

CHAPTER I

INTRODUCTION

1.1 The Background of the study

Language is a system of vocal sounds and combination of such sounds to which meaning is attributed, used to the expression or communication of thought and feeling. While Hornby states that language is human and non-intensive method of communicating ideas, feelings and desires by means of a system of sounds and sound symbols. It can be concluded that language is a tool of communication that is used by many people to express their feelings, ideas, desires in order to the people can understand what they mean.

English is an international language that is used to communicate among people all over the world. Sari, Nurmala S & Aminatun (2021:16) argue that English is used in many parts of human life, including education, technology, tourism, health, economy, and so on. It has been shown how important English is in peoples' lives today. English is also language that has big influence in over the world. It happens because it is one of the international language which has power to connect the communication people around the world. By having it, people around the world can share any information that happen across the world. English needs to be mastered because people have a big chance to participate in the global era example helping people from various countries to work together, do business, study abroad, build a career and much more.

Mastery of English can be obtained through learning English. If we do not master English then we can be out of date, behind in knowledge, hard to communicate with others in English and also less job opportunities. Because of that,

learning and mastering English are really important especially in communicating. In learning English, four skills must be learned by students, namely: speaking, writing, listening and reading.

According to Palmer, as quoted in Richards, vocabulary is one of the most important components in foreign language learning. According to Hatch and Brown (1995:1) vocabulary is the foundation to build languages. It means that Vocabulary is a basic and important aspect of learning English because it will be very necessary for skills; in listening, speaking, reading, and writing. If they do not master the vocabulary, they will not succeed in following the lesson. Mastering vocabulary will make students feel easier to learn English. Because, when we listen to something in English, with a collection of vocabulary that has been understood it will be easy to get the meaning of what is heard. Likewise, speaking, when we will convey ideas or concepts, it will require a collection of vocabulary that can be chosen to convey it.

Electrical devices and communication devices have become a tool for people to communicate with others more easily too. People become more confident with communication devices, such as gadgets. The use of media in this era has influenced the way people actually live. This can be proof that media use is inseparable from our daily lives. The examples of technology media that make it easier for us and already around us are the internet, computers, and cell phones. Technology such as the use of gadgets or computers are increasingly being used in teaching English vocabulary mastery to improve their quality and make it easier for students to practice it.

The researcher found some problems in the student's vocabulary at SMAN 1 Barusjahe. The researcher conducted an interview with the English teacher and some of the students at Senior High School 1 Barusjahe as a preliminary study. Based on the interviews, Some of the problems are many students whose grades do not reach the Minimum Mastery Criterion-Kriteria Ketuntasan Minimal (KKM). It is caused by students' low ability in memorize vocabulary and the students' have less practice in their vocabulary. In addition, Some teachers teach students only use book or worksheet as teaching media and still apply the old strategy. Those are some factors that make students when learning English often feel bored and finally, when students are at home, students are not able to remember all the new vocabulary that has been taught because they seem to forget.

To overcome the problems above, The teacher could try some variations in their teaching technique or use interactive teaching media. Therefore, the researcher wants to try one of the learning media in the form of application that can be accessed anytime and anywhere in learning vocabulary. Students can learn a lot new vocabulary they didn't know before and they couldn't find it in their lessons. The media that we can use to attract students' attention and increase students' enthusiasm in learning is using the Rosetta Stone application.

Rosetta Stone is learning application for English vocabulary, pronunciation, and so on through many learning methods, including test and game, the hard memorization will be much easier and more efficient, especially lots of fun. Rosetta Stone can helps the students become familiar with everyday topics and vocabulary. It offers lots of practice for hearing the language. Rosetta Stone allows students to

hear native speakers, and this helps students learn how to better pronounce the language.

Rosetta Stone provides dictation, spoken and written lessons, with speaking practice for more advanced users. This application has many features and parts. By using Rosetta Stone in classroom, it will help the teacher to provide more active, interesting and effective learning activity. In this application, Students can use it with the mobile phones they have, or can also use the computers that are at school, but when they are at home they can use the app using mobile or laptop too.

