

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

According to Sudaryana (2022), quantitative research is an approach focused on testing theories for their validity, determining whether they are true or false. In the context of this study, quantitative research emphasizes the analysis of numerical data processed using statistical methods. This method aims to ascertain the significance of group differences or relationships between the variables under investigation. The research employs a quasi-experimental design with a pretest posttest control group design.

The quasi-experimental design involves at least two sample groups; the first is an experimental group subjected to a specific treatment, while the second serves as a control group under controlled conditions for comparison purposes. The observed difference in responses between the treatment and control groups serves as a metric for evaluating the impact of the treatment. This design was selected to gauge the effectiveness of using Padlet as a learning tool to enhance narrative writing skills among Grade X students at SMA Negeri 9 Banda Aceh.

Table 3.1. Design of Quasi-Experimental Research

| Class | Pre Test | Treatment | Post Test |
|--------------------|----------------|-----------|----------------|
| Experimental Class | O ¹ | X | O ² |
| Control Class | O ³ | - | O ⁴ |

Source Sugiyono, (2019)

Noted:

- O¹ = Results before the experimental class (pretest)
- O² = Results after treatment experimental class (posttest)
- X = Treatment using padlet media
- O³ = Result before the control class (pretest)
- O⁴ = Result after the control class (posttest)

3.2 Population and Sample

In accordance with Sugiyono (2017), a population refers to a general category comprising objects or subjects that possess certain qualities and characteristics determined by researchers to be used in research, leading to drawn conclusions. For this study, the population consists of all Class X students, totaling 260 students. According to Sugiyono (2018), a sample is a subset of the number and characteristics of a population. In other words, the research method involves taking a portion of the population for study. The sampling method in this research utilizes purposive sampling.

The sample is deliberately chosen to ensure homogeneity between the experimental group (utilizing Padlet) and the control group (engaging in conventional learning methods). This careful selection aims to enhance the accuracy of research results, reduce initial variability in students' abilities, maintain consistency in learning methods, guarantee support and availability of Padlet facilities, and ensure equality in control factors. With a meticulous sample selection process, the research aims to provide a clear understanding of the impact of using Padlet on the English narrative text writing of Class X students. Therefore, the researcher opted for 21 students in Class X-4 as the experimental group and 24 students in Class X-3 as the control group from the total population of 260 students in Class X.

3.3 Research Variables

Research variables are factors that are observed, measured, to understand the relationships between them or their effects on the observed phenomenon. The

independent variable in this research is the implementation of Padlet as a learning platform. This variable refers to the integration of the Padlet application as an instructional tool aimed at enhancing narrative writing skills in English for Grade X students at SMA Negeri 9 Banda Aceh.

The dependent variable in this research is students' proficiency in narrative writing in English. This variable is assessed through pretest and posttest scores, providing insights into the level of students' narrative writing skills before and after the instructional intervention using Padlet.

3.4 Research Instrument

The primary research instrument for this study is a comprehensive narrative writing skills assessment, encompassing both pretest and posttest evaluations. Specifically tailored for Grade X students at SMA Negeri 9 Banda Aceh, this assessment aims to measure their proficiency in narrative writing before and after the instructional treatment utilizing Padlet.

The narrative writing skills assessment spans various dimensions, including plot development, character portrayal, setting description, and language proficiency. Students' abilities to construct coherent and engaging narratives, demonstrate a command of English language conventions, exhibit creativity, and communicate effectively be evaluated. The pretest establishes a baseline, capturing initial narrative writing skills, while the posttest assesses progress and improvement posttreatment. Through a meticulous development process, the assessment addresses narrative structure, descriptive language use, character development, and overall storytelling proficiency. The evaluation also considers linguistic elements,

such as grammar, vocabulary usage, and coherence in written expression, providing valuable insights into the impact of Padlet on narrative writing skill enhancement.

3.5 Data Observation

Initially, a pretest was administered to both groups to assess the students' baseline level of narrative writing skills before the instructional treatment. The pretest comprehensively evaluates various dimensions of narrative writing, including plot development, character portrayal, setting description, and language proficiency.

Upon completion of the treatment period, a post-test was conducted on both groups to assess the students' final level of narrative writing skills. The post-test mirrors the pre-test components, enabling a comprehensive comparison of results before and after the instructional treatment.

3.6 Data Analysis

Data obtained from the pretest and posttest be analyzed using descriptive statistics to observe changes in vocabulary mastery in each group. Next, to assess the effectiveness of the intervention, the NGain value be calculated. NGain is the difference between the posttest score and the pretest score, normalized by the maximum range of scores. This provides an idea of the extent of improvement in vocabulary mastery after the intervention.

In addition, use inferential statistical analysis using the Wilcoxon Test to determine the significance of differences in vocabulary mastery between the two groups. The Wilcoxon test was chosen because the data is ordinal and does not meet the normality assumption.

With a combination of descriptive analysis, NGain calculations, and the Wilcoxon Test, it is hoped that the research can provide a deeper understanding of the utilizing media Padlet to improve writing narrative text.

