

CHAPTER III

RESEARCH METHOD

This chapter describes the planning of the research carried out. It outlines the procedures followed in order to gather and examine the data required to address the research questions. This includes how the study is set up, who is involved, how the data is gathered, and how it is looked at. The medias used in this research will be explained as follows:

3.1 Research Design

The study uses a quasi-experimental research approach to investigate cause-and-effect correlations between variables. This method does not use random assignment of individuals to control and experimental groups, in contrast to true experimental designs. Leavy (2017) states that in situations where the researcher is unable to randomly assign participants to groups, quasi-experimental research can be used to examine cause and effect. The purpose of this study is to determine how the scrambled word feature affects the wordwall application used to educate students how to write procedure texts using a quasi-experimental research approach. The pupils' ability to write procedure texts will be evaluated after the treatment. We refer to this as a post-test.

Table 3.1 Research Design

Group	Pre-test	Treatment	Post-test
Experimental group	X ₁	Scrambled Word	Y ₁
Control group	X ₂	PowerPoint	Y ₂

Note:

X₁ X₂: pre-test of experimental and control groups

Y₁ Y₂: post-test of experimental and control group

The scrambled word medium is used to teach the experimental group how to construct well-structured sentence in procedure texts. On the other side, PowerPoint is used to teach the control group. Nonetheless, the pre-test and post-test were identical for both groups. After administering the pretest, the researcher uses scrambled word media to educate the experimental group how to write procedure texts. In order to compare the differences and make conclusions, the researcher administers a post-test to both groups after the treatment.

3.2 Variable

According to Creswell (2007), a variable is an aspect or factor that can vary in value or result in different outcomes. In the context of experimental research, the treatment or intervention is generally considered the independent variable. Therefore, in this study, the independent variable is “the use of scrambled word game features of *Wordwall* application,” which is aimed at teaching students’ procedure text writing skill. On the other hand, the dependent variable is the aspect being measured or observed as a result of the intervention. In this study, the dependent variable is “students’ writing skill,” which is expected to be influenced by the use of scrambled word game feature of *Wordwall* application during the learning process.

3.3 Population and Sample

According to Schreiber, J. B., and Asner-Self, K. (2011), a population is defined as a whole group of potential participants or all individuals who are the focus of a particular study. This study is conducted at MAN 1 Kota Kediri. The population of this research is the eleventh grader students of MAN 1 Kota Kediri. The researcher selects this school since it has excellent facilities to implement media for teaching.

Table 3.2 Population

Class	Number	Class	Number
XI A	36	XI H	36
XI B	36	XI I	36
XI C	36	XI J	36
XI D	36	XI K	36
XI E	36	XI L	36
XI F	36	XI M	36
XI G	36	Total	468

A sample is defined as a subset of the population assigned to participate in a research study and from which data is actually collected (Asner-Self, K., 2011). In this study, the researcher employed purposive sampling as the sampling technique. Sugiyono (2018) states that purposive sampling is picked based on the particular consideration or the particular criteria that has been decided by the researcher. The criteria in this research sample were the class with the equal score average in English subject, especially writing skill. Two classes were chosen as the sample groups. Class XI L served as the experimental group, which received taught writing procedure text using the combination of digital picture series and scramble word strategy. While Class XI K acted as the control group, taught through PowerPoint. Class XI L class consisted of 36 students and class XI K consists of 36 students, bringing the total number of participants in the study to 72.

3.4 Instrument

The researcher uses pre-test and post-test as the research instrument. Both pre-test and post-test have different topic since it can strengthen the validity of the assessment by preventing test-retest bias, encouraging transfer of skills and broadening the evaluation scope. Here is the detail of the pre-test and post-test.

3.4.1 Pre-Test

The pre-test consisted of some topic options. Each student has same chance to choose the convenience topic. It is intended to give the same opportunity to each student. This pre-test is designed to assess each students' basic writing ability. This test is aimed to evaluate various aspects of grammatical, organization, logical development ideas and vocabulary including the use of the variety of vocabulary. The test served as a diagnostic tool to determine the students' initial level of proficiency prior to the implementation of the learning intervention using digital picture series and scrambled word. The duration of the pe-test will be given around 60 minutes with the requirements of word is 50-100 words. The complete pre-test instruction can be seen in appendix 1.

3.4.2 Post-Test

The post-test, like the pre-test, consisted of some topic options. Each students have same chance to choose the convenience topic. It is used to assess any progress following the learning intervention in students' understanding of the writing procedure text concept. The primary purpose of the post-test is to compare the learning outcomes between two groups: one group that received instruction using scrambled word and another group that is taught using PowerPoint. The study intended to investigate whether using the scrambled word feature is beneficial compared with the PowerPoint media by examining the post-test findings The duration of the pe-test will be given

around 60 minutes with the requirements of word is 50-100 words. The complete post-test instruction can be seen in appendix 2.

3.5 Validity and Reliability

This section draws the details of validity and the reliability of the research instrument. Both pre-test and post-test are measured as follows.

3.5.1 Validity

Brown (2001) states that validity refers to how accurate, appropriate, meaningful and useful a test assesses what it is intended to evaluate. The test items must be tested for measuring the validity. Theoretically, test validity is classified into three; content validity, construct validity and criterion validity. In this study, content validity is used to measure the validity of the content.

According to Brown (2001), content validity is when the test items required the test-taker to take an action based on what is being measured. Content validity is measured from the opinion of the expert in investigating the test item. In this study, the instrument is reviewed by an experienced eleventh grade English teacher to ensure its content validity and appropriateness for the target students. The researcher adopts Brown and Bailey's scoring rubric, including coherence, organization, grammar, vocabulary and content were all deemed appropriate for assessing students' writing abilities in procedure text. The result, the instrument is approved by the teacher, conforming its content validity and suitability for the study.