The researcher choose Rosseta Stone application because proven by several researchers who were successful in overcome the problems above by using Rosetta Stone application conducted by Harahap, et al (2020:88) with junior high school students. The researchers targeted the objectives of improving the vocabulary mastery of their students by using the Rosetta Stone app and observing its effectiveness. The result of this research showed that the experimental group members that learn by using Rosetta Stone application found the app activities easy to understand, appropriate to the aims, and fun to deal with. The app's contextual approach turned the students to be more active and enthusiastic, and students did not get bored as they did in conventional method instruction. Teachers can grab the students' attention better and enrich their lessons with alternative mediums by using this app.

Another research conducted by Firdaus (2019:57) with the title "*The effectiveness of Rosetta stone software usage on students' pronunciation development at the Eighth Grade of SMP IT PAPB Semarang*". The results of this research showed that after using Rosetta Stone software, students felt easier and

happier to understand and to practice pronunciation. Teacher realized that Rosetta Stone can help students' learning and the teacher will use this software for future teaching and learning. Therefore, using Rosetta Stone software as learning media is effective.

Based on the explanation above, the researcher conducted the research by the title: The Effect of Rosetta Stone Application on Students' Vocabulary Mastery in the Eleventh grade at SMAN 1 Barusjahe.

1.2 The Problem of the study

Based on the explanation above, the problem of this study is formulated as follows: Does the Rosetta Stone application effect on teaching vocabulary in the eleventh grade at SMAN 1 Barusjahe?

1.3 The Objective of the study

Based on the statement of the problem, the objective of this study is : To find out the effect of Rosetta Stone application on teaching vocabulary in the eleventh grade at SMAN 1 Barusjahe.

1.4 The Scope of the study

There are many applications to help students in learning vocabulary, but the scope of this research the researcher decided to use Rosetta Stone application to overcome this problem. There are three sub-skills (Grammar, Vocabulary and Pronunciation) in teaching language, but the scope of this research focus on students' vocabulary mastery. In vocabulary, the researcher focus on terms of noun.

The place to do this research is SMA Negeri 1 Barusjahe and the population of this research is the eleventh grade especially in social class. This research used experimental quantitative design. It's used to find out the effect of Rosetta Stone application on teaching vocabulary in eleventh grade at SMA Negeri 1 Barusjahe.

1.5 The Significances of the study

The significances of this study considered into two, theoretically and practically.

1. Theoretically

It is hoped that the results of this study can have a valuable contribution for:

1. The researcher to get more knowledge related to teaching vocabulary by using the "Rosetta Stone application".
2. People who want to conduct the study on the same topic, and subject.

2. Practically

1. For the Teachers

The result of this study are expected to help teachers to find appropriate media for teaching vocabulary in order to improve students' learning performance.

2. For the Students

The result of this study are expected to help the students to improve their skills and confidence in learning vocabulary.

3. For future researchers

This research result can be used as one of the reference materials and information for future researchers' archives.

4. For the school

To help educational institutions use the application as a fun learning media for their future students by knowing the key differences between how students learn English normally and how they learn English after using the Rosetta Stone application.

1.6 Hypothesis

The hypothesis of this research are:

H_a : There is an effect of Rosetta Stone application on students' vocabulary mastery in the eleventh grade at SMAN 1 Barusjahe.

H_o : There is no an effect of Rosetta Stone application on students' vocabulary mastery in the eleventh grade at SMAN 1 Barusjahe.

CHAPTER II

REVIEW OF LITERATURE

2.1 Theoretical Framework

This study is conducted on some theories to get the point clearly for the readers. The concept of this study should be explained from the beginning to give relevant knowledge about some concepts that applied in this study.

2.2 Language

According to Moats (2020:6) Language is a system of symbols used by humans to communicate or express ideas and thoughts to others. Language is a communication tool used by everyone in their daily life as a means to convey information. Language as a system, which means that formed by a number of components that are fixed and can be patterned. As a system, in addition to the systematic language are also systemic. Systematic meaning, language arranged according to a certain pattern, not arranged randomly or arbitrarily. While systematic means that language is a single system, but rather consists of several subsystems that differ from other languages. Language subsystem consists of phonology, morphology, syntax, and lexicon. Therefore the language also commonly considered unique but universal at the same time. Unique means having the characteristics or properties not possessed by other languages, while universal means having the same traits that exist in all languages.

