

## The influence of Digital Technology with Application-based Interactive Multimedia Learning in Improving Junior High School students' English Vocabulary

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### ABSTRACT

*The objective of this study is to ascertain the notable impact of utilizing the Busuu application on pupils' vocabulary. The Busuu program is an English language learning tool designed to enhance spelling, vocabulary, speaking skills, and word comprehension abilities. This study is conducted using experimental methods. The research samples consisted of an experimental class and a control class. The population for this study consists of eighth-grade students enrolled at SMP Muhammadiyah 57 Medan during the 2023/2024 academic year. The sampling method employed was purposive sampling. The test is multiple-choice. The research uses a vocabulary exam as its primary tool. The data, comprising 25 items, were analyzed using paired difference tests, specifically the Paired sample t-test, in SPSS version 27. The research findings indicate a disparity between the pre-test and post-test scores in the experimental class, with an average score of 65 and 76.54, respectively. Consequently, utilizing the Busuu program has resulted in a notable augmentation of kids' vocabulary. The analysis results indicate that the utilization of the Busuu application has a statistically significant value of 0.001, which is lower than the commonly accepted threshold of 0.05. This data suggests a substantial impact on the utilization of the Busuu application. Thus, the null hypothesis ( $H_0$ ) is refuted, and the alternative hypothesis ( $H_a$ ) is affirmed.*

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## I. INTRODUCTION

Over time, advancements in technology have brought about several improvements in the field of education. Every aspect of schooling relies on digital technology to simplify tasks. Digital technology is a tool that supports education by facilitating teachers' effectiveness in instructing pupils to attain desired outcomes. The Busuu application is one of the digital technologies utilized in this investigation. The Busuu application is valuable for enhancing pupils' vocabulary while learning English. Lack of student mastery, making it difficult for students to convey their intentions and ideas; some of them are even not active in class due to their lack of mastery of English vocabulary.

Mastering vocabulary is a crucial element in acquiring English language skills. It significantly contributes to comprehending texts and effectively expressing ideas, emotions, sentiments, and thoughts through speaking or writing. A robust vocabulary is the basis for

developing proficiency in speaking, writing, listening, and reading. Proficiency in vocabulary has a reciprocal impact on an individual's linguistic abilities. Proficiency in vocabulary is essential for students to effectively convey their ideas, feelings, thoughts, and desires. This is because language plays a crucial role in comprehending the meaning of words. Having an extensive vocabulary facilitates the process of acquiring English language skills. Adequate vocabulary is a prerequisite for achieving mastery of the English language.

Addition by Harsam et al (2021) study revealed that Indonesian English learners should have paid more attention to vocabulary instruction and acquisition. In his research, Kabiell found that many instructors and students need more understanding of vocabulary acquisition practices not included in the English curriculum. The circumstance above raises a critical issue in language acquisition, specifically the persistent vocabulary deficiency among pupils. Priyono verify the students' restricted vocabulary was the primary factor contributing to difficulties in English language acquisition within the EFL setting.

Additionally, researchers discovered that the same issue was present at SMP Muhammadiyah 57. I saw pupils need more enthusiasm to acquire English language skills. Upon my arrival in their classroom, accompanied by their English instructor, they promptly voiced their dissatisfaction with the need to reacquaint themselves with the English language, along with many other disgruntled sentiments. Subsequently, I conducted interviews with other students who expressed their grievances over the process of learning English. Based on the findings of the interviews, I have deduced that the challenges in learning English encompass struggles with grasping grammar, memorizing vocabulary, experiencing boredom, and perceiving it as unimportant. Given these circumstances, educators must contemplate and devise innovative strategies and mediums that will enhance students' linguistic proficiency. Creative media is necessary to improve students' lexicon and alleviate their discomfort. Multimedia encompasses interactive software or applications incorporating text, colour, visual graphics, animation, audio sound, and full-motion audio inside a program (Apriani et al., 2019). According to some studies, multimedia integrates video, graphics, music, and animation in software that enables direct user interaction (Novitasari, 2016). The presence of multimedia, as a kind of digital information and communication technology, in education facilitates the attainment of educational objectives for students and instructors (Husna et al., 2017). The function of multimedia is crucial in attaining learning objectives.

