in writing hortatory text	
Test Item	Essay	Essay

b. Construct validity

The instrument up to standard of construct validity if the test is appropriate with the construct aspect or components of the instrument is being tested. The instrument measure certain achievement will be measured. Perry said on his book (2005:138) that construct validity means a global concept that cover all the facets validity. Construct validity determine by the degree to which the procedures corresponds to the definition of trait. The instrument is called valid from the construct based on the testing objective and the test item. Testing objective here is to test students' ability in make hortatory exposition, so the researcher gives an instrument in form of essay. To calculate the students' result the

researcher use analytical scoring rubric that include by five aspect of writing and RAFT strategy evaluation. They are accuracy, perspective (role), focus (topic), use of class time and convention (writing mechanism).

c. Face Validity

Face validity is measure the validity instrument from the surface of the instrument itself. Perry explain on his book (2005:141) that face validity is whether a measurement procedures appears to measure what it is supposed to measure. The instrument is called valid from the face based on the aspect below:

- 1) The instruction is clear and not contains ambiguity for student.
- 2) The test of essay is based on the current issue, and related with the hortatory exposition.

2. Reliability

The second aspect of good instrument is reliability. An instrument should be reliable means that the results of two occasion treatment have similar result. In this study, the test called reliable if the result score of pre-test and post test is similar, consistent and dependable the differences result is not too far. On his book 92005:143), Perry said reliability is consistency of the data result. We can't have a valid instrument that is not reliable. If a measurement procedure has low reliability, its validity will be low.

The researcher had been tried out the instrument first before administering the test. The purpose is to know the reliability of the instrument. The researcher use inter-rater reliability, where two raters do scoring in one test. The one rater is the researcher itself and the other one is English teacher from SMKI As-Salam Jambewangi. Then, The score is processed by SPSS 16.0 version by using Cronbach's Alpha model. The result can be seen below:

Table 3.7 Reliability statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
.946	2

From the table above, the value of reliability coefficient is 0,946. Hence, the instrument is valid because it closes to 1.00. Perry (2005:130) explain a coefficient of 1.00 indicate that there is perfect reliability or consistency.

E. Normality and Homogeneity Testing

1. Normality Testing

Normality test is a test to measure whether our data has normal distribution or not. Perry said on his book (2005:248) Normal distribution is a symmetrical, bell-shaped distribution of data that has specific properties and is used as a reference point for comparing the shapes of data distribution.

A test is called normal if the result indicate that few numbers of participants are at the right and left tails and most of participants are in the middle. It shows the symmetrical and one cluster of the data in the middle. To investigate the normality testing, the researcher use *Kolmogorov-Smirnov* test by using SPSS 16.0 program.

a. Testing data of pre-test

Table 3.8 One sample kolmogrov-sminorv pre-test

One-Sample Kolmogorov-Smirnov Test		
		VAR00001
N		21
Normal Parameters ^a	Mean	65.9048
	Std. Deviation	9.74631
Most Extreme Differences	Absolute	.204
	Positive	.099
	Negative	-.204
Kolmogorov-Smirnov Z		.936
Asymp. Sig. (2-tailed)		.346

a. Test distribution is Normal.

b. Testing data of post-test

Table 3.8 One sample kolmogrov-sminorv post-test

One-Sample Kolmogorov-Smirnov Test		
		VAR00002
N		21
Normal Parameters ^a	Mean	71.8095
	Std. Deviation	6.83827
Most Extreme Differences	Absolute	.178

	Positive	.136
	Negative	-.178
Kolmogorov-Smirnov Z		.815
Asymp. Sig. (2-tailed)		.520

a. Test distribution is Normal.

Based on the SPSS result above there is known the significant value of pre-test is 0.346 and post test is 0.520. Both of those significant value are bigger than 0.05. In testing the hypotheses, the data is in normal distribution if H_0 is not rejected. H_0 is not rejected if the significance value is higher than 0.05. On the contrary, if the significance value less than 0.05 the H_0 is rejected. The hypotheses are below:

H_0 : Data is Normal Distribution

H_1 : Data is not in formal distribution

From the analysis above, the significance are known higher than 0.05, H_0 is is not rejected and H_1 is rejected and the data is in normal distribution. It can interpret that the data are in normal distribution.