2.3 English Language

English language has an important role in international communication. It has been one of the most important international languages. Everyone must study

about English because if people want to go to other countries, they must speak English. Moreover, many countries should prioritize English because English is international language. English has become an international language. Many countries using English as a tool communication. People use English in some aspects such as science, technology, politic, education, business, economic, culture and so forth. Some countries has been considered English as their foreign or second language therefore people from those countries have to learn more about English in other that they can speak English well.

English language can improve knowledge of people. People can use English expression, emotion, feeling, and so on. In international connection, English is very popular in the world because many people try to learn English, so that English is an important language and English becomes standard language in the world. As a foreign language in Indonesia context, English becomes a foreign language. In our country, many people using English in daily activity. In Indonesia, English becomes an important subject in our education department. For example many universities in Indonesia has English program because English is very important, if we study English we should have four basic skills namely listening, speaking, reading, and writing.

2.4 Teaching English Language

Rajagopalan (2019:5) stated that teaching is regarded as both an art or science. As an art, it lays stress on the imaginative and artistic abilities of the teacher in creating a worthwhile situation in the classroom to enable students to learn. As a science, it sheds light on the logical, mechanical, or procedural steps to be followed

to attain an effective achievement of goals. Teaching is a scientific process, and its major components are content, communication and feedback. The teaching strategy has a positive effect on student learning. It is always possible to modify, improve and develop.

The International Encyclopedia of Teaching and Teacher Education) have classified the concept of teaching into three categories:

1. Teaching as success signifies that learning is implicated in teaching. Teaching entails learning and can be defined as an activity which necessarily affects learning.
2. Teaching as an intentional activity means that teaching may not logically imply learning, but it can be anticipated that will result in learning.
3. Teaching as normative behavior denotes action undertaken with the intention of bringing about learning another. It designates a family of activities: training and instructing are primary members and indoctrination.

When teaching skills, the educator makes the students aware of reasons for what they are doing and encourages them to be intelligent and reflective in the exercise of their skills. And though the environment may shape the behaviour of students, teachers expect students to act because of perceptions of what they ought to do. In teaching, especially teaching English, teacher should prepare the concept of teaching as well as possible and he or she is demanded to create the fun learning, because some students blame that English is most difficult subject. Fun learning will increase students' motivation to learn English as much as possible.

In teaching English as foreign language, the teachers should be able to manage the classroom well. The teacher should be creative and manage the classroom with interesting technique as Brown states, teaching is showing or

helping student to learn how to do something, giving instructions in the study of something, providing with language, and causing to know or understand. It means that teacher have to make the students feel comfort and interest in studying subject especially English by using a creative technique so the students will focus on learning process.

2.5 Vocabulary

2.5.1 Definition of Vocabulary

Vocabulary is a linguistics element of language skills. Sipayung (2021:32) From all of the skills in English, vocabulary is the most important one that should be noticed, because it is hard to use language without vocabulary. According to Hatch and Brown (1995:1), Vocabulary refers to a list or set of words for a particular language or a list or set of words that individual speakers of language might use. Vocabulary is the heart of language. Nothing can be done without the vocabulary. All language skills are concerned with words. It is the basic of learners to speak, listen, read, write. They could not speak, read, and write well without mastering vocabulary. With vocabulary we can make a sentence and without mastering vocabulary, students would be hard in understanding words or sentences.

Vocabulary is the total number of words as people know and use it in their Language activities, a group of words and meaning to communicate with others as a main part of Language. Vocabulary is an essential subject to students to speak read, write, and listen.

2.5.2 The Importance of Vocabulary

Vocabulary is one of the components to help students in mastering the language. They will learn the language skill easily if they have enough vocabulary. Without vocabulary we cannot communicate each other, so we have to learn and memorize many vocabularies in order to we can speak English well. And vocabulary is the one item in a language for the purpose of teaching and learning activities. It is important to teach vocabulary in the English teaching-learning process, especially in the communication language teaching method. In this method, vocabulary is the main to support the communication goals because if the students do not master vocabulary well the goals cannot be reached. Therefore, the teaching of vocabulary should be in accordance with the text type, but the use of translation should be minimized.