Daryanto (2010:52) outlines the benefits associated with the use of interactive multimedia. Initially, the learning process becomes significantly more captivating for kids. Furthermore, a form of engagement occurs in the learning process when computers and students communicate. Moreover, the allocation of time for studying is significantly more effective. Furthermore, it could improve the quality of education while fostering students' enthusiasm for the subject matter. According to Munir (2012), interactive multimedia offers several advantages: It enhances interactivity and communication in the learning system, promotes creativity and innovation in finding new ways of learning, allows the integration of text, images, sound, music, animated, boosts student motivation and helps them achieve desired learning outcomes, facilitates the visualization of complex material that may be difficult to explain using traditional teaching aids, and fosters independent knowledge acquisition in students. Researchers conducted a needs analysis using literature and field studies. Based on their findings, there is potential for developing interactive learning multimedia to enhance junior high school students' motivation to learn English.

## LITERATURE REVIEW

### *Vocabulary*

Vocabulary is a crucial aspect of language proficiency and plays a significant part in teaching foreign languages. It is closely linked to developing four language skills: speaking, reading, listening, and writing (Nugroho et al., 2021). Mastering vocabulary is a crucial element in acquiring a new language. Busuu is a popular and effective language learning app with significant advantages, such as a structured curriculum, interactive exercises, and direct feedback from native speakers. However, as with every app, there are drawbacks, such as premium access required for the best features and limitations in various languages. Therefore, whether you choose Busuu or not should be considered based on your language learning needs and preferences. Acquiring knowledge with a limited lexicon might challenge pupils when grasping other facets of spoken communication. Nandhini (2020) asserts that vocabulary development is crucial to language acquisition. Expanding our lexicon enhances our ability to comprehend auditory, written, and expressive language. Language proficiency is essential for effective communication in speaking, writing, reading, and listening. Vocabulary is a compilation of words with specific meanings and can be used to construct sentences. Respati and Nur (2019) indicate that vocabulary is important, particularly for individuals acquiring a foreign language.

### *The Busuu Application*

According to Ginting (2023), the Busuu Application is a mobile application developed to assist users in interactive learning of English. This application can be downloaded and installed on the Android or iOS operating system or the web. Busuu is a popular and effective language learning app with significant advantages, such as a structured curriculum, interactive exercises, and direct feedback from native speakers. However, as with every app, there are drawbacks, such as premium access required for the best features and limitations in various languages. Therefore, whether you choose Busuu or not should be considered based on your language learning needs and preferences.

## II. METHODS

Quantitative experimentation methodologies are utilised in this research. Sugiyono (2019:14) defines quantitative research as a research technique founded on positivism and utilised to research specific populations or samples using the methodology. Sampling methods are often carried out randomly, data gathering may involve using research tools, and statistical data analysis may be utilised to evaluate preexisting hypotheses. The Instruments can be understood as tools used for testing or as questionnaires. In this study, the researcher was select examinations as a tool to assess the level of student proficiency. The rationale for choosing a test lies in its ease of evaluation and design. The researcher developed a written assessment using multiple-choice questions to evaluate vocabulary knowledge. The assessment was subjected to a validity test. Pre-test and post-test evaluations was administered.

The pre-test assessment was administered to both the control and experimental classes before receiving any instruction in the classroom. This assessment is designed to gauge how much students' vocabulary has progressed before utilising the Busuu programme. The post-test is an assessment that was administered to both the control and experimental classes following the instructional intervention to determine if there has been a significant improvement in students' vocabulary as a direct outcome. The objective of this post-test is to ascertain the disparities in outcomes between the experimental and control groups.

### III. RESULT AND DISCUSSION

The researcher administered a preliminary examination to the pupils before they began treatment. A vocabulary test was administered to the pupils to evaluate their skills. The results obtained from the pre-test are compared to the scores obtained from the post-test. A comparison of the student's responses to the pre-test and the post-test is presented in the table that follows:

**Table 1 Pre-test and Post-test Scores of Students in the Experimental Class**

Name	Pre-Test	Category	Post-Test	Category
Aisha Azka Quella	80	Good	92	Excellent
Aleesya Zahira	56	Poor	64	Fair
Annisa Syabila	72	Good	84	Very good
Areza Artamta Pinem	44	Poor	56	Poor
Atidah Zahra	52	Poor	60	Fair
Atiqa Faizah	76	Good	92	Excellent
Attaya	76	Good	92	Excellent
Axelius Ayugo Sirait	84	Very Good	92	Excellent
Azira Salsyhbilla	88	Very Good	100	Excellent
Bagas Rafif Nandito	68	Fair	80	Good
Brams Tio Sugara	56	Poor	64	Fair
Fahwaz Zaidan	40	Poor	52	Poor
Faridwan Simamora	76	Good	88	Very good

The findings of the pre-test and the post-test for the students' vocabulary development are presented in Table 1. To evaluate the outcomes of the post-test, the Busuu program is utilized, with a particular emphasis on vocabulary. According to the statistics, the total score of the 13 students after they had completed the pre-test was 1,690 before they received therapy. Regarding the fair level group, it is well known that their average score is 65. On the other hand, the pupils' outcomes following the therapy were statistically significant. This differs from the overall score that 26 students received on the pre-test. Following treatment, the post-test score was found to be 2.106. The average score of individuals who fall into the Good level group is assessed to be 76.54

Based on the research results, after calculating the data for the experimental class, there was a significant increase in student scores in the vocabulary test between the pre-test and post-test. The average pre-test score for the experimental class was 65, and the post-test score was 76.54. This means that students had a higher increase in scores after carrying out treatment using the Busuu application for four meetings.

