CHAPTER III
RESEARCH METHODOLOGY

3.1 Research Design

In this research, the writer used experimental research. According to Gay et al (2012:250), experimental research is the only type of research that get tests hypotheses to establish cause-effect relations. The method of the research was true-experimental. According to Sugiyono (2013: 75), true experimental is one of the experimental research where the researcher can control all of the outer variables that affect the course of the experiment. This research is categorized as quantitative research. The independent variable in this research is little stories while the dependent variable is the students' vocabulary mastery.

In this research, the design was a pretest-posttest control design. Pre-test and post-test were used for both experimental class and control class. The experimental class receives treatment which is using little stories media toward vocabulary mastery while the control class does not receive the treatment. The result would be seen from the post-test score in the experimental class. The research design of this study present below:

Table 3.1
True - Experimental Research Design
(Pre-test Post-test Control Group Design)

R	O_1	**X**	O_2
R	O_3	**-**	O_4

By Sugiyono (2013:76)

In which:

R : The group which selected randomly

X : The treatment in experiment class

O1: Pre-test in the experiment class

O2: Post-test in the experiment class

O3: Pre-test in the control class

O4: Post-test in the control class

From the table above, there were two classes as the experiment class and control class. The first step, for experiment and control class, received a pre-test to know how the students' vocabularies before the learning process. Then, the experiment class got treatment using little stories application, while the control class did not receive treatment. In the final step, the students both of the experiment and the control class received a post-test after the learning process.

3.2 Research Population and Sample

The population is a generalization area that consists of objects or subjects who have certain qualities and characteristics which is decided by the researcher (Sugiono, 2016: 117). The population of the research was the eighth grade students of MTs N 1 Jepara in the academic year 2020/2021. There were 330 students in the 8th class as a population. The students from VIII A, VIII B, VIII C, VIII D, VIII E, VIII F, VIII G, VIII

H, VIII I, VIII J, VIII K as the total of population, the table below :

Table 3.2

Total Of Population

No.	Class	Number of students
1.	VIII A	30
2.	VIII B	30
3.	VIII C	30
4.	VIII D	30
5.	VIII E	32
6.	VIII F	30
7.	VIII G	30
8.	VIII H	30
9.	VIII I	27
10.	VIII J	31
11.	VIII K	30
Total		**330**

From the population above, the researcher took the sample of eighth-grade students in MtsN 1 Jepara. The Sample is a part of the total number and the characteristics of the population (Sugiono, 2016:118). The Sample is part of the total number in the population. Sampling is a technique for taking the sample (Sugiono, 2016: 118). Sampling is the process of selecting several individuals for a study in such a way that the individuals represent the large group from which they were selected.

The purpose of sampling is to gain information about a population rarely is a study conducted that includes the total population of interest as a subject (Gray, 1992:123). The sampling technique in this research was simple random sampling. In selecting the sample the researcher took it randomly without paying attention to strata because all of the population had the same change. The research used the stick to the number of classes taken as the sample. First, the researcher writes the name of all the classes on the stick. Second, the researcher put the stick in the jar. The last, the researcher took two sticks randomly to decide which class was select as the sample. From the stick, the researcher was taken two classes as a sample. They were class VIII I consisting of 27 students and VIII J consisting of 31 students. The total number of the sample was 58.

Table 3.3
Sample of The Research

No.	Class	Male	Female	Sum
1.	VIII I (Experiment Class)	12	15	27
2.	VIII J (Control Class)	13	18	31
TOTAL				**58**

3.3 Time and Setting

The research was held in Mts N 1 Jepara that was located in Bawu, Jepara. The research was begun on 15th April until 4th May 2020/2021. It was held for eighth-grade students in the second semester in the academic year of 2020/2021. The detail of the research schedule as following:

Table 3.4 The Research Schedule

No	Activity	Date of April 2021							Place
		14th	15th	16th	17th	18th	19th	20th	
1	Sending the research permission								Mts N 1 Jepara
2	Test Of Validation								
		Date of April 2021							
		26st	27nd	28th	29th	30th	1th	2th	
3	Pre Test (Experiment Class)								Mts N 1 Jepara
4	Pre Test (Control Class)								Mts N 1 Jepara
5	Treatment (Applying Little Story App)								Mts N 1 Jepara
6	Treatment (Applying Conventional Method)								Mts N 1 Jepara
7.	Treatment (Applying Little Story)								Mts N 1 Jepara
8.	Treatment (Applying Conventional Method)								Mts N 1 Jepara

		Date of May 2021							
		3th	4th	5th	6th	7th	8th	9th	
3	Post Test (Experiment Class)								Mts N 1 Jepara
4	Post Test (Control Class)								Mts N 1 Jepara

3.4 Research Variable

In this research, the researcher tried to find out the effect of little stories application toward students' vocabulary. Therefore, the variables of this research were:

3.3.1. Independent Variable

Refers to Cohen et al. (2007;504) an independent variable is an input variable, which causes a particular outcome, in part or total; it is a stimulus that affects a response, an antecedent or a factor that can be changed to affect the result. It was able to conclude that the independent variable can affect the result. Based on that explanation, this research's independent variable is little stories application as media to improve students' vocabulary mastery.

3.3.2. Dependent Variable

According to Cohen et, al (2007:504) the dependent variable is the outcome variable, which is caused, in whole or in part, by the

input, previous variable. It was able to conclude that the dependent variable is variables influenced by independent variables. Based on the statement above, the dependent variable of this research is toward students' vocabulary mastery.

3.5 Instruments

The instrument in this study was a test. Suharsimi Arikunto (2015), tests are questions or practice and other tools that are used to measure skills, intelligence, or a gift that is possessed by someone or group. The writer used tests in the form of multiple choices. Students were given multiple choices about descriptive text by the teacher by using the little stories application. The students are doing the test twice. The first was a pre-test used to measure students' vocabulary before using the little stories App. After having treatment, students received a post-test to measure the students' ability between the experiment class and the control class. The test purpose was to know the result before and after using treatment or compare the result of experimental research.

3.4 Finding the Validity and Reliability

Before the writer gave the instrument of research that was a pretest and posttest to the students, the writer had to find the validity and reliability of the instrument first, those are :

a. Validity

Whiston (2012) defined validity as obtaining data that is appropriate for the intended use of measuring instruments. Validity

was determined by the meaningful and appropriate interpretation of the data obtained from the measuring instrument as a result of the analyses. Content validity is a validity study that reveals the extent to which each item in the measuring instrument serves the purpose. In this case, the researcher chose to consult the English teacher to acquire a valid instrument for the test.

b. Reliability

Arikunto (2010:221), reliability is an instrument that is reliable enough to be used as a data collection device, because the instrument is good. To know the reliability of the test, we should know: (a) the mean score, (b) the standard deviation of the test, and (c) Cronbach's Alpa. The researcher used SPSS 21.0 for windows statistical software.

3.5 Method of Collecting Data

The techniques used in collecting data for this research were as follows:

1) Pre-test

A pre-test was given to the students for both experimental and controlled classes. The experiment class was given before treatment, while the control class was given before the beginning of the meeting without treatment. In the pre-test the researcher using multiple choices. The total number of questions is 50 questions. A pre-test was used to compare students before and after treatment.

2) Treatment

After the pre-test, the researcher gave treatment using a little stories application, only for the experimental class. The treatment bellow :

Table 3.5

Lesson Plan

a. Experimental class

Meeting 1	• The teacher explains the material about descriptive text and how to use little stories Apps through vidio. • The teacher asks students to ask about the material that the teacher explains clearly. • The teacher gives a quiz about vocabulary from the stories of the App. • The teacher asks students about their feelings when the teacher applying little stories media.
Meeting 2	• The teacher asks students to identify the characteristics of descriptive text and find the difficult words from the story App (A Monkey Manners Tale,