2.5.3 The Types of Vocabulary

Harmer (1991:159) divides vocabulary into two types:

1. Active vocabulary refers to vocabulary that has been learned by the students. They are expected to be able to use it.
2. Passive vocabulary refers to words which students will recognize when they meet them, but they probably not are able to produce it.

There are two types of vocabulary, according to Zhou (2010:15) They are receptive and productive vocabulary. Zhou stated that “receptive and productive vocabulary comprehension is a very important dimension of vocabulary awareness”. Receptive vocabulary knowledge refers to the capacity to comprehend a word when it is heard or seen, whereas productive knowledge is the ability to generate a word when it is written or spoken.

From the explaining above, we know that every experts in every book is different in classifying the kinds of vocabulary, because every person has different ways in showing and telling their opinions and ideas. It means that vocabulary According to Barnhart (2008:697) 1) Stock of words used by person, class of people, profession, etc. 2) Collection or list of words, usually in alphabetical order and defined." is of two kinds function and content words.

2.5.4 The Teaching and Learning Vocabulary

According to Susanto (2017:185), Teaching vocabulary is clearly more than just presenting new words. The teacher has to be careful in selecting the vocabulary that he/she will teach. Both the students and teacher need to know how it talks about language at various points during learning and teaching. In teaching vocabulary teacher must make the conditional class and should be realized that learning a language always deals with a large number of words that it is difficult for the students to memorize difficult words. Knowing how words are described and categorized can help us understand the decisions that syllabus planners, material writers, and teachers make when it comes to teaching of vocabulary.

In teaching vocabulary, the teacher has a responsibility to make students successful. English teacher not only gives the students a list of the word but also relates them to context of words in motivating the students. Teacher is a guide who help the students in discovering the meaning of word. The purpose of learning vocabulary is to understand the meaning of word and use it in concrete sentence. How to make the students memorize some word easily, the teacher has to create more effective ways to teach vocabulary.

According to the theory above, it can be concluded that teaching vocabulary is not more than just presenting new words. Teacher must create the conditional class and should be realized that learning a language always deals with a large number of words that is difficult for the students to memorize difficult words.

Long give some tips in learning vocabulary, the tips are as follows:

- 1) Read, read! Most vocabulary are learned from context. The more words you are explored too, the better vocabulary you will have. While you read, pay close attention to words you don't know. First, try to figure out their meaning from context. Then look the words up. Read and listen to challenging material so that you will be explored many new words.
- 2) Improve context of research shows that the vast majority of words are learned from context. To improve context will pay close attention to how words are used. Doing a search on a word using new comfort searching newsgroup will give you many examples of how that words is used in context.
- 3) Practice, practice learning a word want help very much if promptly forget it. Research shows that it takes form 10 to 20 repetitions to really make a word part of your vocabulary. It helps to write the words perhaps on and start using it. Review your index cards periodically to see if you have forgotten any of your new words.
- 4) Make up as many associations and connections. Say the words loud to active your auditory memory, relate the word to words you already know.
- 5) Use mnemonics (memory tricks).
- 6) Get in the habit of looking up words yo can't know if you have a dictionary program on your computer, keep it open and handy.

- 7) Take vocabulary test. Playing games such as the ones on this cite sites, that test your knowledge will have you learn new words and also let you know how much progress you are thinking.

2.6 Rosetta Stone

2.6.1 The Definition of Rosetta Stone



Picture 1. Rosetta Stone Application Logo

Rosetta stone is an application that taught millions of people in new languages. In the application, many different languages can be chosen. They have 24 languages, i.e. Arabic, Chinese (Mandarin), Dutch, English (American or British), Filipino (Tagalog), French, German, Greek, Hebrew, Hindi, Irish, Italian, Japanese, Korean, Persian (Farsi), Polish, Portuguese (Brazil), Russian, Spanish (Latin American or Spain), Swedish, Turkish, or Vietnamese Rosetta Stone (2013). According to Hanif (2015:26), Rosetta Stone application consists of a combination of image, text, and sound, with difficulty levels increasing as the student progresses. Rosetta Stone application not only vocabulary learning but there are many learning such as pronunciation, grammar, listening, etc.

