CHAPTER III

METHODOLOGY

3.1 Research Setting

This research took place at SMA Swasta Budisatrya Medan which is located at Jl. Letda Sujono No.166, Bandar Selamat, Kec. Medan Tembung, Kota Medan, Sumatera Utara 20225. Time of this research was planned on May 2023.

The reason researchers conducted research at this location are because of some reasons. After conducting observations, by asking the subject teacher concerned, it is known that there are still many average scores on present continuous learning below 80, this is because according to the teacher, the understanding of the structure of the present continuous of the students is still lacking. In addition, previously English teachers have never used the media that researchers will use in this study, namely Word Wall (Wordwall.net). Then for these considerations, researchers chose SMA Swasta Budisatrya Medan to serve as a research location.

3.2 Population and Sample

This research chose the tenth grade at SMA Swasta Budisatrya Medan as the population. For sample, the researcher only took 44 students that came from two classes: 10 MIPA^1 (22 students) as the experimental class, consists of 13 female students and 9 male students and 10 MIPA^2 (22 students) as the experimental class, consists of 13 female students and 9 male students.

The following tables present the distribution of the population and sample.

Table 3.1

The Distribution of Population

No	Classes	Number of Students
1	X-MIPA^1	22
2	X-MIPA^2	22

3	X-IPS 1	26
4	X- IPS 2	26
	Total	96

Table 3.2

The Distribution of Sample

No	Classes	Number of Students	Male	Female	Group
1	X-MIPA[1]	22	9	13	Experimental class
2	X-MIPA[2]	22	9	13	Control class

3.3 **Research Method and Research Procedure**
3.3.1 **Research Method**

This research uses quantitative research with quasi-experimental design. The aimed of this research was to investigate the effectiveness of wordwall.net as a website tools media learning, whether its significance to the students' vocabulary mastery. Furthermore, there are some characteristics of quantitative research (Creswell, 2012, p. 13):

1. Describing research problems through a description of trends.

2. Creating purpose statements, research questions and hypotheses specifically.

3. Collecting numeric data from a large number of people who used the instruments.

4. Analyzing in comparing groups or relative variables by using statistical analysis.

Quantitative research has three kinds of designs which are experimental research, correlational research and survey research. This research used

experimental as the research design. Experimental design, as known as group comparison studies, is a procedure that research determines whether an activity makes a difference in result for participants (Creswell, 2012, p. 21). This design divided group as experimental class and control class. In experimental class, the class got treatment, while in control class did not get the treatment.

This research focused on giving treatment to the experimental class by applying wordwall.net and text-file explanation to the control class. Afterwards, the researcher observed the result through test. The research design could be seen as follow:

Table 3.3

Pre-test and Post-test Design of the Study

| Group Name	Test	Treatment	Test
Control class	Pre-test	No treatment (using paper sheet)	Post-test
Experiment class	Pre-test	With treatment (using Word Wall (Wordwall.net)	Post-test

The reason the researcher chose this research method, because this research method is very suitable for the researcher's title, this is because research with Quasi Experimental is the most likely research design to be carried out in research related to education or learning (Lestari & Yudhanegara, 2015, p. 136).

Furthermore, the purpose of this research is to determine whether or not an activity has an influence on behavior. Treatment in the experiment refers to the providing the situations that will be evaluated for their effects.

When carrying out experimental research, the experimental group and control group should be carefully planned so that the two variables have the same or almost identical characteristics. What separates the two groups is that the experimental group receives a certain treatment, while the control group receives treatment.