In the control class, there was also a significant increase in students' abilities on the vocabulary test. However, there are still students who score below the average. This is because the control class did not receive treatment. They learn English as usual. The average pre-test score for the control class was 59.56, while the post-test score was 67.70.

Based on the hypothesis test, it can be concluded that the use of the Busuu application has a significant value of 0.001. This significance value is less than 0.05, dramatically influencing the treatment given in each class. The result was that H<sub>0</sub> was not accepted, while H<sub>a</sub> was accepted because of a correlation between using the Busuu application and students' vocabulary acquisition.

### Discussion

This study investigates the impact of utilizing the Busuu application on students' vocabulary during instructional sessions. SMP Muhammadiyah 57 Medan was the location where this research was carried out. During this study, the researcher initially made observations. Then, the researcher identified the problem and finally, the researcher brought up the issue as a topic of debate through this research. The researcher carried out a validity and reliability test before the actual study. The test consisted of thirty multiple-choice questions, of which twenty-five were valid. The Cronbach's Alpha value for these questions was 0.667, which indicates that they are dependable enough to be considered reliable. This can demonstrate that the value of Cronbach's Alpha is more than 0.05.

The findings of the post-test administered to students in the eighth grade at SMP Muhammadiyah 57 Medan were used to compile the data collected for this study. The data analysis findings determined that the students in the control class saw an average gain in post-test scores of 67.70. In the meantime, the students in the experimental class who used the Busuu application had an average post-test score of 75.64. According to the results of the hypothesis test that the researcher conducted, namely the t-test with the assistance of the SPSS version 27 program, to determine whether or not each variable impacts the outcome of the study. Based on the investigation findings, it can be concluded that the utilization of the Busuu application possesses a significant value of 0.001. The significance value is 0.001, less than the threshold of 0.05, showing a substantial effect on the therapy administered to each class. As a result, H<sub>0</sub> is not accepted, whereas H<sub>a</sub> is accepted because there is a correlation between the use of the Busuu application and the acquisition of vocabulary by students.

Therefore, using the Busuu application may impact the expansion of students' vocabulary in eighth-grade English learning at SMP Muhammadiyah 57 Medan. In the same research conducted by Putri Annisa Zulhantiar (2022) titled "The Effect of Using Memrise Application as Digital Media Skill for Students' Vocabulary Enrichment at Eight Grade Students" The purpose of this study is to investigate the impact that using apps has on vocabulary learning. The application being utilized is different from the application the researchers are using. At SMP Dharma Pancasila Medan, the research population consisted of all sixty students enrolled in the eighth grade. Students from two different classes, namely class VIII A and class VIII B, were included in the research sample. The research instrument consisted of sheets for both the pre-test and the post-test. In examining the data, the T-test was utilized to display the findings of the sig value. The two-tailed sig value was 0.001, which is less than the significance level of 0.05. This indicates a significant difference between the average English learning outcomes of students in the experimental and control classes. The usage of the memrise program is the root cause of this issue.

#### **IV. CONCLUSIONS AND SUGGESTIONS**

The conclusion of this research, as outlined in the problem statement in the preceding chapter, is to determine whether implementing the Busuu application substantially impacts enhancing students' English vocabulary compared to students who study without utilising the Busuu application. Utilising empirical evidence and studying the data that is already available. In the chapter before this one, the researcher communicated with a variety of audiences, including the following: Every single student who utilised the Busuu program for their studies found that the process of learning English, particularly vocabulary, was both incredibly entertaining and intriguing. Consequently, students become more engaged, interested, and driven in this respect, and they are all involved in learning. A Pearson correlation value of 1.634 was obtained from the T-test performed on the post-test. Additionally, the value of the sig (2-tailed) statistic is 0.108. This indicates that the value of the sig (2-tailed) statistic is higher than 0.05. For eighth-grade students at SMP Muhammadiyah 57 Medan, this suggests a considerable difference in the rise in vocabulary that occurs after the kids have been taught utilising the Busuu application through the program.

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