

CHAPTER III

RESEARCH METHODOLOGY

In this chapter, the researcher showed how this research is conducted with the subject of research. It consists of research design, population and sample, research variables, research instrument, technique of data collection and technique of data analysis.

3.1 Research Design

This research used Mixed Method design. According to Ary (2010:559) stated that Mixed methods research combines quantitative and qualitative research methods in different ways, with each approach adding something to the understanding of the phenomenon. It was same as Creswell (2002:535) argued that you conduct a mixed method study when you have both quantitative and qualitative data and both types of data, together, provide a better understanding of your research problem than either type by itself. This research used mix method design related with the data of this research. This research consists of two kinds of data. The first one was quantitative data, that after collected it, the data will be calculate by using SPSS 20 and Microsoft Excel 2010. Beside it, the second data was qualitative data and after collected it, the data will be analyzed and described. Then, Research design is the specific procedures to explain for each step in the process such as: data collection, data analysis and report writing Cresswell (2002:20). The design used of this research is Explanatory Sequential Design. The Mixed Method Sequential Explanatory Model is illustrated in figure 3.1 That illustrate the application of this model.

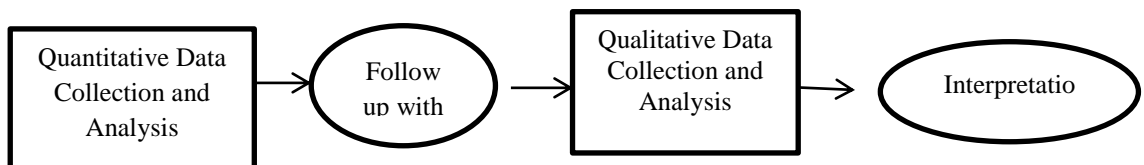


Figure 3.1 Explanatory Sequential Design Model

The illustrate figure above, Explanatory Sequential design use Quantitative then follow up with qualitative data collection which fuction to help in explaining, and interpreting the findings of quantitative research. However, the design conducted in 2 collecting data which is the most priority for the research is quantitative. It supported by Cresswell (2002:542) Explanatory Sequential Mixed Method Design also called (two-phases model), consist of first collecting quantitative data then qualitative data to help explain or elaborate on the quantitative results. The researcher used Explanatory Sequential design to measure and explore the Effectiveness of Proverb in increasing students' writing ability of writing argumentative text by using quantitative data collection then follow up with qualitative data collection. It can seen from the figure below:

