

CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

This study applied a quantitative approach using a quasi experimental design to examine effect of using the Wattpad application in improving students' reading skill at the 8th grade of SMPN 6 Pariaman. According to Sugiyono (2017), quantitative research is a systematic and objective process used to test hypotheses and analyze relationships between variables through statistical methods. This design is suitable to observe the effect of the independent variable (use of Wattpad) on the dependent variable (students reading skill).

Two groups were involved in this research: the experimental group and the control group. The experimental group was taught using Wattpad as a digital reading platform, while the control group was taught using conventional printed materials. Both groups were given a pre-test and a post-test to measure students progress before and after the treatment. The comparison between pre-test and post-test scores was used to determine the effect of using Wattpad on students' reading comprehension.

Table 3. 1
Experimental Design (Two Group Pre-Test and Post –Test Design)

Step	Procedure	Purpose
1	Pre-Test for both groups before treatment.	To measure students initial reading ability.
2	Treatment (experimental group)	To apply digital reading through wattpad.

	taught using wattpad application.	
3	Treatment (control group taught using printed materials.	To apply conventional reading method.
4	Post-Test for both groups after treatment.	To measure students improvement in reading skills.

Table 3. 2
The Research Design

Group	Pre-Test	Treatment	Post-Test
Experimental Group	O_1	X(Using wattpad application)	O_2
Control Group	O_3	-(conventional)	O_4

Explanation:

O_1 and O_3 : Pre-test results

X : Treatment using Wattpad Application

O_2 and O_4 : Post-test results

B. Variable of the Research (Quantitative)/ Focus of the research

This study employs a quantitative approach that investigates the relationship between two main variables, namely the independent variable (X) and the dependent variable (Y). The purpose of this research was to determine effect of using the Wattpad application on students reading skill at the 8th grade of SMPN 6 Pariaman.

The independent variable (X) in this research was the use of the Wattpad application as a digital learning medium. Wattpad is an online reading and writing platform that provides thousands of stories in English across various genres such as romance, adventure, mystery, and fantasy. It

allows students to engage with authentic and relatable texts, which are written in a natural and communicative style. By using Wattpad, students are exposed to real-life English usage that includes informal expressions and modern vocabulary. Moreover, the interactive features of Wattpad, such as likes, comments, and author-reader interactions, promote a more engaging reading environment. These features not only increase students participation but also stimulate their motivation and curiosity to read more frequently.

The dependent variable (Y) of this study was students reading skill. Reading skill were defined as the ability of students to understand, interpret, and evaluate written English texts effectively. It included several aspects such as reading comprehension, and vocabulary acquisition, .

Reading comprehension referred to students ability to grasp main ideas, identify supporting details, and make inferences from the text. Vocabulary acquisition involved the students improvement in recognizing and understanding new words encountered during reading. In this research, the students reading skill was measured through pre-tests and post-tests, which are administered before and after the implementation of the Wattpad based reading instruction. The results of these tests were analyzed statistically to determine whether there is a significant improvement in students reading performance.

The focus of this research was to investigate the effect of using the Wattpad application in improving the reading skill of 8th-grade students at SMPN 6 Pariaman. The study concentrates on determining whether Wattpad

can enhance students reading comprehension, vocabulary mastery to read English texts compared to traditional reading materials. The researcher aimed to find out to what extent the integration of digital media such as Wattpad can support students in developing better reading abilities through enjoyable and meaningful learning experiences.

C. Population, Sample and Sampling Technique (Quantitative)

1. Population

The population is the whole group of people that the researcher wants to apply the study results to. Sugiyono (2017:117) explains that population is the group that is studied, which includes people or things that have certain features or traits that the researcher is interested in, so that conclusions can be made from the study.

In this research, the population was all the eighth-grade students at SMPN 6 Pariaman during the 2024/2025 school year. This group was selected as the population because all the students in this grade have similar traits related to their reading abilities and their use of digital media like Wattpad.

Table 3. 3
Population of the Research

Class	Number of the Students
VIII-1	22
VIII-2	22
VIII-3	24
VIII-4	26
Total	94

2. Sample

A sample is a smaller group taken from the population that represents the characteristics of the entire population. In research, it is often impractical to study the whole population due to time, cost, and accessibility; therefore, researchers select a portion of the population known as the sample. According to Sugiyono (2017:118), “a sample is part of the number and characteristics possessed by the population.” This means that a sample must reflect the characteristics of the population so that the results of the research can be generalized accurately.