3.3.2 **Research Procedure**

Picture 3.2

Research Procedure
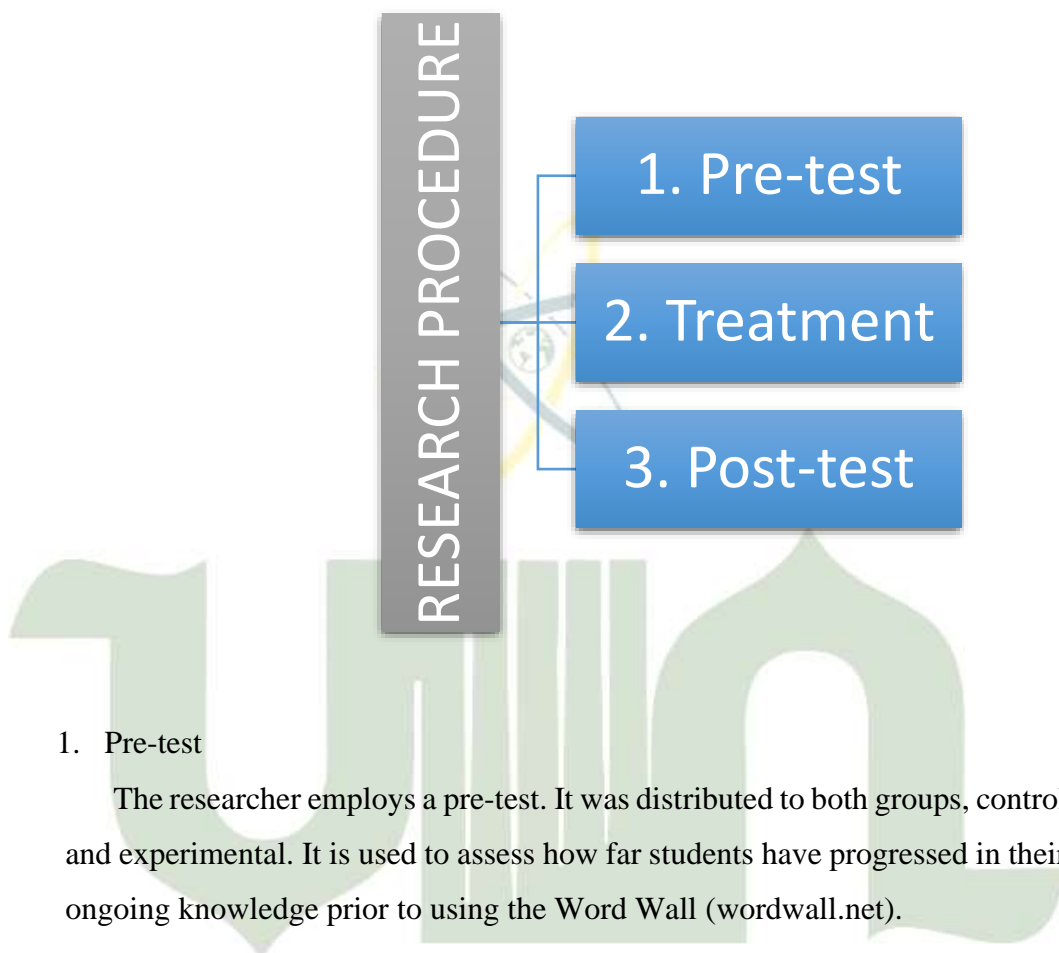
1. Pre-test

   The researcher employs a pre-test. It was distributed to both groups, control and experimental. It is used to assess how far students have progressed in their ongoing knowledge prior to using the Word Wall (wordwall.net).

2. Treatment

   The researcher taught the present continuous tense in the experiment class using WordWall (wordwall.net). Meanwhile, in the control class activity, the researcher used some exercise as conventional media. The treatment will be given four times in a row.

   Students in the experimental class will have access to online interactive activities that will evaluate their comprehension of the present continuous tense during the treatment.

3. Post-test

Following treatment, the control and experiment classes will complete a post-test. Its goal is to determine the impact of wordwall.net on students' current continuous mastering.

3.4 **The Research Instrument**

A pre-test and a post-test were used in this research. Because the study's sample was not drawn at random, the pre-test was designed to assure comparability between the control and experimental groups. The pre-test gave a measure of some characteristics that the researcher evaluates for the student participants in this quasi-experiment before receiving experimental treatment (Creswell, 2012). The researcher then created exams as a post-test to assess the students' present continuous tense comprehension abilities. The post-test provided researchers with information on a measure of attribute or trait that is examined for student participants following the experimental treatment (Creswell, 2012). The purpose of accomplishment exams is to assess students' success and the efficacy of the plan. The pre-test and the post-test were in the form of essay questions. The use of fill-in-the-blank questions test items allowed the researcher to have a consistent scoring and grading way. In this study, the pre-test and post-test used 20 quizzes items by completing the sentences with the words in parentheses by using present continuous tense, which were taken from the book of Azar (2003) entitled "Fundamental of English Grammar 3rd Edition'', Azar (2002) entitled "Understanding and Using English Grammar, Third Edition", Azar (2009) entitled "Understanding and Using English Grammar, Fourth Edition", and Murphy (2019) entitled "English Grammar in Use" . The reason why they were taken from these books is because these books are very popular to teach students about tenses.