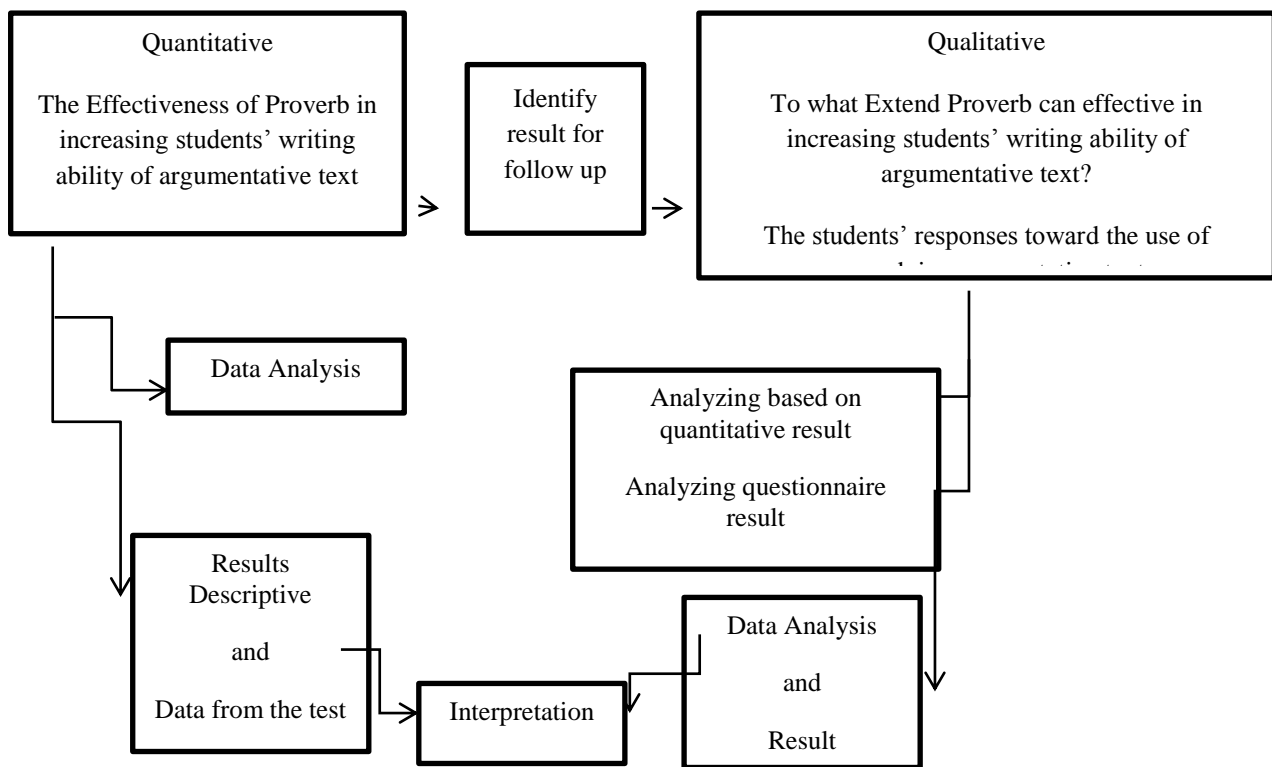


Figure 3.2 Mixed Method Sequential Explanatory to Measure and Explore The Effectiveness of Proverb in Increasing Students' Writing Ability of Argumentative text

Based on figure 3.2 above, this design is called a two-phase model, here in the first phase the researcher collecting quantitative data and then second phase the researcher collecting qualitative data to help explain, elaborate and strengthen the result.

First phase, the researcher use quantitative to collecting the data to know The Effectiveness of proverb in increasing students' writing ability of writing argumentative text, the researcher use SPSS version 20,0 and Microsoft Excel 2010 for collecting the data has taken from the test, then give the result and analysis from the test. Then, identify the result and follow up with qualitative data as a second phase. The researcher use scoring rubric paragraph and questionnaire to collect and identify the data.

This research is included in quasi experiments. Creswell (2002:309) claimed that quasi experiments include assignment, but not random assignment of participants to groups. In this study, the researcher chooses Barunawati Senior High School as the sample. In this school, for eleventh grade there are seven classes namely XI A-1, XI A-2, XI A-3, XI A-4, XI A-5, XI S-1 and XI S-2. According to the advice from Barunawati English's teacher, the researcher should choose XI A-2 as the control group and XI A-3 as experimental group. This case is caused have same ability in English. The researcher uses pretest and posttest for two groups. The experimental group will be given a treatment after the pretest meanwhile the control group not be given any treatment. Both of them will give same pretest and posttest too. The scores of the posttest from both groups are the result of this research. The design of this research can be seen on the table below.

Table 3.1 The Subject of Pretest and Posttest, Experimental and Control Group.

Group	Pretest	Independent Variable	Posttest
Experimental	Y1	X	Y2
Control	Y1	-	Y2

Whereas:

XI A-3: the experimental group which is taught argumentative text using proverb

XI A-2 : the control group which is not taught argumentative text using proverb

X : the treatment (using proverb)

Y1 : the pretest before the treatment

Y2 : the posttest after the treatment

3.2 Subject of The Study

3.2.1 Population

Ary (2010:54) population is people about whom you hope to study something. In this research the population is all of the eleventh grader students of Barunawati Senior High School that consist of XI A-1, XI A-2 , XI A-3, XI A-4, XI A-5, XI S-1 and XI S-2.

3.2.2 Sample

Sample is a small group which will be observed. Based on the advice from English teacher in Barunawati Senior High School, the researcher chose XI A-3 as experimental group and XI A-2 as control group. The teacher said that XI A-3 and XI A-2 have equal competence in English, it can be seen from the student's evaluation that teacher has and can be seen on the results' of homogeneity test in chapter 4.

