

INVESTIGATING THE EFFICACY OF U-DICTIONARY APP FOR IMPROVING STUDENTS' VOCABULARY MASTERY

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Abstract: The purpose of this research is to assess how well the U-Dictionary app enhances the English vocabulary mastery regarding the 10th-grade students at SMK Al-Haromain. This research employed a quasi-experimental approach, which included two groups: one was the experimental group and the other was the control group. The participants in this research were 17 students from class X TKJ assigned to the experimental group, while 18 students from class X TBSM were assigned to the control group. The data collection tool included a Pre-test and Post-test, which included a total of 20 valid multiple-choice questions. The researcher used the independent sample t-test feature in the SPSS software to verify the accuracy of the hypothesis. The mean post-test value in the experimental class was 87.6, while in the control class it was 72.8. In addition, according to the results of the two-tailed independent sample t-test, it was revealed that the significant value (sig.) is greater than 0.05, specifically 5.247 ($5.247 > 0.05$). Therefore, it can be inferred that the utilization of the U-Dictionary app effectively enhances the vocabulary mastery of 10th-grade students at SMK Al-Haromain Mayong.

Keywords: *ELT; U-Dictionary app; vocabulary mastery.*

INTRODUCTION

Having a good vocabulary is crucial for language fluency as it allows learners to communicate efficiently and comprehend academic situations. It is important to possess a high level of vocabulary proficiency when it comes to language acquisition (Santi et al., 2021; Sun et al., 2023; Umar et al., 2023). Vocabulary proficiency pertains to the skill of comprehending and employing words and their definitions correctly within a given language. (Fedora & Hasan, 2024; Teng & Zhang, 2024) asserts that vocabulary is the fundamental building block of language mastery, emphasizing that students cannot achieve fluency in a language without originally forming a material vocabulary. However, a significant number of students, particularly those from non-English speaking nations, encounter challenges when it comes to acquiring and enhancing their vocabulary because of different reasons, including limited opportunities for exposure, lack of motivation, and insufficient resources (Hutauruk et al., 2024; Wang et al., 2023).

Students frequently encounter difficulties in remembering and utilizing numerous words due to their vocabulary limitations. In the same way (Fajt

et al., 2024; Sarmila et al., 2022) discovered that students face challenges when it comes to the requirement of memorizing all new vocabulary in order to enhance their vocabulary skills. Effective communication becomes simpler as one's vocabulary expands. However, having a restricted range of words can restrict the ability to express oneself and comprehend information. Recalling a large number of words can be quite challenging. A number of students might struggle with remembering unfamiliar words, especially when they are not repeated or used regularly. Merely acknowledging individual words is insufficient (Nurdin et al., 2023). Using them actively in conversation, writing, and reading is of great importance. Not engaging in active practice can impede the process of learning new words. To comprehend vocabulary, it is crucial to consider the surrounding context. Certain words can have different interpretations based on the context. Having an understanding of the situation or background information enables students to use words accurately. A strong command of vocabulary influences one's understanding of what is being read. Students with a larger vocabulary generally discover the definition of

words in the text more quickly.

Teaching vocabulary in English is a primary focus in teaching English to non-native speakers. Recently, it will be crucial for students to possess fluency in foreign languages, particularly English, in order to successfully compete for job opportunities in the global economy (Churkina et al., 2023; Mubarak & Sofiana, 2022). This is because having a strong command of English vocabulary is essential for mastering the language, and students must also utilize effective strategies to enhance their vocabulary acquisition skills (Alshahrani, 2019; Dakhi, 2019; Tanjung & Daulay, 2020; Zeng et al., 2022).

If students comprehend and utilize the vocabulary, they can achieve success in their English language abilities. So, when students are learning English, they should make an effort to acquire as many words as they can. This will assist them in developing a high level of competency in the language. People are unable to use English proficiently unless they possess a strong grasp of its vocabulary. This implies that individuals who possess extensive knowledge of the language are more apt at articulating their emotions, thoughts, feelings, and objectives effectively (Adinda & Rahayu, 2023; Lindquist, 2021). Having good communication skills necessitates the use of language that is deemed appropriate and makes one feel comfortable (Sofiana & Mubarak, 2019) suggests that in order to effectively learn and master English, it is important to have a learning model or pattern that can serve as a guide for planning classroom or tutorial activities focused on vocabulary acquisition.

