Tomorrow's Education Journal
eISSN: 2988-3318, Vol 2, No 1, 2024, pp 62-75

THE EFFECTIVENESS OF WORDUP APPLICATION TO ENRICH VOCABULARIES OF EFL LEARNERS': AN EXPERIMENTAL STUDY AT SMKN 1 CIREBON

Muhamad Ibrahim Rizki
Institut Prima Bangsa
muhibrha.0@gmail.com

Lili Sururi Asipi
Institut Prima Bangsa
kiaikampung70@gmail.com

Utami Rosalina
Institut Prima Bangsa
utami.rosaline@gmail.com

Article History:
Accepted April 2024;
Revised May2024;
Approved May 2024.

Abstract: This study aims to determine the effectiveness of using Wordup application as a medium for learning vocabulary on EFL learners at SMKN 1 Cirebon. The research methodology to be employed in this study is quantitative research. This research design incorporates a quasi-experimental design and a pretest-posttest control design, which were selected with the intention of drawing accurate conclusions regarding the impact of the independent variable on the dependent variableThe findings from the study clearly demonstrate the effectiveness of the wordup application. in the t test result showed that t count more than t table (3.110 1.660). Than, in the result paired sample t test showed that mean between pretest and posttest experiment and control have significant difference in the mean value (5.880 3.880). The students' vocabulary skills have difference significant between experiment and control class than wordup application have impact to enrich vocabulary skills at student tenth grade in SMKN 1 Cirebon.

Keywords: Wordup Application, Learning Media, Vocabulary Mastery

INTRODUCTION

This study aims to determine the effectiveness of using Wordup applications as a medium for learning vocabulary on EFL learners at SMKN 1 Cirebon. In the view of the Indonesian people, English is an important language because it is a second language. As EFL learners, learning English has its own challenges, there are several factors that make learning a second language difficult, one of which is due to limited vocabulary. This happens to EFL learners in SMKN 1 cirebon. Based on observation found that the ability of the learners is sufficiently good but still many of the students have to learn harder about vocabulary aquisition. With a rich vocabulary, students are equipped to string words either through spoken or written, not only that students can understand english and are easier to understand.

According to Alqahtani (2015) explain that large vocabulary is often considered to be an important characteristic of learners of a second language since a limited lexicon in the target language can inhibit productive communication. Furthermore, in a similar vein to described by al-qahtani, Asgari (2012) agree that vocabulary is crucial in language acquisition, where insufficient vocabulary and a student's lack of knowledge, learning a second language can be rendered challenging. When a student has a wide range of vocabulary to use, better understanding and communication in the target language is possible. This not only improves students' language skills, but also increases confidence in using the language in a variety of contexts.

The diverse cognitive abilities of individuals allow for low mastery in vocabulary. Accoding to Mayer in Teng and Zhang (2023) Learners receive information in sensory memory, then proceed to choose and transfer pertinent visual and auditory information to modality-specific subsystems within working memory (WM) then the information is retained and processed. The capacity of each of these working memory stores is restricted. Cognitive capacities such as memory, attention and processing speed, play an important role in vocabulary acquisition. Individuals with strong memory ability can easily store and recall new words, allowing them to expand their vocabulary quickly. However, individuals with limited cognitive capacity may face challenges in vocabulary development. Those with weaker memory capabilities may find it difficult to remember new words, requiring more repetition and practice to internalize them

Word Up offers personalized learning paths based on individual strengths and weaknesses. Through regular assessments and progress tracking, students are able to pinpoint areas that need work and direct their efforts in those directions. This adaptive learning approach ensures that

students receive targeted instruction and maximize their learning potential. Word Up provides a platform for collaborative learning. Students can join virtual study groups, participate in discussion forums, and play multiplayer games with their peers. This fosters a sense of community and encourages students to learn from one another, enhancing their understanding and retention of new vocabulary.

The objective of this study is to address the discrepancy between students' vocabulary proficiency and their comprehension abilities by introducing the Wordup application. The incorporation of this technology into the classroom environment is intended to facilitate a more engaging and interactive learning experience for students. A pre-test and post-test will be conducted to evaluate the efficacy of the Wordup application in enhancing the vocabulary of tenth-grade students. The pre-test will assess the students' current vocabulary skills, while the post-test will evaluate the extent of their improvement after using the Wordup application for a designated period of time. This will facilitate a more comprehensive understanding of the students' experiences and perceptions of using the Wordup application.

