

CHAPTER 3

RESEARCH PROCEDURES

3.1 Method of the Research

This research used the experimental method. Experimental method is one of the methods in quantitative when the researcher wants to seek the influence or the effect of the independent variable towards the dependent variable (Sugiyono, 2021). On this occasion, the researcher wanted to seek the influence of Duolingo as a media in teaching English vocabulary.

3.2 Variables of the Research

This research consisted of two variables namely independent and dependent. Independent variable is the variable which gives an effect and influence to the dependent variable. In addition, a dependent variable is the variable which is influenced by the independent variable (Sugiyono, 2021). In this research, the independent variable is Duolingo and the dependent variable is vocabulary mastery.

3.3 Research Design

This research used quasi experimental non-equivalent control group design with two groups. Non-equivalent control group design is similar to true experiment pretest-posttest control group design. But, the non-equivalent control group design does not choose the experiment and control class randomly (Sugiyono, 2021).

Table 3. 1 Research Design

Experiment Group	Pretest	Treatment	Posttest
Control Group	Pretest		Posttest

3.4 Population and Sample

Population is the amount of objects or subjects that have their own characteristics and will be studied and concluded by the researcher (Sugiyono, 2021). The population of this research is the 8th grade students of one of the MTs in Majalengka. Further, the sample in this research is VIII – A as the experimental class consisting of 24 students and VIII – E is the control class consisting of 27 students and this sample is determined by using cluster sampling.

3.5 Data Collection Technique

In collecting the data, the researcher used vocabulary tests. There are pretest and posttest given to the sample. Pretest is conducted to know the students' prior knowledge and posttest is conducted to know students' vocabulary mastery after the treatment.

3.6 Research Instrument

This research used a vocabulary test as the instrument. The researcher created a vocabulary test according to the aspects in knowing words by Nation (2000) as mentioned above. The test had 45 multiple choices. First, the vocabulary test was given to non-sample VIII – B class. Afterwards, the researcher analyzed it by using SPSS to check validity and reliability.

3.6.1 Validity

Validity is conducted to know whether the instrument can measure what will be measured. The researcher gave the vocabulary test to a non-sample. It was VIII – B class. To know if the test is valid or not, the researcher compared the r observed (Pearson correlation) and r table $df (22) = (0.40)$. If r observed $> r$ table, it means the test is valid. Meanwhile, if r observed $< r$ table, it means the test is not valid.

After analyzing the validity, there are 17 questions which are valid. There are numbers 1, 2, 5, 8, 12, 16, 18, 21, 28, 29, 32, 33, 34, 38, 41 and 42. In

addition, the researcher only used 15 questions for pretest and posttest to be given to the control and experiment class.

3.6.2 Reliability

Reliability is conducted to know the consistency of the instrument. Here is the result of the reliability test:

Table 3. 2 Reliability

Cronbach's Alpha	N of Items
.798	45

Table 3. 3 Internal Consistency

Cronbach's Alpha	Internal Consistency/Reliability Test
$\alpha \geq 0.9$	Excellent (High-Stakes testing)
$0.7 \leq \alpha < 0.9$	Good (Low stakes testing)
$0.6 \leq \alpha < 0.7$	Acceptable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

To know if the test is reliable or not, the researcher compared the cronbach's alpha score with the internal consistency/reliability test provided by Streiner (2003) as cited in Jugessur (2022). It can be seen that the cronbach's alpha is .798 which means this test is categorized as good. In conclusion, there are 17 questions which are valid and this test is reliably categorized as good and can be used as the instrument.

3.7 Data Analysis Technique

To analyze the data, the researcher did descriptive statistics, normality test, homogeneity test, and independent sample t-test by using IBM SPSS Statistics 25 version.

3.8 Steps of the Research

Table 3. 4 Steps of the Research

Steps	Description
Identifying the Problem	<p>Firstly, the researcher is concerned about the students who lack vocabulary. The researcher often asked some students at Elementary and Junior High School level and most of them say if English is difficult. They are less motivated in learning English. Nowadays, mostly several schools allow the students to bring their smartphones. It is used in teaching and learning activities and sometimes it is only used at break time. In addition, the researcher has played Duolingo since 2021 and felt that Duolingo is interesting and helpful to learn English because it provides many exercises like guessing meaning, pronouncing the words, fill in the blank etc. It also gives the illustration. Therefore, the researcher was interested in investigating the influence of Duolingo as teaching media to teach vocabulary to Junior High School level. The researcher wanted to introduce this app in order to make them enjoy learning English and bring something new to their learning activity.</p>
Literature Review	<p>The researcher sought the information according to the topic. There are vocabulary mastery, MALL and Duolingo. The</p>

	researcher obtained the references from Google Scholar and bought Sugiyono's book online.
Identifying Hypothesis	<p>Alternative Hypothesis: There is an influence of using Duolingo towards junior high school students' vocabulary mastery.</p> <p>Null Hypothesis: There is no influence of using Duolingo towards junior high school students' vocabulary mastery.</p>
Collecting the Data	The researcher gave a pretest to the experiment class and control class to know their prior knowledge. After that, the researcher gave treatment to the experiment class by using Duolingo in teaching activity. Meanwhile, in the control class, the researcher did conventional. After giving the treatment for around 3 weeks (six meetings), the researcher gave them a posttest to know their vocabulary mastery.
Analyzing the Data	To analyze the data, the researcher used IBM SPSS statistic 25 version. First, the researcher did normality. Next, the researcher did a homogeneity test. Then, the researcher did an independent sample t-test.
Conclusion	Duolingo influences junior high school students' vocabulary mastery.
