

CHAPTER III

RESEARCH METHOD

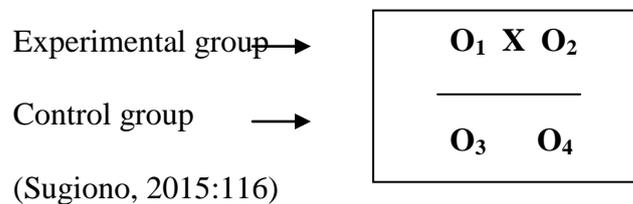
This chapter focuses on methods of the study. They are (a) research design, (b) variable of research, (c) population, sample, and sampling, (d) research instrument, (e) validity and reliability testing, (f) data collecting method, (g) normality and homogeneity testing, and (h) data analysis.

A. Research Design

Approach is a way of considering or doing something. This research belongs to quantitative approach that uses and deals with statistical analyses. Based on Cresswell (2012:15) these analyses consist of breaking down the data into parts to answer the research questions. Statistical procedures such as comparing groups or relating scores for individuals provide information to address the research questions or hypotheses. Then, research designs used to collect, analyze, and interpret data using quantitative research. Research design is all of the process needed in planning conducting a research which has many kinds of types such as experimental, correlation, casual-comparative, survey research and etc. Cresswell (2012:295) states that in an experiment, you test an idea (or practice or procedure) to determine whether it influences an outcome or dependent variable. In experimental research, there three kinds of design those are pre-experimental, quasi-experimental, and true-experimental design.

In this study, the researcher used a quasi experimental design. Creswell (2012:309) stated that “Quasi-experiments include assignment, but not random assignment of participants to groups. This is because the experimenter cannot artificially create groups for the experiment.” This research is conducted with two-groups pre-test and post-test design. The researcher used two intact classes in which one of them was as experimental class and another was as controlled class. Experimental class is class which got treatment or being taught by using Gallery Walk technique and controlled class was not taught by using Gallery Walk technique. Both classes were given a pre-test before teaching-learning activity and post-test which can be described as the following:

Figure 3.1 Pretest-Posttest Control Group Design



In which:

- O_1 = pre-test for the experimental group
- O_2 = post-test for the experimental group
- O_3 = pre-test for the control group
- O_4 = post-test for the control group
- X = treatment using Gallery Walk technique

In this research, the researcher wanted to know the effectiveness of Gallery Walk technique on the students' ability in writing narrative text. The result of pre-test and post-test from both classes were compared and calculated to check if there was significant difference between the students' mean scores taught by using and without using the Gallery Walk technique.

B. Variable

A variable is everything that became object of researcher or the influencing factors that will studied. According to Cresswell (2012:112) a variable is a characteristic or attribute of an individual or an organization that researchers can measure or observe and varies among individuals or organizations. In this study, there are two kinds of variables namely:

1. Independent variable

Independent variable is called causing variable (Arikunto, 2013:162). In this study, the independent variable is Gallery Walk Technique.

2. Dependent variable is affected variable (Arikunto, 2013:162). In this study, the dependent variable is students' ability in writing narrative text.

C. Population, Sample, and Sampling

1. Population

Population is the group of interest to the researcher. Cresswell (2012:142) said that "a population is a group of individuals who have the same characteristic." The population of this research was the tenth grade students of Islamic Senior High School 3 Tulungagung, which consist of

seven classes and each class consist of around 35 students. The total number of population was 251.

2. Sample

Sample is a part of the total number and the characteristic belong to population. According to Cresswell (2012:142) a sample is a subgroup of the target population that the researcher plans to study for generalizing about the target population. The researcher used two classes those were chosen based on the English teacher's recommendation. The total number of the sample was 64 and it was divided into two groups. 32 students were as experimental group and 32 students as control group.

3. Sampling

The sampling technique used by the researcher was purposive sampling. It means that this technique of sampling does not give opportunity for all members in population to be chosen. As revealed by Sugiyono (2015:12), purposive sampling is technique to determine the sample considerately. It was purposive because any consideration such as the researcher wanted average ability of class. They were in normal level, so that is why the researcher was sure that the average class had tendency to develop when they were given a treatment. The researcher took two classes of tenth grade students exactly MIA 1 and MIA 3. MIA 1 class is a controlled group and MIA 3 class as an experimental group.

D. Research Instrument

Instrument is a tool to collect the data. Cresswell (2012:151) suggested that an instrument is a tool for measuring, observing, or documenting quantitative data. Identified before the researchers collect data, the instrument may be a test, questionnaire, tally sheet, log, observational checklist, inventory, or assessment instrument. In this study, the researcher used a test to collect the data. The test was in the form of writing test to see the different result of students' ability in writing narrative text taught by using and without using Gallery Walk technique.