METHODOLOGY

The research methodology to be employed in this study is quantitative research. As defined by Sugiyono (2013), quantitative research involves the collection of numerical data and utilizes statistical analysis as a means of interpreting the information. This research design incorporates a quasi-experimental design and a pretest-posttest control design, which were selected with the intention of drawing accurate conclusions regarding the impact of the independent variable on the dependent variable. The research will involve several distinct stages. The initial phase involved making necessary preparations. The researchers distinguished validity classes, experimental classes, and control classes, and developed lesson plans and data collection tools. A validity test, consisting of twenty multiple-choice questions, a test was given to the students in the validity class to determine if the tests for the pre-test and post-test in the experimental and control classes were appropriate. Data from both the pre-test and post-test was gathered and then analyzed. The researchers utilized the t-test to examine the data and establish whether there was a notable variance in the means of the two groups, one of which might have undergone treatment.

FINDINGS AND DISCUSSION

FINDINGS

The Result Pretest and Posttest

below is the score data that has been analyzed using spss 26 version.

Table Comparison of Pretest and Posttest Data of Control Class and Experimental Class

No.	Data	Pretest		Posttest	
		CC	CE	CC	CE
1.	N	50	50	50	50
2.	Maximum	15	15	19	18
3.	Minimum	1	4	6	8
4.	Mean	7.88	7.82	11.76	13.70
5.	Mode	5	7	12	17
6.	Median	8	8	12	14
7.	Standar Deviation	2.529	2.256	3.485	2.705

The vocabulary proficiency of both the control and experimental groups was assessed. The initial assessment in the control group revealed that the top score was 15, and the bottom score was 1. Conversely, the follow-up assessment in the control group showed that the highest score was 19, and the lowest score was 6.

The experimental class pretest results demonstrated a range of scores, with the highest mark attained being 15 and the lowest 4. In contrast, the posttest results exhibited a narrower range, with the highest mark being 18 and the lowest 8. Additionally, the control class pretest results yielded an average score of 7.88, while the control class posttest results indicated an average score of 11.76. This indicates a 3.88-point increase in the control class average (11.76-7.88).

Independent Sample T Test

The t-test is utilized for assessing the mean disparity between two sets of data. The presence of a noteworthy difference suggests a substantial correlation between the independent and dependent variables. It is essential to highlight that this approach is specially crafted for comparing the means of two distinct groups. In this study, the t-test was employed to evaluate the difference between the control group and the experimental group concerning the testing criteria.

Table Independent Sample T Test Pretest Calculation Results

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Vocabulary	Equal variances assumed	.792	.376	-.182	98	.856	-.085	.465	-1.008	.838
	Equal variances not assumed			-.182	97.022	.856	-.085	.465	-1.008	.838

Based on the calculation table above, the value of degrees of freedom with (n1 + n2-2) = 100-2 = 98, obtained t table = 1.660 with α = 0.05. The difference value is between -1.008 to .838 (95% Confidence Interval of the Difference Lower and Upper). From the table above, the calculated T value is -.182, which means that the calculated T is smaller than the t table (-.182 is greater than 1.660) with Sig. (2-Tailed) 0.856 is greater than 0.05 then H0 is accepted and Ha is rejected meaning the hypothesis shows no difference in vocabulary learning between the control and experimental classes. This means that the vocabulary skills of control and experimental class students are at the same level.

Table Results of Independent Sample T Test Posttest Calculation

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Vocabulary	Equal variances assumed	2.663	.106	3.110	98	0.002	1.940	0.624	.702	3.178
	Equal variances not assumed			3.110	92.316	0.002	1.940	0.624	.702	3.179

Based on the calculation table above, the value of degrees of freedom with (n1 + n2-2) = 100-2 = 98, obtained t table = 1.660 with α = 0.05. The difference value is between .702 to 3.178 (95% Confidence Interval of the Difference Lower and Upper). From the table above, the calculated T value is 3.110, which means that the calculated T is greater than the t table (3.110 is greater than 1.660) with Sig. (2-Tailed) 0.002 is smaller than 0.05, so H0 is rejected and Ha is accepted, meaning that the hypothesis shows that Wordup application has a positive and significant effect on learning vocabulary.