Rosetta Stone has many features that are very interesting for students learning. In the Rosetta Stone application that uses English (UK), there are four

chapters of discussion. They are Home and Health, Life and World, Everyday Things, and also Places and Events. Each chapter has its own difficulties. If you have successfully passed the level that is being carried out then you can continue to the next level. Each chapter has many exercises for speaking, adding vocabulary, writing, listening, grammar mastery, reading, and also pronunciation.

The most important thing in Rosetta Stone is there are many reviews of the answers to these exercises and got the score. With these reviews, help the students find the correct answers and learn from their mistakes. In addition, Rosetta Stone application provide good information requested in a very short time, almost instantaneously. In Prasetyo (2018:304), Using Rosetta Stone in classroom will help the teacher to provide more active, interesting and effective learning activity, especially for vocabulary improvement.

2.6.2 The Advantages of Rosetta Stone

According to Hanif (2015:31), The advantages of the Rosetta Stone application are:

1. Visual, which simplifies information from the abstract to be more concrete by displaying images and text on each English vocabulary taught.
2. Programmed, which has a clear method of teaching English using the dynamic immersion method.
3. Systematic, which has stages of teaching English from the easiest level to the highest level and hardest level.
4. Constructive, provoke to perceive the meaning (vocabulary) of images are studied without any translation.

5. Interactive, namely presenting English language learning in two directions with available programs.
6. Fun, namely displaying images that are easy to understand and interesting to attention.

2.6.3 The Procedures Learning by Using Rosetta Stone

To be able to run the software or application, of course, we must first have the application on our cellphone or access it from the laptop. For that follow these steps/procedures to use the Rosetta Stone based on Munthe (2020:22):

1. First, install the Rosetta Stone application on your phone from Playstore or Appstore.
2. Open the application on your smartphone and select English language, then go to the account creation page.
3. Click the Create Account button to create an account and follow the instructions to complete each step. Fill your name, email, password, and country. Then check the empty box.
4. Next, click the create account button.
5. Next, skip unnecessary pages. then go to the home page. enjoy your study!

2.7 Previous Studies

The first, Harahap (2020) conduct a similar research with title “The Application of Rosetta Stone Media in Teaching English Vocabulary Through the Dynamic Immersion Method Against SMP Negeri 3 Padang sidimpuan Students.” His research method is quasi-experimental. His finding is the mean post-test of vocabulary mastery of experimental group is higher than the posttest results of

control group students. From the mean data obtained, it can be seen that there are significant differences in vocabulary learning at seventh-grade students of SMP N 3 Padangsidempuan between those taught by using Rosetta Stone media and those who don't teach by using Rosetta Stone media. The differences with this study, there is an additional method used in Harahaps' research, namely the dynamic immersion method. The findings of this study used by the researcher as reference in discussing how to analyze the data.

The second, Munthe (2020) in her research entitled "Utilizing Rosetta Stone Application to Improve Students' Vocabulary Mastery at The Tenth Grade of Swasta Tunas Bangsa Senior High School. Her research method is classroom action research which is carried out in two cycles. In her research, the test results obtained that there is an increase in the vocabulary of students in each cycle. Which means that the use of the Rosetta Stone application is suitable for learning media for vocabulary mastery of class X IPA-1 Tunas Bangsa students. The result of this study used by the researcher as reference in discussing the definition and types of vocabulary.

The third, Hanif (2015) in research entitled "Using of Rosetta Stone Software as media in teaching English vocabulary. The aim of the study is to examine the effectiveness of using Rosetta Stone Software in teaching vocabulary. The research method is using experimental quantitative. The result was analyzed by using statistical formula in order to see if there is a significant difference between the students who were taught by direct method and the students taught by using Rosetta Stone Software as the media in teaching vocabulary. The use of Rosetta Stone Software focused on matching the pictures and meaning of some activities of

Rosetta Stone Software shown on the screen. Base on explanation above, using Rosetta Stone Software as media also proves that the treatment has given some effects on students' vocabulary improvement. The findings of this study used by the researcher as reference in discussing how to operate the Rosetta Stone application.