The test consisted of theme, time allotment, and some instructions. The topic for both pre-test and post-test are different to prevent students write same text. The researcher gave time allotment in writing the text to make the students discipline to the time given. Then, there were some instructions to help students in writing narrative text. For the first instruction, the students were asked to write down their name and class on the right of the answer sheet in order to give the students' identity. The second instruction was students should write a narrative text paragraph based on the topic given. In pretest the topic given was about Roro Jonggrang, and in posttest was about Toba Lake. Then, the text must consist at least 3 paragraphs including orientation, complication, and resolution. The next instruction was, the paragraph is written chronologically, using past tenses, and appropriate vocabularies and they should to work individually. Then, to assess students' writing, the researcher set up analytical scoring rubric as created by Jacobs et

a. (1981) in Weigle (2002:116) which included the criteria such as (1) Content, (2) Organization, (3) Vocabulary, (4) Language Use, and (5) Mechanics. The complete form of writing scoring rubric can be seen in the Appendix 1.

In order to make the test valid the researcher asked to two English lecturers to give validation the test. (See Appendix 2 for detailed validation sheet). After the test was valid, the researcher conducted try-out the test to tenth grade of MAN 3 Tulungagung exactly MIA 2 class, and the score was calculated with SPSS 20 to know the reliability of the test. Then, after the test was reliable the researcher conducted pre-test and post-test for the experimental class and control class.

E. Validity and Reliability Testing

As it has been known that in giving tests to the students validity and reliability are required as the measurement of the test.

1. Validity

Validity is the extent to which it measures what it is supposed to measure. Ary (2010:225) said that the focus of recent views of validity is not on the instrument itself but on the interpretation and meaning of the scores derived from the instrument. To obtain the validity of the test the researcher used content and face validity.

a. Content validity

Content validity is related to the ability of the instrument in measuring the content which is supposed to measure. According to Ary (2010:235),

the basic approach to determining content validity is to have teacher or subject matter experts examine the test and judge, whether is it an adequate sample of the content and objective to be measured. It means that the structure or content of the test is relevant with the purpose of the test. Thus, the instrument of this research was designed based on Core Competence - Basic Competence in Curriculum 2013 arranged on blueprint of test, as follows:

Table 3.1 Content Validity Checking

Blueprint of Test		
Skill : Writing		
Material : Narrative Text		
School : Senior High School (10th grade)		
The competence measured:		
<i>4.8 menangkap makna secara kontekstual terkait fungsi sosial, struktur teks, dan unsur kebahasaan teks naratif, lisan dan tulis sederhana terkait legenda rakyat.</i>		
Construct	Dimension	Indicators
Social Function	Narrative writing purpose	Be able to make a writing that can entertain and inform others about stories in writing narrative text.
Structure of Text	Orientation	Be able to write down the time and place of a story takes place. Be able to determine participants, related to what and who is involved in the story.
	Complication	Be able to tell the problems that appear in the story in sequence.
	Resolution	Be able to write the final settlement of the problems that occur within the story.

Language Feature	Grammar	Be able to arrange sentences using past tense correctly.
	Vocabulary	Be able to make sentences using action verb (run, walk, go). Be able to make sentences using verbal verb (say, state). Be able to make sentences using mental verb (think, feel, now).
	Chronological order	Be able to arrange good paragraphs using appropriate conjunctive words. Be able to write good paragraphs using the right timing.

b. Face validity

Face validity refers to appearance and form of the instrument. In this case, the researcher used instrument of test as follows:

Table 3.2 Face Validity Checking

<p>Theme : Indonesian Legend</p> <p>Time Allotment : 60 minutes</p> <p><u>INSTRUCTIONS:</u></p> <ol style="list-style-type: none"> 1. Write your name and class on the right top of the paper! 2. Make a narrative text about the story of Roro Jonggrang! 3. Your writing should consist at least 3 paragraphs. 4. The paragraph is written chronologically, using the past tense and appropriate vocabularies. 5. Work individually! <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
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There are some aspects in making good test. First, the instruction must be clear for the students, so they are able to understand what they should do in the test. Secondly, the theme or the topic that the researcher gave must be suitable with their level. Then, in this test, the students of tenth grade were instructed to do the subjective test (related with writing narrative text). The last, the consideration of time allocation must be suitable so that the students are able to suppose finishing the task before the time was up.

The instrument above could be said that it showed a good test, because it consisted all of the aspects of good test criteria. The instruction was clear for the students, the theme was suitable with them as the tenth grade students, and the time allocations was suitable for them to complete the test. In addition, the instrument was consisted of some instructions related to the derivative of blueprint, because it developed from the blueprint of test itself, thus the instrument had face validity.

2. Reliability

Reliability and validity are bound together in complex ways. As revealed by Cresswell (2012:159) that reliability means that scores from an instrument are stable and consistent. Scores should be nearly the same when researchers administer the instrument at different times. The researcher conducted try out to have the test reliable.

Table 3.3 List Scores of Try Out

Respondent	Rater 1	Rater 2
R1	78	80
R2	74	78
R3	70	76
R4	67	72
R5	68	72
R6	76	72
R7	69	75
R8	69	76
R9	72	77
R10	68	74
R11	68	74
R12	70	75
R13	72	75
R14	67	73
R15	68	73
R16	66	72
R17	64	68
R18	65	68
R19	71	69
R20	65	70
R21	65	68
R22	63	68
R23	68	63
R24	64	61
R25	70	65
R26	68	62
R27	72	67
R28	68	72
R29	67	62
R30	57	62
R31	56	62
R32	48	53

In order to attain the reliability of the test, the researcher used Pearson Correlations to check the reliability of the test. The score corrected by two raters to get the correlation between them.