Paired Sample T Test

The efficacy of the Wordup application in enhancing vocabulary learning was evaluated through a t-test, which compared the pretest and posttest scores of vocabulary skills in both the control and experimental classes. The statistical analysis was conducted using the SPSS 26 software on a Windows platform. The following section presents a concise overview of the t-test outcomes for the pretest, posttest, and average score improvements in the control and experimental groups.

Table Paired Sample t test Pretest and Posttest Score Control Class

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pretest - Post-Test	-3.880	3.983	0.563	-5.012	-2.748	-6.889	49	0.000

Table Paired Sample t test Pretest and Posttest Score Experiment Class

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pretest - Post-Test	-5.880	3.179	0.450	-6.784	-4.976	-13.078	49	0.000

Table paired control class and Table paired experiment class indicate that the control class t-count value is -6.889 with df = 49, while the experimental class t-count value is -13.078 with df = 49. Subsequently, the p-value for both classes is less than 0.05 (0.000 < 0.05). Given that the p-value is smaller than the significance level of 0.05, it can be concluded that there is a significant

difference in vocabulary ability between the experimental class that uses the Wordup application and the control class that does not use Wordup.

Moreover, a discrepancy is evident in the extent of the average score increase between the control and experimental groups. While the control group exhibited a mere 3.880-point increase, the experimental group demonstrated a notable 5.880-point rise. This contrast in the average score growth between the two groups substantiates the efficacy of the Wordup application in facilitating vocabulary acquisition.

The results of the data analysis, conducted through a t-test, have brought about the following findings: (1) There is no statistically significant variance between the pretest scores of the control and experimental groups; (2) A statistically significant difference can be observed in the posttest scores of the control and experimental groups; (3) Statistically significant variations are evident in the pretest and posttest scores of both the control and experimental groups; (4) The rise in the mean score from pretest to posttest in the experimental group exceeds the increase in the mean score of the control group

Hypothesis Test Result

After conducting the t-test analysis, the next step involves the examination of the hypothesis. In this research, the hypothesis testing relies on the findings from the t-test data analysis. The outcomes of the test are utilized to determine the variance in vocabulary learning achievements when utilizing the wordup application compared to not using it. Additionally, the aim is to assess the effectiveness of the Wordup application in enhancing vocabulary acquisition among students in Class X TITL at SMK Negeri 1 Cirebon.

Results of First Hypothesis Test

The initial assumption of this study is that there is a notable variance in vocabulary proficiency between students who receive instruction using the Wordup application and those who do not in Class X at SMKN 1 Cirebon. This assumption is referred to as the alternative hypothesis (Ha). A comparison of the vocabulary learning outcomes of the control and experimental classes can be made using a t-test on the pretest and posttest scores of both groups.A t-test analysis of the pretest data from the control and experimental classes yielded a t-count of 0.182 with df = 98 at the 5% significance level.The t-count value is less than the t-table value (0.182 < 1.660), and the P-value is greater than the significance level of 0.05 (0.856 > 0.05), indicating that there is no significant difference between the pretest scores of the control and experimental groups..

The results of the t-test analysis of vocabulary learning posttest scores of the control and experimental classes, calculated with the help of the SPSS 26 for Windows programme, demonstrated statistically significant outcomes.This is corroborated by a t-count exceeding the t-table value (3.110 > 1.660) and a p-value less than 0.05 (p = 0.002 < 0.05). Based on these calculations, the following conclusion can be drawn:

Null : there is no significant difference in vocabulary ability between students who received learning with Wordup application and students who received learning without Wordup application in class X TITL SMK Negeri 1 Cirebon, rejected.

Alternative : there is a significant difference in vocabulary ability between students who get learning with Wordup application and students who get learning without Wordup application in class X TITL SMK Negeri 1 Cirebon, accepted.

