

CHAPTER III

RESEARCH METHOD

This chapter describes the research methodology. It includes research design, research variables, population and sample, research procedure, research instrument, data collection and data analysis.

A. Research Design

Experimental research is used in this research. Experimental research manipulates and controls the cause variable before observing the effect variable's change.⁴⁵ True experimental, quasi-experimental, and pre-experimental research are the three forms of experimental research.

In this research, the researcher uses a quasi-experimental research approach in which individuals were assigned to groups, but not in a random order. This is due to the fact that the researcher is unable to form groups for the experiment artificially.⁴⁶ The experiment group and the control group are the two groups of students used by the researcher.

In addition, there are some procedures in conducting quasi-experimental research.⁴⁷ First, determine who will be able to participate in the study. Second, choose two classes that are equivalent in level from among all the current classes. Third, assign one class to the experimental group and the other to the control group. Fourth, give the experimental group the experimental treatment and the control group the control treatment. Fifth, evaluate the outcomes of both groups' treatments. Finally, compute the difference between the experimental and control groups' average scores.

⁴⁵ Latif, Mohammad Adnan. *Research method on Language Learning An introduction*. Malang:Universitas Negeri Malang, 2019:93

⁴⁶ Creswell, J. W. *Educational Research :Planning, conducting, and Evaluating Quantitative and Qualitative research*, Boston: Pearson Education, 2012.:309.

⁴⁷ Latif, Mohammad Adnan. *Research method on Language Learning An introduction*. Malang:Universitas Negeri Malang, 2019:96-97

B. Research Variables

A variable is defined as an attribute of an object of study. Good experimental design starts with deciding which variables to measure. There are three variables in this study. Independent Variable (Animated Video), Dependent Variable (Students' Writing Ability), and Moderator Variable (Learning Style).

C. Population and Sample

Arikunto defines the population as "all members of the research subject."⁴⁸ the academic year 2021/2022. There are 11 classes in the eighth grade of MTsN 1 Kediri the academic year 2021/2022. The population is 290 students.

A sample is a small group of people chosen to represent the full population from which it is derived. Two classes are chosen as sample. They are class VIII B and VIII D. Then the researcher chooses VIII B as the experimental group, and VIII D as the control group. Both classes consist of 28 students. The researcher chooses these classes because according to the English teacher these two classes are equal.

D. Research Procedure

The treatment in both the experimental and control groups lasts six meetings and follows the broad stages outlined below:

Table 3.1 Schedule of Treatment

| Meeting | Experimental Group | Control Group |
|---------|--|--|
| 1 | Learning Style Questionnaire | Learning Style Questionnaire |
| 2 | Pre Test | Pre Test |
| 3 | Treatment 1 using animated video The topic is " At the Beach" | Treatment 1 using picture The topic is "At the Beach" |
| 4 | Treatment 2 using animated video The topic is "Meeting my Idol" | Treatment 2 using picture The topic is "Meeting my Idol" |
| 5 | Treatment 3 using animated video | Treatment 3 using picture The topic is "My Holiday in Bali" |

⁴⁸ Arikunto, Suharsimi. *Prosedur Penelitian Suatu Pendekatan Praktek*. Jakarta: Rineka Cipta, 2013.

The topic is “My Holiday in Bali”

| | | |
|---|-----------|-----------|
| 6 | Post Test | Post Test |
|---|-----------|-----------|

Table 3.2 Treatment Activities

| Steps | Experimental Group | Control Group |
|--------------|--|--|
| 1 | The researcher introduced the material about Recount Text by using video | The researcher introduced the material about Recount Text using picture |
| 2 | The researcher gives the animated video of recount text with the topic “At the Beach” | The researcher gives the material of recount text using picture of Beach |
| 3 | The researcher gives the opportunity for students to identify as many questions as possible related to the animated video. | Students are given the opportunity to identify as many questions as they can about the picture from the researcher |
| 4 | The researcher gives the text of recount text based on the video that have been watched | The researcher gives the text of recount text based on the picture |
| 5 | The researcher explains about the use of punctuation, generic structure, main idea and supporting details in the text using video | The researcher explains about the use of punctuation, generic structure, main idea and supporting details in the text |
| 6 | The researcher divides students into several group then instructs each group to discuss the problems and present the results of their group discussion | The researcher divides students into several group then instructs each group to discuss the problems and present the results of their group discussion |

| | | |
|----------|---|---|
| 7 | The teacher provides complementary justifications and explanations regarding the use of each punctuation mark, generic structure, main idea and supporting detail of recount text | The teacher provides complementary justifications and explanations regarding the use of each punctuation mark, generic structure, main idea and supporting detail of recount text |
| 8 | The researcher assigns students to rewrite the animated video of recount text by using their own words. | The researcher assigns students to write recount text of picture series using their own words. |

E. Research Instrument

In this research, the researcher uses two instruments for collecting data. They are writing test and questionnaire.

1. Writing test

Writing test consists of pre-test and post-test. The pre-test is used to assess their past knowledge, while the post-test is intended to assess their writing abilities following treatment. Students are requested to produce a recount text about their personal experience in both the pre-test and post-test. The topic of pre-test is the sad experience and the topic of post-test is the excited experiences. The length of writing is three paragraphs for about 120-200 words and the time is 90 minutes.

The research applied a writing assessment rubric developed from Brown to examine the students' writing ability.⁴⁹ Content, organization, language use, vocabulary, and mechanics are all factors to consider.

⁴⁹ Sara Cushing Weigle, *Assesing Writing*, (New York: Cambridge University Press, 2002:116.