	The Brave Eaglet, The Magic Chrismas Tree) • The teacher asks students to submit the task to be analyzed by the teacher

b. Control class

Meeting 1	• The teacher explains the material (descriptive text) to the students. • The teacher asks students to ask about the material that has been teacher convey. • The teacher gives students text to analyze the characteristic of the text. • The teacher asks students to submit it
Meeting 2	• The teacher asks students to write, or remember what the word they are listening • The teacher asks students to submit to the teacher

3) Post-test

After the learning process was finished, the researcher gives a post-test to the experimental class and the control class. It was given after the treatment finish for the experiment class while the control class was given after the last meeting. This test was to measure the effect of students in learning after using little stories application as media.

3.6 Method of Data Analysis

This research used quantitative research. To analyze data, the researcher calculated the pre-test score and the post-tes scores to know the signs of the treatment. The researcher used SPSS 21.0 to analyze the data.

3.6.1. Normality Test

A normality test was a test performed to assess the distribution of data across a group or variable. It was carried out to determine whether the data were normally distributed or not. In this research, the calculation was done using SPSS software version 21.0. Determine its hypothesis first to calculate the normality test. The hypothesis in the normality test was as follow:

Ha (Alternative hypothesis): There was a significant effect of using Little Stories Media Toward Students' Vocabulary Mastery for Eighth Grade Students of MTs N 1 Jepara In Academic Year of 2020/2021.

Ho (Null hypothesis): There was no significant effect of Little Stories Media Toward Students Vocabulary Mastery for Eighth Grade Students of MTs N 1 Jepara In Academic Year of 2020/2021.

After doing the normality test, the data obtained were normally distributed, then to erase the perspective there is the clever class and there is not the clever class. The researcher did the test homogeneity and average test (t-test).

3.6.2. Homogeneity Test

The homogeneity test was carried out to test the variance of each group of research data. The homogeneity test aims to know whether data in the variables X and Y are homogeneous or not. The hypothes is of the homogeneity test is following formula:

H_0 = the variance of the data is homogenous.

H_a = the variance of the data is not homogenous.

While the criteria for acceptance of the homogeneity test is as follows:

H_0 Is accepted if Sig (P value) > α = 0.05

H_a Is accepted if Sig (P value) < α = 0.05

In this research, the researcher use SPSS 21.0 to check the homogenety.

3.6.3 T-test

The writer used quantitative data for collecting the data and it was analyzed by the statistic. The formula for calculating the data to compare the students' pretest and posttest by using "t-test". It was used to examine whether or not, there was a significant difference between the score of students' improvement in vocabulary mastery by little stories media through descriptive text or not. The significance of the test was analyzed using Statistical Product and Service Solution (SPSS) 21.0

The formula of the t-test was expressed as follows:

$$t = \frac{X_1 - X_2}{\sqrt{\left(\frac{SS_1 + SS_2}{n_1 + n_2 - 2}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

Sukardi (2008)

In which:

t = t- Value

X_1 = the average score of experimental class.

X_2 = the average score of control class.

SS_1 = standard deviation of experimental class

SS_2 = standard deviation of control class

n_1 = the number of students in the test in experimental class

n_2 = the number of students in the test in control class.

In order to get the calculation of t-test, there are some of steps to be taken. The steps are:

a. Determining the average score of the experimental class.

$$X_1 = \frac{\sum X_1}{n_1}$$

b. Determining the average score of the control class.

$$X_2 = \frac{\sum X_2}{n_2}$$

c. Determining the standard deviation of the experimental class.

$$SS_1 = \sum X_1^2 - \frac{(\sum X_1)^2}{n_1}$$

d. Determining the standard deviation of the control class.

$$SS_2 = \sum X_2^2 - \frac{(\sum X_2)^2}{n_2}$$

e. Finding the t-value using t-test.

$$t = \frac{X_1 - X_2}{\sqrt{\left(\frac{SS_1 + SS_2}{n_1 + n_2 - 2}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$