The researcher uses some statistical procedures to calculate data as explained in bellow:

1. 1. After evaluating each student's work, an average score is calculated. Student scores are determined using SPSS (Statistical Product and Service Solution) and an assessment rubric.

| Aspect | Score | Performance Descriptive |
|-------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ideas and Content | 5 | One clear, focused, and on-topic idea. All details are concrete and specific to support the idea. Many interesting and original details support the idea. All parts are integrated and coherent. |
| | 4 | One clear, focused, and on-topic idea. Concrete and specific details. Interesting details to support the idea. All parts are integrated and coherent |
| | 3 | Generally, on topic and develops a clear theme or message. Some are concrete and detailed, and some are general. Some supporting details are predictive and some are general. There may be parts that are less relevant. |
| | 2 | Much of the text is repetitive and seems like a collection of unrelated ideas. Lacks specific details and is mostly general. Details are predictive and sketchy. |
| | 1 | Unfocused, completely out of ideas, unidentified, long and insufficiently developed. Inconsistent, unclear, or trivial details. |
| Organization | 5 | The opening is clear and engaging. Paragraph structure, clear and consistent topic sentences, relevant supporting information, and a clear conclusion. The order is logical and effective. Consistent, appropriate, and precise use of transitions. |
| | 4 | An opening that engages the reader. Each paragraph ends consistently. Most ideas are logically connected Effective ending. Use of appropriate transitions |
| | 3 | An effective opening but doesn't create a strong sense of purpose. All parts of the paragraph are generally |

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| | | correct, except for one or two that don't fit. Attempts to use logical connections. Attempts to use an effective ending. Some transitions are still not quite right. |
| | 2 | Weak opening. Paragraph structure tends to be inconsistent, such as indentation. Lack of logical connection. Weak ending. Little use of correct transitions |
| | 1 | Unclear beginning. General lack of organization. Irregular order and detail. Inappropriate ending. No transitions. |
| Vocabulary | 5 | All written in complete sentences, no run-ons. Using sentence variations consistently (complex, compound, and simple). Using a variety of sentence beginnings that are consistent, purposeful, and creative. Using consistent, appropriate, and specific transitions between sentences. |
| | 4 | There may be a fragment and a run-on. Usually a variety of sentence types. Most sentences have varying beginnings. Use appropriate transitions. |
| | 3 | There may be two fragments and a run-on. Sometimes using varied sentences. Some variation in the beginning of sentences. Some use of correct transitions. |
| | 2 | The writing contains many fragments and run-ons. Uses only simple and compound sentences. Little variation at the beginning of sentences. Uses little appropriate transitions. |
| | 1 | There is no sense in the use of punctuation and sentences. Only simple sentences and fragments. All sentences have the same beginning. Transitions are almost non-existent. |
| Sentence | 5 | All written in complete sentences, no run-ons. Using sentence variations consistently (complex, compound, and simple). Using a variety of sentence beginnings that are consistent, purposeful, and creative. Using consistent, appropriate, and specific transitions between sentences. |
| | 4 | There may be a fragment and a run-on. Usually a variety of sentence types. Most sentences have varying beginnings. Use appropriate transitions. |
| | 3 | There may be two fragments and a run-on. Sometimes using varied sentences. Some variation in the beginning of sentences. Some use of correct transitions. |
| | 2 | The writing contains many fragments and run-ons. |

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| | | Uses only simple and compound sentences. Little variation at the beginning of sentences. Uses little appropriate transitions. |
| | 1 | There is no sense in the use of punctuation and sentences. Only simple sentences and fragments. All sentences have the same beginning. Transitions are almost non-existent. |
| Mechanics | 5 | Correct spelling, even for difficult words. Accurate, creative punctuation that guides the reader. A thorough understanding and consistent application of capitalization. Grammar and usage are correct and contribute to clarity and style. Everything is legible and clean. |
| | 4 | Generally correct execution Generally correct punctuation Generally correct capitalization Generally correct grammar and usage. Generally legible and clean |
| | 3 | Some words are misspelled. Punctuation is usually correct. Capitalization is usually correct. Grammar and usage are usually correct. The writing is somewhat legible and the paper is relatively clean. |
| | 2 | Frequent spelling errors. Many incorrect punctuation marks. Many incorrect capitalizations. Frequently incorrect grammar and usage. Illegible writing makes readers confused and messy |
| | 1 | The text is too difficult to read, understand, and interpret due to numerous spelling errors. Punctuation is missing. Repeated use of capitalization. Grammar and usage are almost completely incorrect. Illegible, beyond messy, the reader cannot decipher the text. |

Adaption From Glass, (2005)

2. Using SPSS to determine the average test score of the students.
3. To find out the significant different between the pretest and posttest by NGain score. The test using SPSS.

Table 3.3 Interprets NGain

| Percentage (%) | Interpretation |
|----------------|------------------|
| <40 | Poor Effective |
| 40-55 | Less Effective |
| 56-75 | Enough Effective |
| >76 | Effective |

(Hake, 2014)

4. Using a hypothesis testing with Mann Whitney test using SPSS.