There are typically multiple approaches to instructing vocabulary. However, there are several factors that English teachers must take into account when teaching students new vocabulary. This implies that English preceptors bear scholars to commit substitute vocabulary to memory, necessitating memorization, practice, and review to prevent students from forgetting. However, in recent times, students including the students of SMK Al-Haromain Mayong are becoming hesitant to carry physical dictionary books due to their limited content in smaller versions, and the more comprehensive ones are often bulky and inconvenient. This lack of practicality stems from the rapid advancements in technology across various domains, particularly in education where significant reforms are required. Students are evidently impacted and drawn to the technology that has been facilitating the most recent

educational technology products (Hakim et al., 2020; Sorokoumova et al., 2021; Vernice et al., 2021).

One possible answer to this issue is to employ technology-driven instruments that can assist in the process of acquiring and retaining vocabulary. U-Dictionary is a dictionary and restatement operation that's available free of charge. It can translate 108 languages both online and offline. Additionally, the app provides resources such as English videos, games, quizzes, grammar checks, and real-life examples to aid users in enhancing their English language skills. U-Dictionary proudly declares itself as the top translation app worldwide, with 100 million users in 150 countries who trust its services (Tanesab et al., 2024).

U-Dictionary is a comprehensive language app that goes beyond a simple dictionary. It incorporates features such as word definitions (providing meanings, synonyms, and antonyms), examples and usage (offering context-based examples for better understanding), word games and quizzes (engaging learners interactively), and English videos (enhancing language skills through visual content) (Hapsari, 2022).

Several studies have found that using U-Dictionary can have beneficial effects on learning English. The study kept by (Agustiani et al., 2022; Maulia & Amin, 2023) set up that scholars perceive the U-dictionary app as beneficial for enhancing their pronunciation skills. Additionally, they emphasized the importance of learning proper pronunciation. They also saw the "flawless English pronunciation capability" in U-Dictionary as a useful and pleasurable method to conquer pronunciation challenges in learning. According to (Fedora & Hasan, 2024; Teng & Zhang, 2024). the U-Dictionary app is stated to be efficient in enhancing students' enthusiasm for learning. Furthermore, the research carried out by (Adinda & Rahayu, 2023; Hapsari, 2022; Mustika & Dashela, 2024; Wulandari & Handayani, 2020) indicated that the misuse of the U-Dictionary employment v had the potential to enhance students' vocabulary skills in a successful manner as demonstrated by the findings. It functioned as an enjoyable and uncomplicated method of educational engagement. U-Dictionary app encouraged students to increase their drive and enthusiasm while participating in the teaching and learning activities.

Despite the availability of language apps like U-Dictionary, there remains a gap in understanding their effectiveness in improving

students' vocabulary. While some studies have explored the impact of electronic dictionaries on vocabulary learning, specific investigations into U-Dictionary's efficacy are limited. Therefore, this study aims to address this hiccup by investigating the efficacy of the U-Dictionary app for improving vocabulary mastery among

tenth-grade students at SMK Al-Haromain Mayong Jepara. The purpose of this research is to provide data about the existing knowledge on vocabulary learning and the integration of technology in English as a foreign language (EFL) setting.

METHOD

The study used a quantitative path with a quasi-experimental arrangement. This design allows for comparisons between groups without random assignment, making it suitable for investigating the efficacy of the U-Dictionary app on vocabulary learning. In this study, the researchers had a treatment group (using U-Dictionary) and a control group (not using U-Dictionary).

The study involved tenth-grade students from SMK Al-Haromain Mayong consisting of two classes. The classes were divided into the treatment (TKJ class consisting of 17 students) and control groups (TSM class consisting of 18 students).

The primary instrument applied for data collection was a multiple-choice test consisting of 20 questions. Students' vocabulary knowledge was assessed through this test. The test likely covered various aspects of vocabulary, including word meanings, synonyms, antonyms, and context.

In this study, the researchers followed a three-step process including pre-test, treatment, and post-test. Before any intervention, students' initial vocabulary knowledge was assessed for treatment and control group. Then, the treatment group used the U-Dictionary app during the study period, while the control group was treated without using the U-Dictionary app. The students were instructed to memorize a minimum of 5 vocabulary words during each session. Lastly, after the treatment period, students' vocabulary knowledge was assessed again.

Quantitative data obtained from the pre-test and posttest were analyzed using SPSS to perform tests for normality, homogeneity, and hypothesis. A normality test is employed to ascertain if the data being analyzed is derived from a normally distributed dataset, while a homogeneity test is used to settle whether the data within a sample

class is uniform or divergent. The hypothesis serves as a provisional solution to research problems, which are expressed as questions.

