

## THE EFFECTIVENESS OF SIMPLER APPLICATION ON VOCABULARY MASTERY OF TENTH GRADE STUDENTS AT SMK MUHAMMADIYAH 3 METRO

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### Abstract

This study aims to determine whether the Simpler application has a significant effect on students' vocabulary mastery. The research was conducted at SMK Muhammadiyah 3 Metro with two groups: an experimental group that used the Simpler application and a control group that received traditional instruction. The method used in this study was quantitative with a quasi-experimental design. The sample consisted of 76 students, with 38 in each class. Pre-test and post-test data were collected using 30 multiple-choice items focused on vocabulary meaning, usage, synonyms, and antonyms. The average pre-test score of the experimental class was 36.53, which increased to 74.68 after treatment. Meanwhile, the control class showed a smaller improvement from 32.53 to 44.68. The results of the Paired Sample T-Test in the experimental group showed a significance value of  $< 0.001$  ( $0.000 < 0.05$ ), indicating a significant improvement in vocabulary mastery after using the Simpler application. The Independent Sample T-Test also revealed a significance value of  $< 0.001$ , indicating a significant difference in post-test scores between the experimental and control groups. Based on these results, the study concludes that the Simpler application has a positive and significant effect on vocabulary mastery among tenth-grade students at SMK Muhammadiyah 3 Metro.

**Keywords:** Simpler Application, Vocabulary Mastery, Experimental Research.

### INTRODUCTION

Vocabulary is widely recognized as a central component of language proficiency because it supports the development of the four language skills: listening, speaking, reading, and writing. Without an adequate vocabulary, learners face serious difficulties in understanding texts, expressing ideas, and participating in communication. Nation (2001), emphasized that vocabulary is fundamental for language acquisition, as it directly influences comprehension and performance in other skills.

Despite its importance, many Indonesian EFL learners still struggle with vocabulary mastery. A preliminary survey conducted at SMK Muhammadiyah 3 Metro in 2024 revealed that 69.89% of tenth-grade students fell into the “Poor” category on a vocabulary test. This condition highlights that vocabulary learning remains one of the major challenges for vocational high school students, which in turn affects their performance in both classroom activities and national examinations.

Traditional methods of teaching vocabulary, such as memorization of word lists, dictionary-based learning, or teacher-centered explanations, often fail to engage students meaningfully. These methods may increase the quantity of words introduced, but they rarely help students retain or apply vocabulary effectively. Therefore, alternative methods that are more interactive, learner-centered, and enjoyable are needed.

The rapid development of digital technology provides opportunities for more innovative language learning. Mobile applications, in particular, offer flexibility and interactivity that can increase students’ motivation and autonomy. One of these applications is *Simpler*, which introduces vocabulary through exercises, quizzes, and repetition systems designed to improve retention. Previous studies (Megasari et al., 2025; Purwo, 2022; Purwo et al., 2022) reported that *Simpler* was effective in improving vocabulary acquisition among junior high school students and young learners.

However, there is still limited research focusing on the effectiveness of *Simpler* in vocational high schools, especially in Indonesia, where students’ vocabulary levels are generally low. Addressing this gap, the present study was conducted to examine the effectiveness of the *Simpler* application in improving vocabulary mastery of tenth-grade students at SMK Muhammadiyah 3 Metro.

## **METHOD**

This research employed a quantitative approach with a quasi-experimental design. The study was conducted at SMK Muhammadiyah 3 Metro in the academic year 2024/2025. Two classes were randomly selected to serve as the sample: X Nursing 2 as the experimental class and X Nursing 1 as the control class. Each class consisted of 38 students, resulting in a total sample of 76 participants.

The instrument used was a vocabulary test consisting of 30 multiple-choice questions that measured four aspects of vocabulary knowledge: meaning, usage, synonyms, and antonyms. The validity of the test items was checked by expert judgment, while the reliability of the instrument was confirmed using Cronbach's Alpha in SPSS, which indicated a reliable measurement tool.

The research procedure involved three main steps: pre-test, treatment, and post-test. Both groups were given the pre-test to measure their initial vocabulary mastery. The experimental class then received treatment through the Simpler application during three meetings (45 minutes each), while the control class was taught using conventional methods such as teacher explanations and exercises from the textbook. After the treatment, both groups were given a post-test using the same test format as the pre-test.

The collected data were analyzed quantitatively using SPSS 25. Before hypothesis testing, prerequisite tests for normality and homogeneity were conducted. To test the hypotheses, the Paired Sample T-Test was applied to compare the pre-test and post-test scores within the experimental class, while the Independent Sample T-Test was used to compare the post-test scores between the experimental and control classes.