Results of the Second Hypothesis Test

The second hypothesis of this study is that 'Wordup application is an effective method of vocabulary learning for students in class X at TITL SMK Negeri 1 Cirebon'. This hypothesis is referred to as the alternative hypothesis (Ha). The results of the t-test on the increase in pretest and posttest scores, as well as the increase in the average score of vocabulary learning for the control class and the experimental class, yielded the following values: the control class t-count value was 6.889 with df = 49, and the experimental class t-count value was 13.078 with df = 49.

Then the acquisition of the p value in both classes is smaller than 0.05 (0.000 <0.05). Since the p value is smaller than the significance level of 0.05, it can be concluded that there is a significant difference in vocabulary ability between the experimental class that uses Wordup application and the control class that does not use Wordup application.

Furthermore, a discrepancy is evident in the average score increase between the control and experimental groups. While the control group exhibited a mere 3.880-point increase, the experimental group demonstrated a notable 5.880-point rise. This contrast in the average score growth between the two groups substantiates the efficacy of the Wordup application in facilitating vocabulary acquisition. Based on these findings, the following conclusion can be drawn.

Null : The Wordup application is not effective in vocabulary learning for class X TITL students of SMK Negeri 1 Cirebon, is rejected.

Alternative : The Wordup application is effective in vocabulary learning for students of class X TITL SMK Negeri 1 Cirebon, accepted.

Response Student

The following is the calculation of the questionnaire that has been distributed by the researcher and obtained student answers, using the formula from (Arwan, 2021) :

1. The students reponse about teaching learning process

$$\%\text{NRS} = \frac{\sum NRS}{NRS\ Maks} = \frac{139}{200} = 70\%$$

$$\%\text{NRS} = \frac{\sum NRS}{NRS\ Maks} = \frac{141}{200} = 70.5\%$$

$$\%\text{NRS} = \frac{\sum NRS}{NRS\ Maks} = \frac{110}{200} = 55\%$$

$$\frac{70+70.5+55}{2} = 65\%$$

2. The students' vocabulary learning activity

$$\%\text{NRS} = \frac{\sum NRS}{NRS\ Maks} = \frac{135}{200} = 67\%$$

$$\%\text{NRS} = \frac{\sum NRS}{NRS\ Maks} = \frac{132}{200} = 66\%$$

$$\%\text{NRS} = \frac{\sum NRS}{NRS\ Maks} = \frac{135}{200} = 67\%$$

$$\%\text{NRS} = \frac{\sum NRS}{NRS\ Maks} = \frac{114}{200} = 57\%$$

$$\%\text{NRS} = \frac{\sum NRS}{NRS\ Maks} = \frac{142}{200} = 71\%$$

$$\frac{67+66+67+57+71}{5} = 66\%$$

3. The solution of the problem in vocabulary

$$\%\text{NRS} = \frac{\sum NRS}{NRS\ Maks} = \frac{144}{200} = 72\%$$

$$\frac{72}{1} = 72\%$$

4. The functional wordup application

$$\%\text{NRS} = \frac{\sum NRS}{NRS\ Maks} = \frac{130}{200} = 65\%$$

$$\%\text{NRS} = \frac{\sum NRS}{NRS\ Maks} = \frac{140}{200} = 70\%$$

$$\%\text{NRS} = \frac{\sum NRS}{NRS\ Maks} = \frac{127}{200} = 63.5\%$$

$$\%\text{NRS} = \frac{\sum NRS}{NRS\ Maks} = \frac{135}{200} = 67\%$$

$$\%\text{NRS} = \frac{\sum NRS}{NRS\ Maks} = \frac{129}{200} = 64.5\%$$

$$\%\text{NRS} = \frac{\sum NRS}{NRS\ Maks} = \frac{128}{200} = 64\%$$

$$\frac{65+70+63.5+67+64.5+64}{6} = 66\%$$

Based on the calculation above, the percentage of each indicator will be presented through the following table

Table 4. 1 Result the Calculation of Questionnaire

Indicator	Presentase (%)	Criteria
Indicator 1	65 %	Good
Indicator 2	66 %	Good
Indicator 3	72 %	Good
Indicator 4	66 %	Good