In this study, instruments play a crucial role. One of the important aspects in doing this research is the use of an instrument. As a result, throughout the data collection procedure, the researcher must select an instrument. A research instrument is a data collection tool that must be valid and reliable. The device used by the researcher to gather data is referred to as an instrument, according to

Arikunto (2006:126). This research relies heavily on instruments. One of the important aspects in doing this research is the use of an instrument. The success of research is heavily influenced by the instrument employed, because data required to answer research questions and test hypotheses is obtained through the instrument itself. Hadjar (1999:160) defined an instrument as a measurer that was used to get quantitative information on the variance of characteristics objectively.

3.5 **Data Analysis Technique**

The technique of data analysis this research used a statistical analysis of normality, homogeneity, and t-test. These statistical analyses did in steps, which firstly the data calculated in normality test, then homogeneity test and last t-test that purpose to highlight the difference result between pre-test and post-test of each group, control, and experiment class. It will be calculated by using SPSS version 22.0.

1. Test of Normality

The normality test is used to determine if data is already distributed normally (Enterprise, 2018, p. 49). The normality test is used to determine if the data has a normal distribution or not. Normally distributed data conditions are a requirement for testing hypotheses using parametric statistics. There are several types of statistical tests to determine whether the data is normally distributed or not, but in this study, researchers used the Shapiro-Wilk Statistical test, which is based on the probability or significance value (Sugiyono, 2014). Then, in the normality test, researchers used sig in the Shapiro-Wilk section because the data tested was <50. The test criteria are if the Sig value <0.05 then the distribution is abnormal, while if the Sig value >0.05, then the distribution is normal.

2. Test of Homogeneity

The homogeneity test used to know the variance from two classes whether same or not. This test, also normality test, becomes the requirement to do T-test. The homogeneity test is used to determine whether the sample data in each group can be said to be homogeneous or not, and whether or not they can be combined for further analysis. In SPSS software, the researcher did analysis by clicking analyze

menu – descriptive statistics – explore. To take the final decision, there are also two principles; if value of Sig. more than 0.05 means data have homogeneity while value of Sig. less than 0.05 means data have not homogeneity (Alpatikah, 2022).

3. T-test

T-test is a type of statistical analysis used to determine if there is a significant difference between the means of test result from two groups (Hayes, 2021). Based on the samples, t-test divided into three categories: independent sample T-test, paired sample t-test and one sample T-test. Moreover, this research conducted independent sample T-test because it measures the difference of means test from two unpaired samples. In SPSS software, the researcher did analysis by clicking analyze menu – compare means – independent samples T Test. For taking the final decision, there are two principles:

1. If value of Sig. (2-tailed) less than 0.05 means, there is any significance effect;
2. While if value of Sig. (2-tailed) more than 0.05 means there is not any significance effect.

3.6 **Statistical Hypothesis**

There were two statistical hypotheses of this research as follow:

1. Null Hypothesis (H_0)

H_0 is accepted if $_t$hitung $<$ $_t$table or if the sig. (2-tailed) $> 0,05$. H_0 can be identified as a null hypothesis if wordwall.net cannot provide a significant effect in teaching present continuous tense at 10th grade of SMA Swasta Budisatrya Medan.

2. Alternative Hypothesis (H_a)

H_a is accepted if $_t$hitung $>$ $_t$table or if the sig. (2-tailed) $< 0,05$. H_a can be identified as an alternative hypothesis if wordwall.net can provide a significant effect teaching present continuous tense at 10th grade of SMA Swasta Budisatrya Medan.