## **RESULTS AND DISCUSSION**

This section presents the results of the study on the impact of the Simpler application on vocabulary mastery among tenth-grade students at SMK Muhammadiyah 3 Metro. The findings are divided into two main parts: data description and hypothesis testing. The data description provides an overview of the pre-test and post-test results of the control group and the experimental group. Meanwhile, hypothesis testing evaluates whether the use of the Simpler application significantly improves students' vocabulary mastery.

### **A. Pre-Test Result**

A pre-test was administered to both the control and experimental classes to evaluate the students' initial vocabulary mastery. The control group had a mean score of 32.53 with a standard deviation of 9.747, while the experimental group had a slightly higher mean of 36.53 with a standard deviation of 12.900. These results indicate that both groups had a relatively low level of vocabulary mastery prior to treatment.

**Table 1 Descriptive Statistics of Pre-Test**

Descriptive Statistics					
Descriptive Statistics of Pre-test results					
	N	Minimum	Maximum	Mean	Std. Deviation
Experimental	38	17	73	36.53	12.900
Control	38	20	67	32.53	9.747
Valid N (listwise)	38				

Source: SPSS Calculation

**B. Post-Test Result**

A post-test was administered to both groups to measure their vocabulary mastery after treatment. The control group showed only a slight improvement, with a mean score of 44.68 and a standard deviation of 12.505. In contrast, the experimental group demonstrated a significant improvement, reaching a mean score of 74.68 with a standard deviation of 7.447.

**Table 2 Descriptive Statistics of Pre-Test**

Descriptive Statistics of Post-Test					
	N	Minimum	Maximum	Mean	Std. Deviation
Experimental	38	60	90	74.68	7.447
Control	38	30	77	44.68	12.505
Valid N (listwise)	38				

Source: SPSS Calculation

**Descriptive Statistics of Post-Test**

**C. Hypothesis Testing**

The final step in this study was to conduct hypothesis testing to determine whether the use of the *Simpler* application had a significant effect on students' vocabulary mastery. Before performing statistical testing, the researcher compared the mean scores of the pre-test and post-test in the experimental class. Table 15 below presents the mean scores of both tests.

**Table 1. The Mean Score of Pre-Test and Post-Test in the Experimental Class**

Groups	N	Mean Pre-Test	Mean Post-Test	Mean Different
Experimental	38	36.53	74.68	38.15
Control	38	32.53	44.68	12.15

Experimental	38	36.53	74.68	38.15
Experimental	38	36.53	74.68	38.15

Based on the table above, there was a substantial increase in the average score. The mean pre-test score was 36.53, while the mean post-test score reached 74.68, resulting in a gain of 38.15 points. The higher average score on the posttest indicates that after participating in vocabulary learning using the *Simpler* application, students experienced a notable improvement in their vocabulary mastery.

This finding provides initial evidence that using digital application-based learning media can have a positive impact on students' vocabulary acquisition in the experimental class.

**1. First Hypothesis**

The Paired Sample T-Test is used to examine the difference in mean scores between two related sets of data collected from the same group. In this study, the Paired Sample T-Test was conducted to test the first hypothesis by comparing the pre-test and post-test scores of the experimental class. The result of the normality test confirmed that the data were normally distributed. The decision in this test is based on the significance value (Sig.), with the statistical hypotheses for the first hypothesis stated as follows:

1. **Alternative Hypothesis (Ha):** There is a significant effect of using the *Simpler* application towards vocabulary mastery among tenth-grade students at SMK Muhammadiyah 3 Metro. Ha is accepted if Sig.  $\leq$  0.05.
2. **Null Hypothesis (Ho):** There is no significant effect of using the *Simpler* application towards vocabulary mastery among tenth-grade students at SMK Muhammadiyah 3 Metro. Ho is accepted if Sig.  $>$  0.05.

The results of the Paired Sample T-Test for testing the first hypothesis are presented in Table 16 below.

**Table 2. The Result of Paired Sample T-Test**

Paired Samples Test							
Paired Differences				T	Df	One-Sided p	Two-Sided p
Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				

					Lower	Upper				
Pair 1	Pre Test - Post Test	44.605	19.905	1.615	41.415	47.795	27.628	151	<.001	<.001

Based on Table 16, the Sig. (2-tailed) value is reported as  $< 0.001$ , which is significantly less than the threshold of 0.05. This indicates a statistically significant difference between the pre-test and post-test scores of students in the experimental class. Therefore, it can be concluded that the alternative hypothesis ( $H_a$ ) is accepted, meaning that the use of the Simpler application has a significant positive effect on the improvement of vocabulary mastery among Grade X students at SMK Muhammadiyah 3 Metro.