2. Questionnaire

Students with visual, audio, and kinesthetic learning styles are identified using a questionnaire. There are 30 items of learning style questionnaires. The items of learning style questionnaires are adopted from *Quantum Teaching* written by DePorter, B., Reardon, M., & Singer-Nourie, S⁵⁰. The participants are mainly asked to answer the questionnaires. They are given time for about 30 minutes to answer the questionnaires.

F. Data Collection

The procedures of data collecting are conducted as follows: First, the researcher chooses the second-grade students of MTsN 1 Kediri as the population. Second, the researcher takes VIII B and VIII D as the experiment's sample. Before beginning the treatment, the researcher administers a pre-test to assess the students' capacity to write recount text. Fourth, the treatment is carried out by the researcher using an animated video for the experimental group and a picture for the control group. Fifth, the researcher administers a post-test to assess the students' capacity to write recount text after they have completed the treatment. Finally, after completing the preceding steps, the researcher evaluates the test results. To obtain the significant data result, an analysis is carried out.

G. Data Analysis

The data is analyzed using quantitative forms by the researcher. Quantitative data is processed to obtain a numerical representation, to describe a series of numbers, and to portray numbers in the form of averages, frequencies, and percentages.

Meanwhile, the quantitative data for this study is gathered using a quantitative technique known as the post-test of the experimental and control groups. To analyze the data, the researcher used ANCOVA on SPSS programs 25.0. Following the completion of the test, the researcher compared both tests to determine whether or not there is a significant effect of animated video in teaching

⁵⁰DePorter, B., Reardon, M., & Singer-Nourie, S. *Quantum Teaching* (Translator AryNilandari.2000).Bandung:Kaifa, 1999

writing.

In the scoring rubric, there are 4 aspects that are calculated, including content, organization, grammar, vocabulary, and mechanics (The Rubric could be seen in Appendix 5). Each aspect has a scale of 1-4 where each rater should not have a difference in score of 2 or more. This is called a split score. The rater can count if there is no split score.

The students' writing scores are evaluated by five aspects and each aspect has a score or level adapted from Brown (2007). The total of a maximum score of five aspects is twenty five. The description of the scoring system is as follow:

$$\text{Score} = \frac{\text{Total score}}{5} \times 4$$

The researcher continues to analyze the data after collecting it, namely the pre-test and post-test scores from the experimental and control groups. The researcher utilizes SPSS 25.0 to analyze the data. The researcher compares the two tests to see if animated video has a significant effect on students' writing abilities.

After obtaining the data from pre-test and post-test in the experimental and control group, data analysis used by the researcher are descriptive analysis, after that the normality test, and then is homogeneity test, and the last is independent sample t-test is explained as follows:

1. Descriptive Analysis

This is conducted to obtain an overview and exposure of the research data which includes the amount of data, maximum value, minimum value, and average value.

2. Prerequisite Test

The Analysis of Covariate is a popular statistical method to measure and understand data structure in a higher dimension. In doing ANCOVA calculation, several assumptions should be determined, such as the normality of multivariate, the homogeneity of covariances matrices, and the homogeneity of variances.

a. The Normality Test

The multivariate analysis requires a normal distribution population.⁵¹ To deal with the normality, *Shapiro - Wilk* test was used. If the value of significance (p) $>.05$, the distribution of the data is normal.⁵²

b. The Homogeneity of Regression

To fulfil the preacquisition test dealing with ANCOVA analysis, there must be no interaction between the covariate and independent variable proven by *P value* obtained is higher than 0.05 ($p > \alpha$). The covariance matrices are homogenous if the significance value is higher than .05.

c. The Homogeneity of Variances

Homogeneity test is a test done to know that two or more groups of sample data come from populations with the same variance (homogeneous). *Levene's test* is used to compute the homogeneity of variances between control and experimental groups. If the result of the homogeneity test of variance is more than 0.05, both pre-test and post-test have the same variance homogeneity or equal.

d. Linier Relationship Between Covariate and Dependent Variable

The purpose of the test of covariate linearity is to evaluate the relationship between the covariate and dependent variable. It can be estimated by the significant value (p) $< \alpha$ (.05).

⁵¹R. A. Jhonson and D. W. Wichern, *Applied Multivariate Statistical Analysis* (New Jersey: Prentice Hall, 2007), 285.

⁵²Duwi Priyatno, *SPSS Panduan Mudah Olah Data Bagi Mahasiswa Dan Umum* (Yogyakarta: Andi, 2018).

3. Hypothesis Testing

ANCOVA is a statistic used to measure the effect of independent variables called categorical on several dependent variables that display quantitative data. This analysis is also known as Analysis of Covariate. In this research, to test the hypothesis, the ANCOVA analysis had done with SPSS 25.0. Here are the criteria for Hypothesis testing.

a. If it is obtained that the significance value (2-tailed) < 0.05 , it can be concluded that there is a significant difference between students' writing ability taught by using animated video and the students' writing ability taught by picture. It means that H_{a1} (Alternative hypothesis) is supported or H_{o1} (Null hypothesis) is rejected.

b. If it is obtained that the significance value (2-tailed) > 0.05 , it can be concluded that there isn't any significant difference between students' writing ability taught by using animated video and the students' writing ability taught by picture. It means that H_{a1} (Alternative hypothesis) isn't supported or H_{o1} (Null hypothesis) isn't rejected.

After testing the first hypothesis to know whether the use of animated video is effective to teach writing, the next hypothesis is run to know the effectiveness of animated video in teaching writing in students who have different learning style. In this research, there are three different learning style are observed namely: Visual, Auditory, and Kinesthetic. Then, to know whether the learning style affect the students' writing performance in the light of the use of animated video, a correlated t-test is run.