RESULTS AND DISCUSSION

Prior to administering any treatments, both the treatment group and control group underwent a pre-test to assess their initial level of vocabulary acquisition. Finally, a post-test was conducted to determine how effective U-Dictionary was in enhancing their vocabulary skills. The outcome of the mean score can be described in Table 1.

Table 1. Mean score of experimental and control group

Trial	Grouping	N	Middle	Std. Deviation
Pre	Experimental	17	54.7	9.91693
	Control	18	49.7	7.94692
Post	Experimental	17	87.6	7.72934
	Control	18	72.8	8.94792

Table 1 shows that during the pre-testing phase, the experimental group held a mean score of 54.7, whereas the control group had a mean score of 49.7. In the post-test phase, the experimental group achieved a mean score of 87.6 after increasing their vocabulary, while the control group obtained a mean score of 72.8. The outcomes of the study were consistent in both classes, with elevated scores. However, the experimental group achieved a higher score compared to the control group.

Before hypothesis testing, it was conducted normality and homogeneity testing. The Shapiro-Wilk normality test was applied to the students' test data. The results showed that the significance value for the normality test of the pretest data in the experimental class was 0.523, which is greater than the significance level of 0.05. Similarly, the significance value for the normality test of the pretest data in the control class was 0.670, also greater than the significance level. These findings indicate that the pretest data in this study is normally distributed. Furthermore, the significance value for the normality test of the posttest data in the experimental class was 0.163, and for the control class was 0.060, both exceeding the significance level of 0.05. This suggests that the posttest data in this study is also normally distributed. According to the criteria for measuring normality tests, it can be deduced that if the significance value is lesser than the data in the control group, then it follows a normal distribution.

Table 2. Normality test

Trial	Grouping	Kolmogorov-Smirnov ²			Shapiro-Wilk		
		Statistic	Df	Sig	Statistic	Df	Sig
Pre	Experimental	.144	17	.200	.954	17	.523
	Control	.168	18	.192	.963	18	.670
Post	Experimental	.192	17	.097	.923	17	.163
	Control	.154	18	.200	.901	18	.060

Next, the experimenters tended a homogeneity test to levy if the data from the experimental class and control class exhibited similarity. The homogeneity of variance test can determine if two groups of data have similar variances. If the t count is lower than the t table value at a signification position of 0.05, then the data is considered to have homogeneous variances. Alternatively, if the significance value is lesser than 0.05, the data is also regarded to be homogeneous.

Table 3. Homogeneity test

Test	Lavene Statistic	df1	df2	Sig
Pre	.872	1	33	.357
Post	.374	1	33	.545

According to the homogeneity test, it has been determined that the significance valuations for both the pre-test data and post-test data are 0.357

Table 4. Independent sample test

	Levene's Test for Equality of Discords		t-test for Equality of Measure						
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal Dissonances Assumed	.374	.545	5.247	33	.000	14.9	2.83386	9.10374	20.63482
Equal Dissonances not assumed			5.247	32.69	.000	14.86928	2.82176	9.12671	20.61185

Table 4 presented the outcome of the experimentation calculation conducted during the post-test. The valuation for the post-test was 5.247, which is advanced than the critical t-value of 1.69236 at a signification position of 0.05, calculated using 33 degrees of freedom (df). This indicates that the usage of the U-Dictionary app has a significant effect on improving scholars' vocabulary mastery.

The t-value for the post-test was 5.247, calculated using 33 degrees of freedom (df). The carping t-value from the t-table for a significance level of 0.05 was 1.69236." If the value of t-count subsisted changed to t-table, then t-count was higher than t-table. This indicated that the treatments administered to the experimental group

and 0.545, discretely. Since these values are higher than 0.05 namely 0.357>0.05 and 0.545>0.05, it can be concluded that the data is homogeneous. Therefore, the two classes that were used for the research can be considered homogeneous classes. After conducting the normality test and homogeneity test, it has been determined that both classes are normally distributed and have equal variances.

In addition, since the data were normal and homogeneous, the hypothesis testing was conducted. The study utilized Descriptive statistical trials, specifically the self-dependent sample t-test, for hypothesis testing. This allows for the continuation of the research to determine whether there is a notable distinction between the two groups.

had an impact on the students' ability to master vocabulary, in contrast to the treatments given to the control group. to put it differently, we accepted the working hypothesis (Ha) and rejected the null hypothesis (Ho). This suggests that there was a noteworthy distinction between the experimental class and the control class in terms of the students' ability to master vocabulary. This indicates that the use of the U-Dictionary app has a significant effect on improving students' vocabulary mastery.