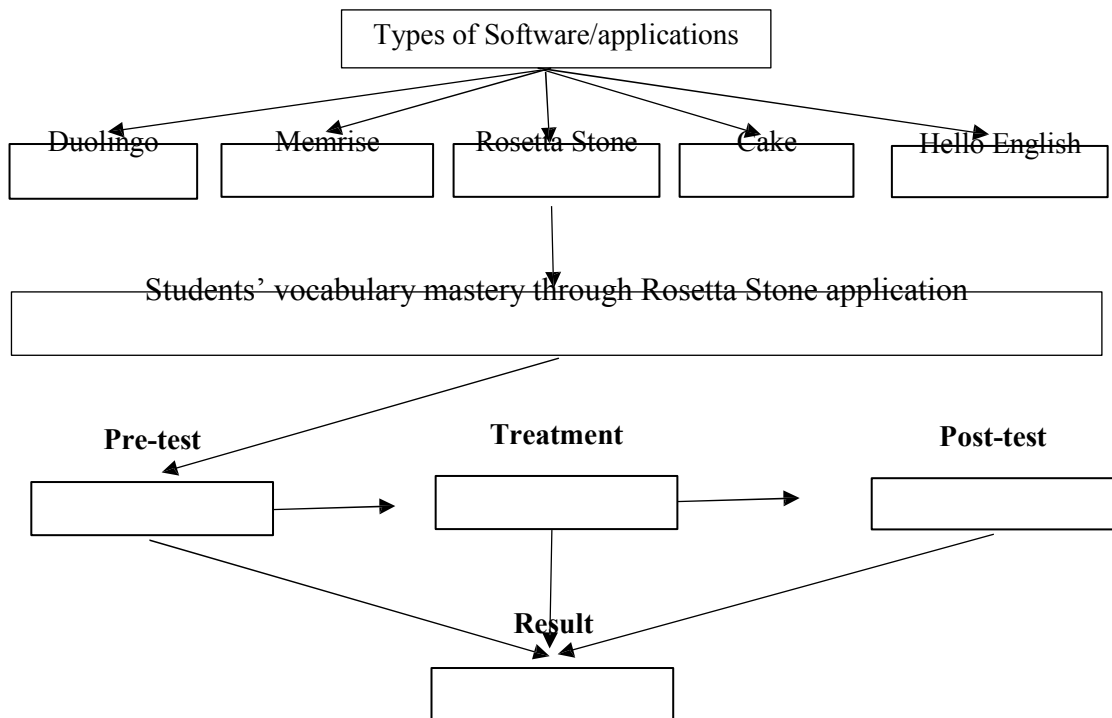
From some of the related strategies listed above, it is stated that the Rosetta Stone application effective on students' vocabulary mastery with different learning methods and also different research designs. Additionally, Rosetta Stone application has some tutorial modes, which help the students to explore the correct answers and learn from the errors they have made. Rosetta Stone application provide good information requested in a very short time, almost instantaneously.

2.8 Conceptual Framework

There are many software or applications to help students in learning vocabulary and pronunciation, for example: Duolingo, Cake, Memrise, Hello English and so on but this research the researcher decided to use Rosetta Stone application to overcome this problem. There are three sub-skills (Grammar, Vocabulary and Pronunciation) in teaching language, but the scope of this research focus on students' vocabulary mastery. In this research, the researcher was analyze the improvement of the students' vocabulary mastery through Rosetta Stone application. Before the treatment using Rosetta Stone application the researcher gave pre-test, after the test was used Rosetta Stone application in the class, after the pre-test and treatment, researcher gave the final test or post-test to know the data

that Rosetta Stone application can improve students' vocabulary mastery. The conceptual framework underlying in this research is given in the following:

Figure 2.1 Conceptual Framework



CHAPTER III

RESEARCH METHODOLOGY

3.1. Research Design

There some research design, they are: descriptive qualitative, descriptive quantitative, classroom action research, and experimental quantitative. The research design used in this study was experimental quantitative which true experimental (pretest-posttest control group design). Experimental research was the way to find a causal relationship (relationship clause) in determining cause and effect. According to Gay (2012:250), experimental research is the only type of research that can test hypotheses to establish cause-effect relations.