3.3 Research Variables

There are two variables in this research; those are Dependent and Independent variables.

3.3.1 Independent Variable

Based on Ary (2010:37) claimed that when a variable precede to the dependent variable is called an independent variable.

Independent variable is a variable which cannot stand alone. Therefore, Proverb is independent variable in this research.

3.3.2 Dependent Variable

According to Ary (2010:266) a variable which the changes are observed by the researcher called dependent variable. Dependent variable is a variable which can stand alone. So, in this research student writing ability of argumentative text is called dependent variable.

3.4 Research Instrument

In this research, the researcher uses some of instruments to do the experimental research. As follow:

3.4.1 Pre-test

In this research, the researcher gives a pre-test to both of groups. The pre-test instruction is the researcher asks the student to write their own argument based on the sentence. A pre-test have to give to the students before experimental group get a treatment. Like Creswell stated that a pretest uses to measure the participants' ability in experiment before they receive a treatment, (2002:297). Therefore, the researcher gives pre-test to both of group to measure how far the student's understand about the topic about.

3.4.2 Post-test

Post-test is a test which given by teacher both of two group after experimental group receive the treatment. Creswell (2002:297) claimed that a post-test uses to measure the participants' ability in experiment after they receive a treatment.

3.4.3 Questionnaire

A questionnaire is a form used in research that participants in a study complete and return to the researcher. The participant

chooses answers to questions and supplies basic personal or demographic information (Creswell:2002).

3.5 Data Collection Technique

To know the treatment of Proverb in increasing students' writing ability of argumentative text is effective or not, the researcher conducted some test. The technique and procedure of the test are:

Date : April 19th 2017 – April 27th 2017
 Location : at Barunawati Senior High School Surabaya
 Perak Barat, street number 173.

Table 3.2 The procedure during collected the data

PRE RESEARCH		
Date	Group	Activity
Tuesday, April 18 th	-	Send permission letter to Barunawati Senior High School
RESEARCH PROCESS		
Wednesday, April 19 th	Experimental (Pretest)	<ul style="list-style-type: none"> The researcher as the teacher gives the students a paper that consists of an issue, and the students have to write their argument based on the instruction.
Thursday, April 20 th	Experimental (Treatment)	<ul style="list-style-type: none"> The researcher as the teacher reviews about Analytical exposition text (definition, generic structure) The researcher as the teacher explains how to write thesis, argument and conclusion to student The researcher as the teacher defines proverb (definition, kind and function) The researcher as the teacher gives an issue and asks the students to write their own strong argument based on the text using proverb
	Control (Pretest)	<ul style="list-style-type: none"> The researcher as the teacher gives the students a paper that consist of an issue, and the

		students have to write their argument based on the instruction.
Wednesday, April 26 th	Experimental (Treatment)	<ul style="list-style-type: none"> • The researcher as the teacher reviews about proverb (definition, kind and function) • The researcher as the teacher gives an exercise which consist of an issue and asks the students to write Analytical Exposition text using proverb
	Control (Teaching writing argumentative text without define proverb)	<ul style="list-style-type: none"> • The researcher as the teacher reviews about Analytical exposition (definition, generic structure) • The researcher as the teacher explains how to write argument to student • The researcher as the teacher gives an exercise which consist of an issue and asks the students to write Analytical Exposition
Thursday, April 27 th	Experimental (Posttest)	<ul style="list-style-type: none"> • The researcher as the teacher gives the students a paper that consist of an issue, and the students have to write their argument based on the instruction.
	Control (Posttest)	<ul style="list-style-type: none"> • The researcher as the teacher gives the students a paper that consist of an issue, and the students have to write their argument based on the instruction.
RESEARCH CLOSING		
Friday, April 28 th – Wednesday, May 3 rd	-	<ul style="list-style-type: none"> • Pretest and Posttest Assessing process by the researcher
Thursday, May 4 th	-	<ul style="list-style-type: none"> • Ask the letter from the school for have done the research
Friday, May 5 th – Tuesday, May 23 rd	-	<ul style="list-style-type: none"> • Pretest and Posttest Assessing process by the teacher
Thursday, June 8 th	-	<ul style="list-style-type: none"> • Give Questionnaire to Experimental class

3.6 Quantitative Data Analysis Technique

After corrected all of the data, the researcher analyze and discuss the result of the pre-test and post-test uses SPSS 16.0 software namely Test of normality distribution, T-test and Eta square.