The result of reliability checking was:

Table 3.4 Reliability Checking

		Correlations	
		Rater 1	Rater 2
Rater 1	Pearson Correlation	1	.745**
	Sig. (2-tailed)		.000
	N	32	32
Rater 2	Pearson Correlation	.745**	1
	Sig. (2-tailed)	.000	
	N	32	32

** . Correlation is significant at the 0.01 level (2-tailed).

Choyimah (2014:63) stated that perfect correlation, either positive or negative one, is respectively denoted with +1 or -1. Thus, the closer to 1, the stronger the correlation is, and the closer to 0, the weaker the correlation is. If it closer to +1, it has strong positive correlation. In contrary, if it closer to -1, it has strong negative correlation. Referring to table 3.4, it can be seen that the result of Pearson Correlation is 0.745. It means that the result of statistical correlation either from tryouts' score corrected by two raters indicated the strong respectively positive correlation. So, it could be concluded that the instrument was reliable.

F. Data Collecting Method

In collecting data, the researcher took the students' scores in writing narrative text through pre-test and post-test. The following are the steps in collecting the data in this study:

1. Pre-test

Pre-test was undertaken for the first step in a form of writing test. As revealed by Cresswell (2012:297) that a pretest provides a measure on some attribute or characteristic that you assess for participants in an experiment before they receive a treatment. It was given before the students were given the treatment. Pre-test was administrated to both the experimental and control classes in the same way. The aim of the pre-test was to know the basic or prior knowledge and students' skill in writing narrative text. Pretest was conducted on February, 12th 2018.

2. Post-test

A posttest is a measurement on some attribute or characteristic that is assessed for participants in an experiment after a treatment. Cresswell (2012:297). Posttest was in the same form like pre-test but in different topic. Topic about Roro Jonggrang was used in pretest and topic about Toba Lake was used in posttest. The aim of the post-test was to measure the students' skill in writing narrative text after they got the treatment. Posttest was conducted on March, 12th 2018.

G. Normality and Homogeneity Testing

1. Normality

Normality testing is needed to find out whether the data is in normal distribution or not. Choyimah (2014:24) stated that the normality of data is important because the data can be considered to represent the population when it is in normal distribution. Thus, the researcher used Kolmogrove-Smirnov method to test normality of data in pretest and posttest both of control group and experimental group using SPSS 20.0 as follows:

Table 3.5 Control Group Normality Testing

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Pretest	.116	32	.200*	.976	32	.674
Posttest	.110	32	.200*	.951	32	.156

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 3.6 Experimental Group Normality Testing

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Pretest	.088	32	.200*	.971	32	.536
Posttest	.110	32	.200*	.961	32	.298

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The hypotheses for testing normality are:

- a. H_0 : Data is normal distribution
- b. H_a : Data is not normal distribution

The hypotheses for normality testing explain that the data is normal distribution if H_0 is accepted and the data is not in normal distribution if H_a is accepted. The H_0 is accepted when the significance value is higher than 0.05 ($\alpha = 5\%$), while H_0 is rejected when the significance value is lower than 0.05 ($\alpha = 5\%$).

Based on the output of Kolmogorov-Smirnov test in SPSS 20 at table 3.5 and table 3.6 above were known that the significance value both of pretest and posttest was 0.2. As stated previously, means that H_0 was accepted and H_a was rejected because the significance value was higher than 0.05 ($0.2 > 0.05$). From the interpretation above, it could be concluded that the instrument in this research were in normal distribution.

2. Homogeneity

The result of homogeneity of pretest and posttest Control-Experimental group was:

Table 3.7 Pretest Control-Experimental Group Homogeneity Testing

Test of Homogeneity of Variances

Pretest

Levene Statistic	df1	df2	Sig.
.577	1	62	.450

Table 3.8 Posttest Control-Experimental Group Homogeneity Testing

Test of Homogeneity of Variances

Posttest

Levene Statistic	df1	df2	Sig.
.534	1	62	.468

Based on the output from table 3.7 and 3.8 above there were known that the significance value from both pretest and posttest control-experimental group were 0.450 and 0.468. Those values were higher than 0.05 ($\alpha = 5\%$). It means that H_0 was accepted or the instrument was homogeneous.

H. Data Analysis

Data analysis is the process to identify the data that related with the research. The first step in analyzing is organizing the data. In collecting the data on an instrument or a checklist, the researcher need some system for scoring the data. Cresswell (2012:175) stated that scoring data means that the researcher assigns a numeric score (or value) to each response category for each question on the instruments used to collect data. In this research, the data was collected from students' pretest and posttest. After the data of pretest and post-test were collected, the scores of the data were analyzed by using statistical instrument (SPSS) especially using *Two Samples Independent T-Test* at SPSS 20.0 to know the effectiveness of the variable.