In this research, the researcher took two classes as experimental and control class. The researcher using the same materials and tasks but with a different treatment for control and experimental class. Experimental class was a class that was giving by treatment which used "Rosetta Stone application" as a media in teaching vocabulary. On the other hand, control class was a class that the teaching-learning process did not use "Rosetta Stone application" as a media in teaching vocabulary.

Why the researcher chose this design because experimental design was aimed to investigate the cause and effect between the object of research. This related to the objectives of the study to found out the effect of Rosetta Stone application on teaching vocabulary in the eleventh grade at SMAN 1 Barusjahe. The design can be seen as the following:

Table 3.1 Research Design

Group	Pre-Test	Treatment	Post-Test
Experimental Group	√	Using Rosetta Stone application	√
Control Group	√	-	√

3.2 Population and Sample

3.2.1 The Population

Gay (2012:144) stated that population is the group to which a researcher would like the results of a study to be generalizable. The population of this study was students in the eleventh grade at SMAN 1 Barusjahe. There are six classes in the eleventh grade, consist of : three classes of science and three classes of social.

Table 3.2 The Population of this study

XI IPA 1	30 students
XI IPA 2	34 students
XI IPA 3	31 students
XI IPS 1	29 students
XI IPS 2	32 students
XI IPS 3	28 students

3.2.2 The Sample

Sample is a part of the population. Sample is a group selected from population for observation in a study. The researcher took the sampling in social classes by using random sampling technique with taking a lottery. The researcher took 20 students for experimental class and 20 students for control class, so the total sample consists of 40 students.

Table 3.3 Number of students

Experimental Class (Which learn by using Rosetta Stone application)	Control Class (Which learn without using Rosetta Stone application)
20 students	20 students

3.3 The Research Variable

There are two variables in this research; independent variable and dependent variable. Sugiyono (2021:60) stated that the independent variable is the variable that influences the cause of the change in the dependent variable and the dependent variable is the variable that is affected or which is the result because of the independent variable. In this study, the independent variable is the use of the Rosetta Stone application, while dependent variable is students' vocabulary mastery.

3.4 The Instrument of collecting data

The instrument of collecting data was vocabulary test. The test was given for both groups with pre-test and post-test. The researcher gave the pre-test and post-test to the students by multiple choice. The test consists of 40 items. The students chose the correct answer. Pre-Test was given before teaching by using "Rosetta Stone application" as the teaching media. A pre-test basically measured how far the student's ability in their vocabulary. After conducted pre-test, now the researcher conducted post-test. Post-test was given to the experimental class and control class after giving treatment and explanation. It was given in order to know whether

"Rosetta Stone application" has an effect or not on students' vocabulary mastery by compare the score of experimental and control classes.

3.5 Scoring System

The researcher gave score to the students' pre-test and post-test results used the formula:

$$S = \frac{R}{N} \times 100$$

Where:

S = Score

R = The correct answer

N = Number of test

100 = Cumulative range

Classifying the score five levels classification is as follow:

No	Classification	Score
1.	Excellent	86-100
2.	Good	71-85
3.	Fair	56-70
4.	Poor	41-55
5.	Very Poor	0-40

3.6 Procedure of collecting data

The study was divided into two groups, experimental class and control class. A set of treatment was applied to experimental class. Then, the process of research consisted of three steps namely pre-test, treatment, and post-test.

1. Pre-Test

First, the researcher gave the pre-test for both classes they are experimental class and control class before treatment is conducted. In vocabulary test, the researcher gave multiple choice test consist of 40 items and the students chose the correct answer. The function of the pre-test is to know the students' vocabulary mastery in experimental class and control class before giving a treatment.

2. Treatment

After gave the pre-test for experimental class and control class, the researcher gave treatment to the experimental class by using "Rosetta Stone application" in teaching vocabulary. While control class was taught without using "Rosetta Stone application". There are steps by researcher to conduct the treatment:

Table 3.4 The Steps of Treatment

Experimental Class	Control Class
1. Greeted the students, introduced self, and explained goals.	1. Greeted the students, introduced self, and explained goals.
2. Gave an explanation of the material (vocabulary) to the students.	2. Gave an explanation of the material (vocabulary) to the students.
3. Explained the Rosetta stone application, the benefits, and how to operate it.	3. Gave an assignment to the students related to the learning material.
4. The researcher practiced directly the use of Rosetta Stone application and asked the students to do it together.	4. Monitoring and saw the students.
5. Asked the students if they have any difficulties and also problems about how to operate the Rosetta Stone application.	5. Collected the students's assignment.
	6. Made the conclusion about today's material.
	7. Closed the class.

