

CHAPTER III

RESEARCH METHOD

This chapter contains description of method employed in this study which includes research design, population and sample, research variable, research instrument, data collection method, validity and reliability, normality testing, homogeneity testing, hypothesis testing and data analysis.

A. Research Design

The research design employed in this study is quantitative research. Quantitative research is completed to explain a phenomenon by collecting numerical or quantitative data to be measured by using particular mathematical method (Aliaga and Gunderson, 2002). Quantitative research represents the data collection that is systematical and presented numerically (Matthews & Ross, 2010).

In this study, researcher used experimental design. According to Ary, *et. al.* (2010), experimental research involves a study of the effect of systematic manipulation of one variable on another variable. The specific experimental design used in this study is quasi-experimental design. It is similar to randomized experimental designs in that they involve manipulation of an independent variable but differ in that subjects are not randomly assigned to treatment groups (Ary, *et. al.*, 2010). To discover treatment result, pre-test and post-test were administered. This method of research is completed through three main steps namely pre-test, treatment, and post-test to see the effectiveness of Task Based Learning (TBL)

strategy towards students' writing ability. The illustration of research design implemented in this study can be drawn in table 3.1.

Table 3.1 Quasi-Experimental Design

Group	Y1	X	Y2
Experimental Group XI MIA 2	Pre-test	Task Based Learning (TBL) strategy	Post-test
Control Group XI MIA 3	Pre-test	Conventional Strategy	Post-test

Based on the table 3.1 above, the procedures of using two groups pre-test and post-test design were:

1. Administering a pre-test to both experimental group (XI MIA 2) and control group (XI MIA 3) to measure the writing score in explanation text of eleventh grade students at MAN Kota Blitar before given treatments. It was also to find out whether both groups are equal.
2. Conducting treatments to experimental group (XI MIA 2) in teaching writing explanation text by using Task Based Learning (TBL) strategy and control class (XI MIA 3) in teaching writing explanation text not by using Task Based Learning (TBL) strategy.

3. Administering a post-test to both experimental group (XI MIA 2) and control group (XI MIA 3) to measure the writing score in explanation text of eleventh grade students at MAN Kota Blitar after given treatments.

The procedure of using TBL (Task Based Learning) in teaching explanation text writing is presented below:

- a. The teacher introduces the topic of natural phenomenon used in conducting the task.
- b. The teacher then gives instruction on how students finishing the task.
- c. The teacher divides students into some groups.
- d. The teacher asks students to perform the task.
- e. Students create explanation text according to the given topic in group.
- f. The teacher asks students to plan their reports about the completed task.
- g. The teacher asks students to report their findings related to the task.
- h. The teacher then conduct reviewing on what happened in the process of completing task including the language forms that the students were using, and problems that students had.
- i. The teacher asks students to give their ideas related to the topic.
- j. The teacher asks students to practice writing explanation text in person.

B. Population and Sample

1. Population

Population is a group of individuals who have the same characteristics (Creswell, 2012: 142). In this research, the population is all eleventh grade

students of MAN Kota Blitar in Academic Year 2020/2021 as many as 381 students that were divided into 10 classes as written in table 3.2.

Table 3.2 Population of Research

No.	Class	Gender	
		Male	Female
1	XI IIK 1	14	18
2	XI IIK 2	14	22
3	XI MIA 1	0	35
4	XI MIA 2	13	22
5	XI MIA 3	0	35
6	XI MIA 4	19	16
7	XI MIA 5	13	23
8	XI IIS 1	0	34
9	XI IIS 2	13	22
10	XI IIS 3	17	16
11	XI IIS 4	0	35
Total students		381	

2. Sampling

This sampling type used in this research was non-probability sampling. It means each individual does not have the same opportunity to be selected as sample. According to the design, the samples in this study were not randomly chosen. They were settled by the assistant principal of students to be the sample in this research. Furthermore, the researcher used SPSS 16.0 version in proving it.

3. Sample

Sample is the observed population representation (Arikunto, 2016). Considering the number of population is many, the researcher focuses on two classes namely XI MIA 2 and XI MIA 3. XI MIA 2 is the experimental group meanwhile XI MIA 3 is the control group. To verify that those groups are equal or not, the researcher calculated the pre-test scores from both groups. The researcher used Independent Sample T-Test in SPSS 16.0 version.

C. Research Variables

A variable is a characteristic that can take on different values or scores. According to Creswell (2014), variable is the characteristic or attribute of individual or organization that can be measured or observed. Taken from this statement, there are two variables in this research.

1. Independent Variable

In this research, Task Based Learning (TBL) belongs to independent variable because it affects another variable. In this case, the another variable is students' writing ability.

2. Dependent Variable

In this research, students' ability in writing explanation text belongs to dependent variable because it is affected by another variable that is Task Based Learning (TBL) strategy.