3.6.1 Validity

According to Shadish, Cook, & Campbell (2002). Four types of validity they discuss are:

3.6.1.1 Statistical conclusion validity, which refers to the appropriate use of statistics (e.g., violating statistical assumptions, restricted range on a variable, low power) to infer whether the presumed independent and dependent variables covary in the experiment.

3.6.1.2 Construct validity, which means the validity of inferences about the constructs (or variables) in the study.

3.6.1.3 Internal validity, which relates to the validity of inferences drawn about the cause and effect relationship between the independent and dependent variables.

3.6.1.4 External validity, which refers to the validity of the cause-and-effect relationship being generalizable to other persons, settings, treatment variables, and measures.

In this research, the researcher uses construct validity because it is related with variables in the study. To get construct validity, researcher matches with the KTSP curriculum (*Kurikulum Tingkat Satuan Pendidikan.*)

Table 3.3. The Validity content

Grade	Standart Competency	Basic Competency	Indicators
Eleventh	6 Reveal the mean of text include report text, narrative text and analytical exposition text in daily life context	Writing 6.2 Reveal the mean and the rhetoric step in the text which use kind of language accurately in daily life context by using report text, narrative text and	1. Identifying the generic structure of analytical exposition text 2. understanding the steps of writing arguments by using

		analytical exposition text	proverb 3. write an analytical exposition text by using generic structure and proverb
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Based on the table above, the data is suitable with standard competency and basic competency, and the Indicator is also related of the standard and basic competency. The researcher was held consultation to ask the validity with the expert judgment. They were Armeria Wijaya S.S, M.Pd as second advisor of this research, Sofi Yuniarti, S.S, M.Pd as a writing lecturer at Muhammadiyah University of Surabaya, and Slamet Santoso S.Pd as English teacher at Barunawati Senior High School

Table 3.4 Validation Result by validator

No	Name	Validity of The Tests		Date of Validation
		Yes	No	
1.	Armeria Wijaya, S.S, M.Pd	√		April 2017
2.	Sofi Yuniarti, S.S, M.Pd	√		April, 13 th 2017
3.	Slamet Santoso S.Pd	√		April 18 th 2017

3.6.2 Reliability

It is important for the researcher to measure the reliability of the instrument. The researcher uses standard competency and basic competency of curriculum to know whether the instruments are valid. The researcher must measure the reliability of the instruments. Reliability used to measure the instrument if it reliable and appropriate to use in this research. According to Creswell reliability is demonstrated not only through predictability, but also through commitment and dedication (Creswell, 2002:43). The researcher choose the reliability of the rating by asking two

observer, they were The English Teacher as rater 1 and the researcher as rater 2 to give the score, so this reliability included inter-rater reliability that uses two different observer to get score. According to Bartz (1976:195) commonly uses in measuring reliability. The formula is as follows:

$$r_{XY} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{\{N \sum X^2 - (\sum X)^2\} \{N \sum Y^2 - (\sum Y)^2\}}}$$

r_{XY} = correlations coefficient

$\sum XY$ = total of result times score X and Y

$\sum X$ = total score X (total score from the teacher as rater 1)

$\sum Y$ = total score Y (total score from the researcher as rater 2)

$\sum X^2$ = total quadrate score X

$\sum Y^2$ = total quadrate score Y

N = number of subjects

From that formula, the level of reliability as seen in the below:

Criteria	Description
$0.80 < r$	The reliability is very high
$0.60 \leq r \leq 0.80$	The reliability is strong
$0.40 \leq r \leq 0.60$	The reliability is moderate
$0.20 \leq r \leq 0.40$	The reliability is low
$r < 0.20$	The reliability is very low

3.6.3 Normality Test

The purpose of normality test is to know that the data normal or not Normality test is done by using SPSS verse 20 , to check the data normal or not , the criteria of testing normality is:

H_0 : the data is normality distribution

H_1 : the data is not normality distribution

And the criteria of the test based on P - value as below

H_0 push away, if $P(\text{value}) < \sigma$, so data is not normality distribution

H_1 push away , if $P(\text{value}) > \sigma$, so data is normality distribution

3.6.4 Homogeneity Test

After the data is distributed normally, so it will be continued by examining Homogeneity test with using SPSS verse 17. Homogeniy has the function to check that 2 variables is the same or not. The criteria of testing homogeneity is if $F_{\text{tabel}} < F_{\text{count}}$ refuses H_0 or $P\text{value} < \alpha$ ($5\% = 0.05$).