3.5.2 Reliability

Reliability is defined as the degree to which a measurement produces consistent results when repeated under the same circumstances. Brown (2001) states that validity is related to the consistency. This research uses Inter-rater reliability to make the data reliable. The researcher takes

one independent English teacher to score the students' writing test. Therefore, there are two raters in this study in which the first rater is the researcher itself and the other one is the English teacher of MAN 1 Kota Kediri. In this study, Pearson Product Moment Correlation is assigned in investigating the data collected by both raters after rates using scoring rubric.

3.6 Treatment Procedure

In this study, to evaluate the effect of the intervention, the experimental and control groups undergo the same treatment protocol. In this study, both treatment group and control will be treated by the researcher as the teacher. The experimental group will receive the design treatment. They will be taught about writing procedure text using scramble word feature in *Wordwall* application as the teaching media. While the control group will be taught using PowerPoint.

Table 3.2 treatment procedure

Genre Based Approach	Experimental Group	Control Group
	Scrambled word media	PowerPoint
BKoF (Building Knowledge of Field)	1. Teacher explains about procedure text material: definition, social function, generic structure and language feature	Teacher explains about procedure text material: definition, social function, generic structure and language feature.
MoT (Modelling of Text)	2. Teacher gives an example of procedure text 3. Teacher shows an example of procedure text a scrambled word feature (link) 4. Teacher explains how to arrange the sentence in a good order 5. Teacher give the link of scrambled word to the students (link) 6. Students do the exercise wondering together with their chair mate	2. Teacher gives the students an example of procedure text 3. Students read examples of Procedure Texts from the PowerPoint 4. Teacher together with the students identify the generic structure and the language feature of the text 5. Teacher explains the sentence structure of the text

JcoT (Join Construction of Text)	<ol style="list-style-type: none"> 1. Teacher gives the link of scrambled word 2. Teacher and students do the exercise together for Page 1-3 3. Teacher points some students to come forward to try the exercise 	<ol style="list-style-type: none"> 1. Teacher shows a topic of procedure text 2. Teacher and students discuss to make a complete text 3. Teacher points some students to write their opinion 4. Teacher explains the sentence structure of the text
IcoT (Independent Construction of Text)	<ol style="list-style-type: none"> 1. Students with their chair mates make their own 2. procedure text and input it to the scrambled word game 3. Students give their link each other 4. Each students do their friends' scrambled text 	<ol style="list-style-type: none"> 1. Students work in pairs to write a short paragraph of Procedure Text based on the provided topic with the teacher's clue 2. Teacher gives immediate feedback

The researcher carried out the treatment for two meetings. The treatment is conducted by the researcher based on the regular schedule.

Table 3.3 Meeting Schedule

Meeting	Activity	Experimental Group	Control Group
1 st meeting	Giving Pre-test	11 th of November 2025: 13.00-14.00	11 th of November 2025: 10.15-11.15
2 nd meeting	Conducting BkOf & MoT	13 th of November 2025: 07.00-08.30	12 th of November 2025: 07.00-08.30
3 rd meeting	Conducting JCoT & ICoT	14 th of November 2025: 10.15-11.45	14 th of November 2025: 14.40-16.10
4 th meeting	Conducting Post-test	18 th of November 2025: 13.00-14.00	18 th of November 2025: 10.15-11.15

3.6 Process of Collecting Data

In this study, the data collection process is conducted systematically. It has several stages. It consists of administered pre-test, implemented the treatment and administered the post-test.

The first step is the administration of the pre-test. This test is given to all participants before any teaching intervention begins. The place of the test will be in the class. The students will do the test independently. All of the devices must be collected in the teacher desk. Students are instructed not to seek help or use external resources. Therefore, the test will be done originally. In addition, a set time limit is given to complete the test.

Following the pre-test, the second step is conducting the instructional intervention by the researcher as the teacher in the classroom. This consists of targeted teaching sessions specifically designed to teach students' writing skill in procedure text. The instruction may include explanations of rules, guided practice, group activities, and interactive exercises that reinforce the coherency of the text. Throughout this period, informal observations and notes are taken to monitor student engagement, participation, and any immediate improvements in performance. In this study, the researcher takes two meetings for one treatment.

After the instructional period is complete, the third step is the administration of the post-test, which mirrors the format and content of the pre-test. This test is conducted under the same conditions as the pre-test to maintain consistency and allow for a fair comparison. The post-test is designed to measure any learning gains and evaluate the effect of the instructional approach used during the intervention.

3.7 Data Analysis Technique

To analyze the data, the statistical media of Analysis of Covariance (ANCOVA) is applied. ANCOVA is chosen because it helps compare the post-test results of the two groups while controlling for any differences that may have existed before the intervention. Specifically, the pre-test scores served as a covariate, allowing for the adjustment of post-test scores based on each participant's baseline performance. This adjustment helps to ensure that any observed differences

in the post-test outcomes are more likely due to the treatment rather than pre-existing differences. This is particularly important in quasi-experimental designs, where random assignment is not possible and the groups may not be equivalent at the start.

Before running the ANCOVA, the necessary assumptions were tested, including normality test, homogeneity test, homogeneity of regression slopes, and equality of error variances. Once these assumptions were met, The adjusted post-test scores of the experimental and control groups were compared using ANCOVA to see if there is a statistically significant difference. A significant result would reflect that the treatment had a meaningful effect on students' writing performance. By using a validated scoring rubric and applying ANCOVA, the study intended to serve a fair and reliable analysis of the treatment's effectiveness in improving writing skills.