D. Research Instruments

Research instrument means a tool which is used in collecting the data. Arikunto (2006, p. 150) said that instrument is a facilitation that is used by researcher to collect the data. In this research, the research instruments were pre-

test and post-test. Both pre-test and post-test were in form of writing test. The researcher can create the instrument by herself or by using the adaptation from other expert or researcher. In this research, the format of the instrument of writing test was adapted from Isbanah (2019). However, the adapted instrument was also developed by researcher based on the terms suitable for testing explanation text writing (see appendix 1).

There are some steps researcher used to develop the writing test:

1. Researcher determines the topic appropriate to be used in testing explanation text writing.
2. Describing the rules of writing that suitable for explanation text. It includes the generic structure and the language features of explanation text.
3. Deciding the time allocation for the test.
4. Researcher also explains the elements of writing that will be assessed.

A pre-test measures determined and assessed characteristics for participants in an attempt before a treatment (Creswell, 2008). In this research, the pre-test was administered before giving treatments by using Task Based Learning (TBL) strategy. Pre-test was administered in order to discover the students' basic competence and knowledge. The test was in form of written test of explanation text to measure students' writing ability. Meanwhile, a post-test is a measurement on certain attributes or characteristics in an experiment subsequent to a treatment (Creswell, 2008). Post-test was administered to compare the students' writing

ability between experimental group and control group. The test is exactly the same with pre-test that is in form of written test but with the different topic.

To analyze the writing test, the researcher used scoring rubric to avoid the subjectivity. According to Hyland (2003), scoring rubrics or guide can be used which will help raters. It was adapted from Cohen (1994), there were five scales in scoring writing test, they are content, organization, vocabulary, grammar, and mechanics.

Table 3.3 Scoring Rubric for Aspect of Writing

Aspects	Score				
	1	2	3	4	5
Content	main ideas not at all clear or accurate, change of opinion very weak	main ideas not clear or accurate, change of opinion weak	main ideas somewhat unclear and inaccurate, change of opinion somewhat weak	main ideas stated fairly clearly and accurately, change of opinion relatively clear	main ideas stated clearly and accurately, change of opinion very clear
Organization	no organization, incoherent	ideas disconnected, lacks logical sequencing	loosely organized but main ideas clear, logical but incomplete sequencing	fairly well organized and generally coherent	well organized and perfectly coherent
Vocabulary	very limited range, very poor knowledge of words, idioms, and	limited range, confused use of words, idioms, and word forms	adequate choice of words but some misuse of vocabulary, idioms and	effective choice of words and use of idioms and word forms	very effective choice of words and use of idioms and word forms

	word forms		word forms		
Grammar	dominated by errors, no control of structure	many errors, poor control of structure	some errors, fair control of structure	almost no errors, good control of structure	no errors, full control of complex structure
Mechanics	no control over spelling and punctuation	Frequent errors in spelling and punctuation	fair number of spelling and punctuation errors	few errors in spelling and punctuation	mastery of spelling and punctuation
The total number gotten (maximum score) = 25					

Adapted from Cohen (1994:328-329)

From the table above, the researcher made a rating scale to classify the result of score that each students got. The rating scale is consisted of range of score, grade, and criteria. It is presented below:

Table 3.4 Rating Scale of Writing Test Result

No.	Range of Score	Grade	Criteria
1.	21-25	A	Excellent
2.	16-20	B	Good
3.	11-15	C	Average
4.	6-10	D	Poor
5.	1-5	E	Very Poor

$$\text{Score} = \frac{\text{C} + \text{O} + \text{V} + \text{G} + \text{M} \times 100}{5}$$

40

E. Validity and Reliability

Instrument (test) is supposed to be valid and reliable. It can be proved by conducting validity and reliability testings. Validity and reliability testings are used to make sure that the test is appropriate to be used.

1. Validity

Validity is essential because it leads to the accuracy of the instrument. The instrument (test) can be called valid if the test measures what is designed to be measured. Ary *et. al.* (2010: 225) declared that validity is the most important consideration to develop and evaluate measuring instruments. In this research, there are three kinds of validity namely:

a. Content Validity

Content validity is a test where the test can measure a certain objectives that appropriate with the material or the content of learning that is given (Arikunto, 2006: 82). It means that the content of test must appropriate with the material that exist in the curriculum. The test used in this study is written test for Explanation Text. Therefore, the test in this research fulfilled the criteria of having content validity since topic given in this research was designed based on the standard and basic competence in Curriculum 2013. The basic competence is described as follows:

Table 3.5 Basic Competence of Explanation Text

Basic Competence	
3.8 membedakan fungsi sosial, struktur teks, dan unsur kebahasaan beberapa teks explanation lisan dan tulis dengan memberi dan meminta informasi terkait gejala alam atau sosial yang tercakup dalam mata pelajaran lain di kelas XI, sesuai dengan konteks penggunaannya	4.8 menangkap makna secara kontekstual terkait fungsi sosial, struktur teks, dan unsur kebahasaan teks explanation lisan dan tulis, terkait gejala alam atau sosial yang tercakup dalam mata pelajaran lain di kelas XI

Moreover, the researcher also conducted consultation with the expert to validate the test that has been organized.

b. Construct Validity

Construct validity indicates that a test used in a research is really appropriate with the theory. In other words, construct validity can be seen by considering the theoretical concept. Regardless, the format of the test is presented below:

Table 3.6 Instrument of the Writing Test

WRITING EXPLANATION TEXT

Instructions!