H_0 : with There is no difference between experimental and control class (Homogeny)

H_1 : with There is difference between experimental and control class (Not Homogeny)

And the criteria of the test based on P - value as below :

H_0 push away, if $P(\text{value}) < \sigma$, so There is difference between experimental and control class (not homogeny)

H_1 push away, if $P(\text{value}) > \sigma$, There is no difference between experimental and control class (Homogeny)

The other criteria based on F_{count} and F_{table} , as below:

H_0 push away, if $F_{\text{count}} > F_{\text{table}}$, so There is difference between experimental and control class (not homogeny)

H_1 push away, if $F_{\text{count}} < F_{\text{table}}$, There is no difference between experimental and control class (Homogeny)

3.6.5 T – Test

After testing homogenity, researcher will continued with T-test . T-Test to know is there significance or not in implementation of the treatment . On standarization 0.05 with formula hypothes is :

H_0 = Proverb is not effective in increasing student writing ability of writing argumentative text

H_1 = Proverb is effective in increasing student writing ability of writing argumentative text

The criteria of the test based on P value as below :

H_0 Push away , if $P(\text{value}) < \sigma$, so there is no effective

H_1 Push away , if $P(\text{value}) > \sigma$, so there is effective

The researcher also counts T-test using manual way with calculating T_{count} and T_{table} . If $T_{\text{count}} > T_{\text{table}}$, So H_0 push away , but it if $T_{\text{count}} < T_{\text{table}}$ so that H_1 push away .

3.6.6 Computing Mean

Computing the mean use to calculate both of pre-test and post-test in each group. The mean of a distribution commonly understood as the arithmetic average. (Bachman : 2004))

$$\bar{x} = \frac{\sum x}{N}$$

\bar{x} = mean

$\sum x$ = the sum of the x scores

N = the number of the subjects

3.6.7 Computing Standard Deviation

Determining the Standard Deviation used for the scores pretest and posttest for both groups from raw scores. (Bachman, 2004:68).

$$s = \sqrt{\frac{\sum x^2}{N} - \bar{x}^2}$$

S = Standard Deviation

$\sum x^2$ = the sum of the x squared scores

\bar{x}^2 = the mean of distribution

N = the number of the students

3.6.8 Computing Standard Error of The Differences

Determining standard error of the differences by parametric test of significance. (Butler, 2006:79)

$$S_{D\bar{x}} = \sqrt{\frac{N_1S_1^2 + N_2S_2^2}{N_1 + N_2 - 2} \left(\frac{1}{N_1} + \frac{1}{N_2} \right)}$$

$S_{D\bar{x}}$ = Standard error of difference

S_1 = the standard deviation of the first sample

S_2 = the standard deviation of the second sample

N_1 = the sizes of the first receptive sample

N_2 = the sizes of the second receptive sample

3.6.9 Computing Degree of freedom

Determining Degree of Freedom. (Bachman, 2004:239)

$$df = N_1 + N_2 - 2$$

df = degree of freedom

N_1 = the size of the first receptive sample

N_2 = the size of the second receptive sample

3.7 Qualitative Data Analysis Techniques

After collecting the data use quantitative, the researcher support by collecting qualitative as a second phase. Creswell (2002:13) states, qualitative is to develop in depth exploration of a central phenomenon. In here, the phenomenon of the researcher built is student's critical thinking. However, the purpose of qualitative is use to build and explain in depth quantitative result. In here the researcher analyze the data using scoring rubric of paragraph to analyze how proverb can increasing students' writing ability by finding out the significant difference in each aspects of writing, and also the researcher used questionnaire to know the students' responses toward the use of proverb in writing argumentative text