Similarly, Gay, Mills, and Airasian (2012:130) define a sample as “a group of individuals, items, or events selected from a larger population.” They emphasize that the sample should be selected carefully to ensure that it truly represents the population being studied. In line with this, Arikunto (2010:174) states that “if the subject of research is less than 100, it is better to take all of them as the sample, but if the subject is more than 100, it can be taken between 10% to 25% or more depending on the size of the population.” This means that the size of the sample depends on the total population and the objectives of the research.

In this study, the sample included two eighth-grade classes at SMPN 6 Pariaman, specifically class VIII-4 and class VIII-3. These classes were chosen because they represent the typical level of reading ability among all eighth-grade classes and had similar features in terms of their curriculum, learning materials, and class schedule. Together, the two

classes had 50 students, with 26 in class VIII-4 and 24 in class VIII-3. Class VIII-4 was the experimental class, where students used the Wattpad app to help improve their reading skills. Class VIII-3 was the control class, where students learned through the traditional method, which involved reading from textbooks. Both classes took the same pre-test and post-test to check how much their reading skill improved after the teaching method was applied.

3. Sampling Technique

The sampling technique is the process used to choose a sample from a larger group called the population. Sugiyono (2017:120) explains that “sampling technique is a way to decide which sample to use in research by looking at the type and features of the population.” This means that the method you choose for sampling should depend on how the population is structured and what conditions it has.

In this study, the researcher used the cluster random sampling Technique. Cluster sampling is a type of probability sampling where the population is split into natural groups or clusters, like classes, schools, or areas. Then, some of these groups are chosen at random to be part of the sample. This method is commonly used in educational research when the population is already grouped into complete classes, and it's hard or not possible to pick students individually. Sugiyono (2017) says, “Cluster Random Sampling is used when the population is broken into groups (clusters), and each group is thought to have similar features.” Ary, Jacobs,

and Sorensen (2010:152) also mention that “cluster sampling is helpful when the researcher can't get a list of all individuals in a population but can get a list of groups or clusters.” In this research, the clusters were the existing classes of eighth-grade students at SMPN 6 Pariaman.

D. Data Collecting Technique and Instrument

Data collecting technique is the method a researcher uses to gather information connected to the research question. Sugiyono (2017:224) says, “data collecting technique is the most important part of research, because the main goal of the research is to get data.” In this study, data were gathered using two tests: a pre-test and a post-test. These tests were designed to check the students' reading comprehension skill before and after using the Wattpad app. The data collection took place in three main steps: first the pre-test, then the treatment period, and finally the post-test.

1. Pre- Test

Before starting the treatment, both the experimental class (VIII-4) and the control class (VIII-3) took a pre-test. The pre-test was given to check how well the students understand reading material at the beginning of the study. It helped make sure that both classes start with similar reading skills. The pre-test consisted of 20 multiple-choice questions. The questions were based on short stories from the English for Nusantara textbook and some stories from Wattpad that were suitable for junior high school students. Each correct answer was worth 5 points, and the maximum total score was 100 points.

2. Treatment

After the pre-test, the researcher carried out treatment sessions for both classes. The treatment took place over four meetings in a two-week period. Each meeting was around 80 minutes long (two sessions of 40 minutes each), following the English schedule at SMPN 6 Pariaman.

a. Experimental Class (VIII-4)

The experimental class used the Wattpad app as the main tool for learning. Students were asked to read selected narrative stories from Wattpad that were suitable for their level and interests. The researcher encouraged the students to:

- 1) Read the stories directly on Wattpad using their smartphones.
- 2) Find the main ideas, difficult words, and how characters develop.
- 3) Talk about the story's message and moral values through group activities.

This method helped students become more motivated, improve their vocabulary, and better understand what they read through an interesting digital tool.

b. Control Class (VIII-3)

The control class used the traditional way of teaching. The teacher used printed materials from the textbook. The students read the same types of narrative texts (like folk tales, fables, and short stories) but without using any digital platform. The activities included

reading aloud, translating tricky words, answering questions about the text, and discussing the story in class.