<p>6. Asked the students to learn about the material and did the exercises in the Rosetta Stone application.</p> <p>7. Monitoring and saw the students.</p> <p>8. Made the conclusion and allowed students to asked about the difficulties experience.</p> <p>9. Closed the class.</p>	
--	--

3. Post-Test

After giving a treatment, the researcher gave a post-test to know whether there is an effect of the “Rosetta Stone application” for group who teach by using the “Rosetta Stone application” or not. Post-test was given for both classes. In vocabulary test, the researcher gave multiple choice test consist of 40 items and the students chose the correct answer.

3.7 Validity & Reliability

3.7.1 Validity

Sugiyono (2021:193) stated a valid instrument means that the measurement used to get the data is valid. Validity aims to determine how accurate the measuring instrument used in this study. The valid instrument has high validity. Instead, the instrument which is less valid means it has low validity. High and low of instrument’s validity shows, how far the collected data do not deviate from the validity of the variable itself. To know the validity of the instrument, the researcher used the correlation formula product moment.

$$r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{(N \sum X^2 - (\sum X)^2) (N \sum Y^2 - (\sum Y)^2)}}$$

Where :

r_{xy} = Correlation coefficient between x and y variables

n = Number of participants

$\sum X$ = Sum of item scores

$\sum T$ = Total score

$\sum X^2$ = Sum of the squares of the item scores

$\sum T^2$ = Sum of squares of total items

$\sum XT$ = Multiplication result between item score and total score

3.7.2 Reliability

Sugiyono (2021: 363) reliability is the consistency and stability of the data. The reliability test uses to measure the reliability of a research instrument. A test must be consistent in this measurement in order to be reliable. To calculate the reliability of the test, the researcher will use Kuder Richardson (KR-21) formula as follow:

$$r_{11} = \frac{k}{n-1} \times \left(1 - \frac{\sum (T_i - M)^2}{\sum T_i^2} \right)$$

Where:

r_{11} : The reliability of the test

k : Number of items in the test

M : Mean of score

$\sum T_i^2$: Variance

The categories of a test are as following :

0.80 - above = very reliable

0.60 – 0.80 = reliable

0.40 – 0.60 = quite reliable

0.20 – 0.40 = less reliable

0.00 - 0.20 = not reliable

3.8 Technique of analyzing data

To analyze the data, the researcher used some procedures in this study:

1. Tabulate the data into the distribution of frequency of score table, looking for the mean, deviation, and variance of experimental and control groups.
2. The researcher calculated the data to test the hypothesis that whether there was significant difference between students' vocabulary mastery in experimental class which was taught by using Rosetta Stone application and students' vocabulary mastery in control class without using Rosetta Stone application. The researcher calculated the data using t-test formula. Two classes were compared the experimental class and the control class. To examine the hypothesis, the researcher will use t-test formula as follows by Arikunto (2010):

$$t = \frac{M_x - M_y}{\sqrt{\left[\frac{d_x^2 + d_y^2}{N_x + N_y - 2} \right] \left[\frac{1}{N_x} + \frac{1}{N_y} \right]}}$$

Where :

M_x = The mean score of experimental group

M_y = The mean score of control group

d_x^2 = The deviation square of experimental group

dy^2 = The deviation square of control group

Nx = The sample of experimental group

Ny = The sample of control group

3. The researcher calculated the validity and reliability of the test.
4. The researcher discuss and conclude the result of data analysis.

3.9 Hypothesis Testing

The hypothesis testing aims to determine whether there are differences in learning vocabulary outcomes between the students who are learn with the Rosetta Stone application and the students who do not learn with the Rosetta Stone application. The hypothesis testing is required as follows:

1. If t-test score is higher than t-table, it means that the alternative hypothesis (H_a) is accepted and null hypothesis (H_o) is rejected.
2. If t-test score is smaller than t-table, it means that the alternative hypothesis (H_a) is rejected and null hypothesis (H_o) is accepted.