1. Please create an explanation text under the title "How does season change?"
2. Your product of writing must consist of at least 15 sentences and must be appropriate with the generic structure of explanation text (general statement, sequence of explanation, conclusion).
3. You have to follow the following language features of explanation text:
 - a. Focusing on generic participant that is "season"
 - b. Using present tense such as *starts, melts, falls, etc.*
 - c. Using passive voice for instance *the heat is reflected back onto the air.*
 - d. Using chronological connectors such as *first, second, after that, then, finally, as a consequence, etc.*
 - e. Using noun (*water, sun, cloud, etc.*), pronoun (*it, its wings, they, their journey, etc.*), and verb (*start, change, form, etc.*).
4. You are given 60 minutes to write the explanation text.
5. Your writing will be assessed based on five elements in writing namely content, organization, grammar, vocabulary, and mechanic.
6. Create the text by your own words.

_____GOOD LUCK_____

Table 3.8 presented the assessment technique which appropriate with the theory of writing test. Hughes (1989:75) explained that in testing the ability of writing, getting subject to write is the finest method. Thus, it can be implied that testing writing includes minimumly two basic components namely writing task, writing instructions, and evaluation method of the writing (Alderson & Banerjee, 2002). For that reason, the writing test used in this research has fulfilled the construct validity.

c. Face Validity

Face validity attributes how the test asses what is intended to be assessed. Thus, ensuring the suitability between the difficulty of test and the level of students' ability is necessary in order to get the same level of difficulty and students' ability. Moreover, in analyzing students' ability and preparing the test items, the researcher consulted them first to the expert such as the advisor,

English teacher, and also adjusting the material used in this research with the handbook of eleventh grade class.

2. Reliability

Reliability is a stability and consistency of test's scores. Ary *et. al.* (2010: 236) addressed that if instrument of research measure what is supposed to measure and it shows the degree of consistency, the instrument is reliable. In addition, the test used in this research was tried out first before being administered to experimental and control groups. The try-out was implemented in the class of XI MIA 4 which has the same grade as experimental and control groups in order to get the reliability testing. Then, dealing with the research instrument, the researcher also asked students for suggestions. During writing process, researcher attempted in observing students' responses in completing the writing. After observing the writing process, the researcher determined to alter the instrument. The alteration was in form of time allocation provided in writing test. In the first attempt, the researcher allocated 45 minutes to complete the test. It was found out in try-out test that the time allocation was not enough for students that they asked for additional time to finish the test. Accordingly, the time allocation prepared for pre-test and post-test became 60 minutes.

Some reliability procedures were designed in order to determine whether all of the test items were measuring the same thing (Ary *et. al.*, 2010: 244). In this research, the reliability testing was done by having inter-rater reliability. Gay *et. al.* (2000: 169) noted that inter-rater reliability attributes to two or

more raters score each writing test. Inter-rater reliability refers to consistency of scores given by two or more raters to the same set of oral or written texts (Sarosdy *et. al.*, 2006). The two raters in this research were the English teacher of MAN Kota Blitar and the researcher. Then, SPSS 16.0 version was utilized to calculate the results of scores. Additionally, the criteria of reliability instrument was divided into 5 levels as presented follows (Ridwan: 2004) :

Table 3.7. Level of Reliability

Cronbach Alpha Score	Level of Reliability
0.00 – 0.20	Less Reliable
0.21 – 0.40	Rather Reliable
0.41 – 0.60	Quite Reliable
0.61 – 0.80	Reliable
0.81 – 1.00	Very Reliable

In this research, the result of reliability in try-out test can be showed below:

Table 3.8 Reliability Statistics

Reliability Statistics

Cronbach's Alpha	N of Items
.806	5

F. Data Collection Method

In this part, the researcher describes the way to collect the required data. The effectiveness of Task Based Learning (TBL) strategy can be measured through pre-test and post-test as research instruments. The final score is calculated by summing each aspect's score.