Thus, the statistical examination conducted in this research demonstrates that the U-Dictionary App has a substantial impact as a tool for teaching English language, particularly in the acquisition of vocabulary. The utilization of the U-Dictionary

app can enhance students' vocabulary skills as it has an offline feature that helps students translate words and effectively memorize them. The app can also be utilized by students to translate any unfamiliar words in the text and create sentences related to the topic and then present them to the class. Consequently, students are able to improve their vocabulary abilities and have a beneficial effect on their academic performance.

These findings align with existing researches on the efficacy of the U-Dictionary app in vocabulary learning. For instance, studies conducted by (Adinda & Rahayu, 2023; Hapsari, 2022; Mustika & Dashela, 2024; Wulandari & Handayani, 2020). These studies suggest that utilizing the U-Dictionary app for lessoning vocabulary not only makes the learning process more effective and engaging, but also leads to improved academic performance. They believe that the use of U-Dictionary could help teachers improve students' vocabulary mastery effectively since it provides an exciting and simple method of learning activity. It also can improve the students' motivation and interest in learning process.

The investigation findings displayed in Table 1 align well with several existing theories on vocabulary acquisition and instruction. The experimental group, which used the U-Dictionary app, showed a significant improvement in their vocabulary mastery, as evidenced by the increase in their mean score from 54.7 to 87.6. This suggests that the U-Dictionary app was effective in enhancing the students' vocabulary mastery.

There are several things that affect the scores of the experimental assemblage that are advanced than control group. The U-Dictionary app provide a social and interactive platform for students to learn new words, thus aligning with the study tended by (Moody et al., 2018) which emphasize the significance of social interaction and cultural environment in scholarship. The U-Dictionary app also help students build mental models (schemas) by providing definitions, examples, and other relevant information about new words. By utilizing this app, students are able to construct these schemas of how language works, and these models help them understand and use new vocabulary. In addition, the interactive and engaging features of the U-Dictionary app could increase students' motivation to learn new vocabulary, leading to improved scores. the use of U-Dictionary app can help students become more active and interesting to learn vocabulary, especially to translate material whose language is

not yet known in meaning. It is in line with the study conducted by (Fedora & Hasan, 2024) who explained that the U-Dictionary operation can support students be more active in their classes in learning vocabulary. By utilizing U-Dictionary, the students also engage in self-learning to gain real-world experience in acquiring vocabulary (Mashrabovna & Kizi, 2023; Nursyahbandi & Dehghanitafti, 2023). Finally, the U-Dictionary app also utilizes an approach it which it provides both written definitions and visual aids for new words in which it makes students easier translate and remember about vocabulary since the information is easier to understand and remember when it is presented both verbally and visually (Moody et al., 2018).

In conclusion, the results of the research are consistent with other studies, reinforcing the idea that digital tools like U-Dictionary can be effective aids in enhancing vocabulary mastery among students. These findings underscore the potential of technology in revolutionizing the learning process and supporting students in their educational journey. However, it is important to note that while these tools can be highly beneficial, their effectiveness may also depend on how they are integrated into the learning process and the individual learner's engagement with them. In addition, further research might be needed to determine which features of the app are most beneficial and how it can be best utilized in different learning contexts. It would also be interesting to explore how these theories intersect and contribute to the efficacy of such apps in vocabulary instruction.

CONCLUSION

The study investigated the efficacy of using the U-Dictionary application on vocabulary mastery. Post-test mean scores in the experimental class were significantly higher (87.6) compared to the control class (72.8). The two-tailed independent sample t-test supported the effectiveness of U-Dictionary in enhancing vocabulary mastery. Thus, teachers can integrate U-Dictionary app into language teaching strategies. Moreover, students can be encouraged to explore word meanings, synonyms, and usage examples within the app. Teachers also need to foster an active learning environment where students engage with vocabulary beyond textbooks. In summary, the U-Dictionary app holds promise as a valuable tool for vocabulary enrichment. By embracing its features and integrating it thoughtfully into language education, teachers can empower

students to become more proficient and confident language users.

There are certain restrictions or constraints to consider regarding the research. This study involved a relatively small sample size, with 17 students in the experimental grouping and 18 in the control grouping. Therefore, the future researches are recommended to use a larger sample to enhance the generalizability of findings. Moreover, the study's duration was only four meetings. Thus, longer-term investigations need to conduct to provide insights into sustained vocabulary improvement.

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