## 2. Second Hypothesis

An Independent Sample T-Test is a statistical method used to determine whether there is a significant difference in the mean scores between two independent groups. In this study, the Independent Sample T-Test was conducted to test the second hypothesis by comparing the post-test results of the experimental class and the control class, which received different instructional treatments. The results of the normality and homogeneity tests showed that the data were normally distributed and homogeneous, thus meeting the requirements for conducting this parametric test. The decision in this test is based on the significance value (Sig.), with the statistical hypotheses for the second hypothesis stated as follows:

1. **Alternative Hypothesis ( $H_a$ ):** There is a significant of using the Simpler Application towards Vocabulary Mastery of Tenth-grade Students at SMK Muhammadiyah 3 Metro.  $H_a$  is accepted if  $\text{Sig.} \leq 0.05$ .
2. **Null Hypothesis ( $H_o$ ):** There is no significant difference of using the Simpler Application towards Vocabulary Mastery of Tenth-grade Students at SMK Muhammadiyah 3 Metro.  $H_o$  is accepted if  $\text{Sig.} > 0.05$ .

The results of the Independent Sample T-Test for testing the second hypothesis are presented in Table 17 below.

**Table 16. The Result of Independent Sample T-Test**

Independent Sample Test										
Levene's Test for Equality of Variances										
t-test for Equality of Means										
95% Confidence Interval of The Difference										
Sig. (2-tailed)										
Mean Difference										
Std. Error Difference										
Lower										
Upper										
		F	Sig.	T	Df					
Post-Test	Equal Variances Assumed	6.458	.013	15.791	74	<.001	-38.158	2.416	42.973	33.343
	Equal Variances Not Assumed			15.791	59.198	<.001	-38.158	2.416	42.993	33.323

Based on Table 17, the significance value (Sig. 2-tailed) is < 0.001, which is far below the standard threshold of 0.05. This result indicates a statistically significant difference in the post-test scores between the experimental and control groups. The mean difference of -38.158 shows that students in the experimental class, who used the Simpler application, achieved substantially higher vocabulary scores compared to those taught through traditional methods. Therefore, the

alternative hypothesis ( $H_a$ ) is accepted, and it can be concluded that the Simpler application had a significant positive effect on students' vocabulary mastery.

The results of this study prove that the Simpler application is effective in enhancing vocabulary mastery. Students in the experimental group experienced substantial improvement, moving from a mean score of 36.53 in the pre-test to 74.68 in the post-test. Meanwhile, the control group only improved slightly from 32.53 to 44.68.

These findings are consistent with previous studies. Purwo (2022) found that Simpler significantly improved junior high school students' vocabulary ability. Similarly, Megasari et al. (2025) reported that learners perceived Simpler as effective and engaging for vocabulary learning. Moreover Purwo et al. (2022) emphasized that mobile applications can provide meaningful learning experiences, making vocabulary acquisition more interactive and enjoyable.

The effectiveness of Simpler can be attributed to its interactive features such as quizzes, spaced repetition, and immediate feedback, which helped students to better retain new vocabulary. This aligns with Nation (2001) theory, which states that vocabulary learning requires repeated exposure and meaningful practice. Compared to conventional methods, the Simpler application not only improved scores but also increased students' motivation and active participation.

## **CONCLUSION AND SUGGESTIONS**

This study concludes that the Simpler application has a significant and positive influence on students' vocabulary mastery. The improvement in post-test scores within the experimental group, rising from a mean of 36.53 in the pre-test to 74.68 in the post-test, provides clear evidence of its effectiveness. The Paired Sample T-Test confirmed that the use of Simpler led to a substantial improvement in the experimental group, while the Independent Sample T-Test indicated a significant difference between the experimental and control groups. These results demonstrate that students who learned with the Simpler application achieved better vocabulary mastery compared to those taught using conventional methods. The effectiveness of the application can be attributed to its interactive features, personalized learning paths, and engaging interface, which provide repeated

exposure and meaningful practice, making vocabulary learning more enjoyable and motivating for students.

In light of these findings, English teachers are encouraged to integrate digital tools such as the Simpler application into classroom activities as supplementary learning media. Incorporating this application can help create more interactive and engaging vocabulary learning experiences, while also giving students additional opportunities to practice independently. Students themselves are advised to make regular use of the Simpler application outside of class to reinforce their vocabulary knowledge, improve retention, and develop autonomous learning habits. For future research, it is recommended to extend the duration of the treatment, include larger and more diverse samples, and explore the impact of Simpler on other language skills such as reading, listening, and speaking. Qualitative approaches, such as interviews or classroom observations, may also be employed to provide deeper insights into students' perceptions, challenges, and motivation when using digital applications in learning English.

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