1. Pre-test

In this research, pre-test aimed to know students' basic knowledge and skills before being taught by using Task Based Learning (TBL) strategy. Pre-test of writing was done on April 5th 2021 at XI MIA 3 as control class. Pre-test was also done on April 9th 2021 at XI MIA 2 as experimental class. In writing pre-test, students from both classes were asked to deliver their ideas in form of writing explanation text based on the topic given by researcher. Both pre-tests were conducted in an hour or 60 minutes for all students in the class. After completing the test, the researcher calculated the score of pre-test to find out the students' test results before given treatments.

2. Post-test

The purpose of post-test in this research was to investigate and measure students' writing ability development after being taught by using Task Based Learning (TBL) strategy. The post-test was done on May 7th 2021 in XI MIA

2 as experimental class and on May 6th 2021 in XI MIA 3 as control class. The post-test was also writing explanation text. Eventhough the topic in post-test was different with the topic in the pre-test, both of them still had the same indicators and difficulty level. Both post-tests were conducted in an hour or 60 minutes for all students in the class. After completing the test, the researcher calculated the score of post-test to find out the students' test results after given treatments.

Table 3.9 The Schedule of the Research

No.	Group	Date	Activity
1	Control Group (XI MIA 3)	Monday, April 5 th 2021	Pre-test
2	Experimental Group (XI MIA 2)	Friday, April 9 th 2021	Pre-test
3	Experimental Group (XI MIA 2)	Friday, April 16 th 2021	Treatment 1
4	Control Group (XI MIA 3)	Monday, April 26 th 2021	Treatment 1
5	Experimental Group (XI MIA 2)	Friday, April 30 th 2021	Treatment 2
6	Control Group (XI MIA 3)	Monday, May 3 rd 2021	Treatment 2

7	Control Group (XI MIA 3)	Thursday, May 6 th 2021	Post-test
8	Experimental Group (XI MIA 2)	Friday, May 7 th 2021	Post-test

G. Normality Testing

One of requirements to analyze the data is called normality test. Aformentioned, the data should be ensured to be distributed normally before continuing further analysis. In addition, it can be a consideration to opt the statistical formula used in the research. The data is called normally distributed when the significance value is more than 0.05. Meanwhile, if the significance value is less than 0.05, the data is not normally distributed. In this research, One-Sample Kolmogorov – Smirnov Test on SPSS 16.0 version is used to calculate normality test.

H. Homogeneity Testing

Homogeneity testing is done in order to discover whether the obtained data has a homogeneous variance or not. In addition, homogeneity testing is done to determine whether the hypothesis testing's formula belongs to parametric or non-parametric one. In this research, the researcher used SPSS Statistics 16.0 to calculate homogeneity test, especially the Levene Statistic test by the value of significance (α) = 0.05. Thus, the samples can be categorized as homogeneity if value of significance > 0.05.

I. Hypothesis Testing

Hypothesis testing is a process to evaluate claims about population (Bluman, 2005). Hypothesis testing aims to discover whether the null hypothesis (H_0) of the research is rejected or not.

1. Stating the Hypothesis

The hypotheses of this study are :

- a. H_1 (alternative hypothesis) : There is significant different score in students' explanation text writing of eleventh grade between experimental group which was taught by using Task Based Learning (TBL) strategy and control group which was taught by using conventional strategy.
- b. H_0 (null hypothesis) : There is no significant different score in students' explanation text writing of eleventh grade between experimental group which was taught by using Task Based Learning (TBL) strategy and control group which was taught by using conventional strategy.

2. Finding the Critical Value

In this part, the writer decided the significance level or the tolerance of error at $\alpha = 0.05$ or 5%. It is due to this study belong to language and education.

3. Computing the Test Value

To calculate the data of hypothesis testing, the writer use SPSS 16.0 version.

4. Drawing the Conclusion

After calculating the data in SPSS, the writer starts to draw the conclusion.

The null hypothesis (H_0) is rejected if the P-value is lower than $\alpha = 0.05$ or 5%. Meanwhile if the P-value higher than or equal to $\alpha = 0.05$ or 5%, null

hypothesis (H_0) is not rejected. Furthermore, the P-value is denoted in Significance (Sig.)

J. Data Analysis

Tanzeh (2009: 69) yielded that data analysis refers to a review of a series of activities, grouping, systematization, interpretation and verification of data so that a phenomenon has social, academic, and scientific value. In this research, quantitative data analysis was used by the researcher. It aimed to discover the significant difference scores of students' writing who taught by using Task Based Learning (TBL) strategy and those who taught by using conventional strategy. Because this study belonged to Parametric test, the researcher used T-Test in analyzing the data of both groups. Kim (2015) declared that T-Test is included into parametric method that they can be used when the distribution of data is normally distributed, equal variance, and independence. Hence, in order to know the effectiveness of Task Based Learning (TBL) strategy towards students' writing skill in explanation text, the researcher analyzed the score of post-test in experimental and control group by using Independent Sample T-Test in SPSS 16.0 version.