CHAPTER III
RESEARCH METHODOLOGY

3.1   Time and Location

This research conducted to the second grade at Arabic semester Uin Sumatera Utara Medan Medan on March – june 2023.

3.2   Population and sample

The population under study is the focus of the researcher's inquiry. According to Sugiyono (2011: 80), the population is a generalization region made up of things and individuals chosen by researchers to be investigated and the conclusions reached from them. This viewpoint serves as a guide for the author in estimating the population. The participants in this study were students in Arabic second semester UIN North Sumatera.

The sample is part of the population that has the same properties as the object which is the data source. The sample is part or representative of the population being studied. Based on the above opinion that the sample is part or representative of the population to be studied. The researcher refers to determining the number of samples to be studied, namely: "regarding the determination of the size of the sample there is no absolute determination, meaning that there is no provision for what percentage of a sample must be taken". Based on the opinion above, the researcher argue that the sample is a portion of the population selected as a data source which is considered to represent the total number. The researcher took a sample in this study amounting to PBA 2 and PBA 3 Arabic education students.

Table 3.1 The number of second semester Arabic education of UIN SU

CLASS	POPULATION		
	Male	Female	Total
PBA 2	9	18	27
PBA 3	5	22	27
TOTAL			54

3.3 Research Methods

A research is classified as quantitative study as the data numerical form. When the data are presented in numerical form, this study is categorized as a quantitative study. Pre- and post-tests for the group are part of this pre-experimental design. According to Michael (1977: 24) explains that experimental research aims to examines possible causation by wearing one or more conditions treatment in one or more experimental groups and compare results with one or more untreated control groups. A pretest is an examination administered to a pupil prior to therapy. This examination's objective is to When employing WOW application as therapy, vocabulary knowledge as it relates to particular verbs. Post-tests are exams that students take after receiving treatment or after practicing WOW application. The goal of the post-test is to determine whether the inclusion of WOW application in the classroom enhances students' verbal vocabulary abilities. Because in conducting in research, one Arabic Second Semester UIN North Sumatera..

3.4   Research Instrument

For quantitative data, pre-test and post-test were the tools used to collect the data. The pre-test was administered prior to the first meeting, and the post-test was administered thereafter. The pre-test and post-test tests were identical. The students first listened to the researcher give them a tale, after which they had to respond to questions on what they had heard. There are 20 questions in each test the researcher uses.

3.5 Data Analysis Technique

Sugiyono (2013: 333) said that in quantitative research, the data analysis technique used is clear, that is, it is directed to answer the problem formulation or hypothesis testing that has been formulated in the proposal. In this research, the writer use test to coolect data, the test use in order to know The Effect of Using Wow Application on Students' Vocabulary Mastery At Arabic second semester

Uin Sumatera Utara Medan. The test technique is the main technique in collecting data.

1. Pre-test

   The pre-test for the students is carried out to get their score. The students are given a multiple choice test about vocabulary. This test does to know students'' ability about vocabulary mastery.

2. Post-test

   The post-test is given in multiple choices also. This test is conducted to know the improvement of students'' ability in vocabulary mastery after the writer gives treatment to students.

3. Test

   In this study, there are two tests: a pre-test and a post-test. The pre-test will be administered ahead of the procedure. It measures the students' current level of vocabulary mastery. The post-test, meantime, will be administered following the therapy. In this study, there are fill-in-the-blank and word-to-word matching tests.

The researchers has created a vocabulary exam scoring rubic to measure vocabulary component. The rubic was modifired from published Tri Lestari Nela (2018)

Table 3.1 Rubric vocabulary component

No	Rated aspect	Indicator	Score
1.	Translate vocabulary	Students can interpret English vocabulary well.	20

		Students have not been able to interpret English vocabulary properly	20
2.	Read vocabulary	Students can read English vocabulary well	20
		Students have not been able to read English vocabulary properly	10
3.	Pronounce vocabulary	Students can pronounce English vocabulary fluently	20
		Students have not been able to pronounce English vocabulary fluently	10
4.	Writing vocabulary	Students can write English vocabulary well and quickly in notebooks	20

		Students have not been able to write fast language vocabulary in notebooks	10
5.	Using vocabulary in learning	Students can write English vocabulary well and quickly in notebooks	20
		Students have not been able to write vocabulary	10

Score maximum : 100

Information:

A = If the student gets a score of 90-100

B = If the student gets a score of 80-89

C = If the student gets a score of 65-79

D = If the student gets a score < 64

3.5.1 Validity Test

Validity is a measure that shows the levels of validity or validity of an instrument. According to Sugiyono (2007: 121), the instrument is said to be valid if it is able to measure what it should measure. Validity aims to test whether each item or instrument is really able to reveal the factor to be measured or the internal consistency of each measuring instrument item in

measuring a factor. The high and low validity of the instrument indicates the extent to which the data collected does not deviate about the variable in question.

As for the criteria, for determining that instrument is valid, count r should equal to or more than r table at a significant level of 5% (five percent). And vice versa if the count r is smaller than r table at a significant level of 5% then the instrument is said to be invalid, (Sugiyono:2012), As we can see below:

    a. If r_count (r pearson) ≥ r_table then item is valid.

    b. If r_ count (r pearson)≤ r_table then items is invalid

3.5.2 Reliability Test

Instrument reliability, according to Sukmadinata (2005: 229), is related to the level of constancy or determination of the measurement results. A reliable instrument (Sugiyono, 2007: 121) is an instrument that is used several times to measure the same object, and will produce the same data. The instrument of this study was clarified reliability enough because the alpha <0.90..

3.5.3 Normality Test

Normality test was held to determine whether normal or abnormal research data or research variable. The data normality test can determine whether the distribution of a data follows or approaches the normal distribution. In this study, the normality test was carried out using the SPSS version 14 program. In this approach, the researcher used a data normality test performed with a graph and saw the Kolmogorof-Smirnov significance number. By test criteria:

a. If the significant number (SIG) > 0.05, then the data is normally distributed.

b. If the significant number (SIG) < 0.05, then the data is not normally distributed.

3.5.4 Homogeneity Test

According to Arikunto (2005), the homogeneity test of variance is used to determine whether or not the sample's variance is drawn from the same population.

According to Joko Widiyanto (2010:51), the basis or guidelines for decision making in the homogeneity test are as follows:

a. If the significance value (sig) < 0.05, it is said that the variance of two or more population data groups is not the same (not homogeneous).

b. If the significance value (sig) > 0.05, it is said that the variance of two or more data population groups is the same (homogeneous).

3.6 Research procedure

The research employs a test to gather data. By utilizing an WOW Application in the experimental class and not using an Wow Application test results are obtained to determine how well students have mastered vocabulary. Information is gathered from the Arabic second semester UIN North Sumatera. And the last research data in test to the students. Because the data is quantitative, the data analysis technique uses descriptive statistical methods that are already available.

3.7 Statistical Hypothesis

The author compares the T-test and T-table after obtaining the t-test. A significant degree of 0.01 is used in testing the hypothesis. The following is how the conclusion is reached:

H0 is approved if (to) (tt) to a sufficient degree of 0.01. Ha is approved if (to) > (tt) in a substantial degree of 0.01.

H_1 : There is significant The Effect of Using WOW Application on Students' Vocabulary Mastery At Arabic second semester UIN North Sumatera

H_0 : There is no significant The Effect of Using WOW application on Students' Vocabulary Mastery A Arabic second semester UIN North Sumatera