Using Wattpad as a digital reading tool was expected to make reading more enjoyable for students and help them understand texts better than the traditional method. After all the treatment sessions were completed, both classes took a post-test that was the same as the pre-test in terms of format and difficulty.

3. The Post- Test

The post-test was used to check how much the students' reading comprehension improved after learning with the two different teaching methods. The post-test consisted of 20 multiple-choice questions based on new story texts that are similar in topic and difficulty to the ones in the pre-test. Both the experimental and control classes took the test under the same conditions. The scores from the post-test were then compared with the scores from the pre-test to see if there was a noticeable improvement in reading comprehension for the students who used the Wattpad application.

4. Research Instrument and Validity

a. Instrument

The instrument that was used in this research was a reading test. This tool helped gather information t students' reading skill before and after they use the Wattpad app. The purpose of the test was to check how well students understand stories. about The test was a multiple-

choice quiz with questions based on the story content. It checks five areas of reading ability:

- 1) Finding the main idea of the story
- 2) Locating specific details in the text
- 3) Understanding words based on the context they are used in
- 4) Making guesses based on what is written
- 5) Recognizing the moral lesson of the story

The test was given twice: once before the treatment (pre-test) and once after (post-test) to see how much students' reading skill improved. The steps for taking the test are:

- 1) The teacher explained the instructions and how to answer the questions.
- 2) The researcher gave students the stories and the question sheet.
- 3) Students read the story carefully and chose the correct answers based on what they understood.
- 4) The researcher collected the answer sheets and marked them using the correct answer key.

b. Validity

To make sure the test was good at measuring what it was supposed to, the researcher used content validity. The test was made according to the reading comprehension indicators in the English curriculum for eighth graders. To check if the test was suitable, the researcher asked experts such as English teachers and lecturers to

review the questions. They checked if the questions were right for the goals of the study. The experts verified that the test properly measures the reading skill it is intended to assess.

E. Technique Data Analysis

To find out The effectiveness of using wattpad application on students Reading skill at the 8th grade students of smpn 6 Pariaman ,researchers analyze data using several steps, as follows:

1. Data Description

This section presented the description of the data collected from the pre-test and post-test results of the eighth-grade students of SMPN 6 Pariaman. The purpose of administering the tests was to measure the students' reading comprehension ability before and after the treatment, and to identify the difference between the students who are taught using the Wattpad application and those who will be taught using conventional methods.

The population of this research consisted of all eighth-grade students of SMPN 6 Pariaman. Two classes were selected as the research sample by using cluster random sampling technique. Class VIII.4 was chosen as the experimental class, which consisted of 26 students and were taught using the Wattpad application. Class VIII.3 was chosen as the control class, which consists of 24 students and were taught using conventional teaching methods. Both classes were given the same pre-test and post-test. The pre-test was administered before the treatment to

measure students' initial reading ability, while the post-test was given after the treatment to determine students' improvement. The test focused on reading comprehension of narrative texts, covering five key aspects:

- a. Identifying the main idea
- b. Finding specific information
- c. Understanding vocabulary meaning
- d. Identifying references
- e. Making inferences

2. Scoring Rubric of Reading Skill

The scoring system in this research was based on several aspects of reading comprehension as suggested by experts. According to Brown (2004) and Heaton (1991), reading comprehension can be evaluated through specific components such as understanding the main idea, identifying specific information, interpreting vocabulary meaning, recognizing reference, and making inference. The rubric used in this study was presented below:

Aspect	Description	Score Range
Main Idea	The ability to identify the main topic or central idea of the text.	1-20
Specific Information	The ability to find supporting details or factual information in the passage.	1-20
Vocabulary	The ability to understand the meaning of words based on context.	1-20
Reference	The ability to identify	1-20

	pronouns and other references in the text.	
Inference	The ability to draw logical conclusions from the information given in the passage.	1-20
Total Score	Overall comprehension performance.	100

After administering both pre-test and post-test, the researcher analyzed whether students in the experimental class show higher improvement in reading comprehension than students in the control class. It was expected that the use of Wattpad would make the learning process more engaging, as the platform provides authentic and interesting reading materials written in natural English. In contrast, students who are taught using conventional methods are expected to show comparatively lower progress because they mainly read texts from printed textbooks that are less interactive and contextual. The scores from both classes were then be analyzed statistically to determine whether the improvement between the pre-test and post-test results was significant.

a. Pre-Requisite Data Analysis

The data from the tests were looked at using math formulas to do a statistical analysis. This analysis helped find out the average score, how much the scores varied, and if the results from before and after using the Wattpad app were really different. These calculations allowed the researcher to see if using the Wattpad app made a real difference in students' ability to understand what they read.