2. Homogeneity Testing

Homogeneity testing is used to investigate whether the data has been obtained is homogeneous or not. The homogeneity testing is obtained from pre-test and pos-test result. If the result both of test are similar the data can call homogeneous, base on the SPSS program the data called homogeneous is the result of significance level show $0,000 < 0,05$. The significant value of data show about 0.074, it means the data are homogeneous. The analysis can be shown below.

Table 3.9 Homogeneity testing

ANOVA					
VAR00002					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	631.238	9	70.138	2.538	.074
Within Groups	304.000	11	27.636		
Total	935.238	20			

F. Data Collecting Method

Data are collection of participants' research information concern with the study. Data help the researcher to answer the research problem. Lodico said on his book (2006:66) that data are any type of information collected for use in educational research or assessment. In this research, the data is conducted by the researcher is numerical data, it is taken from students score in pre-test and post-test.

To obtain the data, the researcher needs data collecting method. Data collecting method explain how the data or information is obtained to fulfill the purpose of the study. The researcher has three steps to obtain the data, they are, pre-test, treatment, and post-test.

At the first, the researcher gives pre-test to know the earlier achievement or achievement of the students in writing hortatory exposition text. The researcher asks them to make an essay about hortatory exposition text by topic Part Time Job. The pre-test is given once and done on Thursday, 3 March 2016. The pre-test shows students' achievement in writing hortatory text.

The second step is treatment. After having pre-test the researcher gave treatments to the student by applying RAFT strategy. The purpose of treatment is to increase students' achievement by applied a strategy. The treatment is done on three meetings. The first treatment on Saturday, 5th March 2016 the researcher introduced the nature of RAFT strategy and gave them some example concern about hortatory text. The second treatment is done on Tuesday 8th March 2016 it was used to train student to make a hortatory exposition text by applying RAFT strategy in a group. The last treatment is given on Thursday, 10th March 2016. Here, the students are asked to make a hortatory exposition by applying RAFT strategy individually. There is procedure of applied RAFT strategy:

1. Introduce what the nature of RAFT strategy
2. Guide the student to choose a topic they want to write. This activity include in pre-writing activity.
3. Choose the writer's role, the student guide to choose their role or their possible position in the written.
4. Determine the object of reader. The object should be connected with the topic.
5. Determine the format, start from the kind, genre and written form.
6. Make a table that consists of role, audience, format and topic columns. Then students collect the information about topic and format they have chosen. The table is use to display what they had chosen before to write.
7. The researcher give the example to write y RAFT strategy
8. The next step was allowed the student to develop their essay. and,
9. The last is sharing and giving feedback about students' assignment.

The last step is post-test, post-test is conducted to investigate and measure student development after being taught by RAFT strategy in writing hortatory exposition text. The researcher prepared the writing prompt like in the post-test with different themes. Post test is done once on Saturday, 12 March 2016.

G. Data Analysis

Method of data analysis is a way to analyze the obtained data. The analysis is used to find the significant difference of the students' ability before and after being taught by RAFT strategy.

The data is in the form of scores, they processed statistically by using SPSS 16.0 program. To prove the null hypothesis is rejected or accepted, the researcher used paired sample of T-Test formula. The data analysis drawn as follow:

1. Formulating the hypothesis, the hypotheses are in the form of Alternative Hypothesis (H_a) and Null Hypothesis (H_0).
2. Determining the value of T_{count} , it can be seen on the output of SPSS analysis.
3. Determining the value of T_{table} . The value of T_{table} can be seen from in significance level $0.05 : 2 = 0.025$ (two tailed test) with degree of freedom (df) is $n-1$.
4. Determining the significance value based on the output of SPSS analysis. In this case, the value of significance should be lower than 5% significance level (<0.05)
5. Determining hypothesis testing. The hypothesis is accepted if $-T_{\text{table}} < T_{\text{count}} < T_{\text{table}}$ and $\text{Sig} > 0.05$. In other hand, the hypothesis is rejected if $-T_{\text{count}} < -T_{\text{table}}$ or $T_{\text{count}} > T_{\text{table}}$ and $\text{Sig} < 0.05$

6. Making conclusion, if Null hypothesis (H_0) is rejected it means there is significance difference of the students' achievement before and after being taught by using RAFT strategy and in contrary.