- 1) The Calculating the Mean Score data analysis in this research followed several steps:

The mean was calculated to find out the average score of the students in both pre-test and post-test.

$$M = \frac{\sum X}{N}$$

where:

M = mean score,
 $\sum X$ = total of students scores,
 N = number of students.

- 2) Calculating the Standard Deviation Standard deviation was used to determine the distribution of students' scores.

$$SD = \frac{\sqrt{\sum (X-M)^2}}{N-1}$$

where:

SD = standard deviation,
 X = individual score,
 M = mean,
 N = number of students.

- 3) Comparing the Mean Difference

The difference between pre-test and post-test scores of both groups were compared to determine the improvement level.

b. Hypothesis Testing

- 1) Formulate the . Hypotheses (H_0 and H_1)

The first step in hypothesis testing is formulating the hypotheses.

- a) Null Hypothesis (H_0) there is no significant effect of using the Wattpad application on the reading skill of the eighth-grade students at SMPN 6 Pariaman.

b) Alternative Hypothesis (H_1) there is a significant effect of using the Wattpad application on the reading skill of the eighth-grade students at SMPN 6 Pariaman, and the magnitude of this effect can be determined through statistical testing..

2) Set the Level of Significance ($\alpha = 0.05$)

After the hypotheses are formulated, the researcher decides the level of significance, often written as α (alpha).

a) The most commonly used level is 0.05 (5%), which means the researcher is willing to accept a 5% chance of making an error in rejecting the null hypothesis.

b) In simple terms, if the probability value (Sig.) obtained from SPSS is less than 0.05, it means the result is statistically significant and the null hypothesis (H_0) can be rejected.

3) Calculate the t-value (t_o) Using the Formula or SPSS Output The next step is to calculate the t-value (or obtain it from SPSS).

a) The t-test compares the mean scores of the two groups to determine whether the difference between them is large enough to be considered significant.

b) The formula for the paired sample t-test is:

$$t = \frac{\bar{D}}{SD/\sqrt{N}}$$

where:

$\bar{D}$ = mean of the difference between pre-test and post-test,
 SD = standard deviation of the difference,
 N = number of students.

- 4) Compare the Obtained t-value with the t-table (t_o vs t_{α}) In this step, the calculated t-value is compared with the t-table value at the determined degree of freedom ($df = N - 1$) and significance level ($\alpha = 0.05$).
 - a) If $t_o > t_{\alpha}$ (t-value is higher than t-table), it means there is a significant difference between the two groups, so the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted.
 - b) If $t_o < t_{\alpha}$, it means the difference is not significant, so H_0 is accepted.
- 5) Draw the Conclusion Based on the comparison between t_o and t_{α} , the researcher draws the conclusion.
 - a) If the result is significant (H_0 rejected), it means the treatment (using Wattpad) has a real effect on improving students' reading comprehension ability.
 - b) If it is not significant (H_0 accepted), it means the treatment does not have a significant effect, and any difference may be due to random variation or other factors.

3. Effect Size Calculation

In addition to testing the significance of the difference between groups, the effect size was also calculated to determine the magnitude of the effect of using the Wattpad application on students' reading skill. Since the data were analyzed using the non-parametric Mann–Whitney U Test,

the effect size was calculated using the following formula (Fritz, Morris, & Richler, 2012; Pallant, 2020):

$$r = Z / \sqrt{N}$$

Where:

- Z = the standardized test statistic obtained from the Mann–Whitney U Test
- N = the total number of participants in both groups

The resulting r value was interpreted based on Cohen's (1988) criteria:

- r = 0.10 → small effect
- r = 0.30 → medium effect
- r = 0.50 → large effect