The responses obtained from the students through the questionnaires on four indicators fall into the excellent category. This signifies that the students have a higher interest in learning by utilizing the Wordup application. Additionally, the students demonstrated improved cognitive abilities after the use of the Wordup application, specifically in terms of vocabulary skills within the context of English subjects

DISCUSSION

1. Differences in Vocabulary Ability of Control Class and Experimental Class

The study findings indicate that in the control class, where the Wordup application was not used, the pretest average score was 7.88, with scores ranging from 1 to 15. The posttest average score for this group rose to 11.76, with scores ranging from 6 to 19. In contrast, the experimental class, which utilized the Wordup application, had a pretest average score of 7.82, with a score range of 4 to 15, and a posttest average score of 13.70, with scores between 8 and 18. The higher posttest average score in the experimental class suggests that vocabulary learning using the Wordup application is more effective than without it.

A t-test analysis was conducted on the pretest scores using SPSS 26, revealing no statistically significant difference between the control and experimental groups' initial vocabulary proficiency (t-count = 0.182, p = 0.856). This implies that both groups had comparable vocabulary skills before

the intervention. After four learning sessions, the control group, which did not use Wordup, and the experimental group, which did, underwent a posttest. The posttest results showed a statistically significant difference between the two groups (t-count = 3.110, p = 0.002), confirming the effectiveness of the Wordup application in enhancing vocabulary acquisition compared to traditional methods.

2. The Effectiveness of the Use of Wordup Application in Vocabulary Learning

Furthermore the effectiveness of the Wordup application in enhancing vocabulary acquisition among Class X students. The t-test analysis of the pretest and posttest data shows a significant improvement in the experimental group's vocabulary skills, with a t-count of 3.110 surpassing the t-table value of 1.660 (df = 98) and a p-value of 0.002, which is well below the 0.05 significance level. This statistically significant difference highlights the substantial impact of the Wordup application as an educational tool compared to traditional learning methods used in the control group.

Moreover, the comparison of average scores between the control and experimental groups further underscores the effectiveness of the Wordup application. The control group saw a modest increase in mean scores from pretest to posttest by 3.880 points, whereas the experimental group experienced a more substantial increase of 5.880 points. This notable disparity in the magnitude of score improvements provides strong evidence that the Wordup application significantly enhances vocabulary learning. The results affirm that the WordUp application is a valuable and effective resource for improving students' vocabulary skills, as evidenced by the higher average score increase in the experimental group compared to the control group.

3. Response Students'

The results of the questionnaire, which was completed by students, indicate that they have a positive response to learning by using the Wordup application:

a. In the initial indicator, namely the teaching learning process, a significant proportion of students assume that the use of the wordup application as an effective method for rapidly acquiring new vocabulary in an enjoyable manner. Consequently, their responses to the preliminary indicator are classified as "Good".
b. In the second indicator, namely The students' vocabulary learning activity, students perceive that The use of the Wordup application as a learning method has been demonstrated to be an efficient and time-effective approach to memorizing new

vocabulary. Consequently, the second indicator yielded a positive response, classified as "Good."

c. In the third indicator, namely the solution of the problem in vocabulary, students perceive the use of the wordup application as a learning method allows students to relieve their curiosity, as all linguistic elements, including nouns, adjectives, and verbs, are accessible within the application. Consequently, their response to the third indicator is classified as "good."
d. The fourth indicator, The functional wordup application, The wordup application is an appropriate tool for vocabulary learning as it allows students to access the material at any time, which is perceived as an advantage. Consequently, their response to the fourth indicator is classified as "good."

CONCLUSION

Wordup Application significantly positive effect on vocabulary skills in English class X subjects at SMK Negeri 1 Cirebon, as evidenced by the outcomes of the t test Independent Samples T test obtained Tcount of 3.110 which means that Tcount is greater than ttabel (3.110 greater than 1.660) with Sig. (2-Tailed) 0.000 is smaller than 0.05. Wordup Application is effective and significant in improving vocabulary skills in English class X subjects at SMK Negeri 1 Cirebon, as evidenced by the outcomes of the Paired Sample T test obtained t values in the control and experimental classes of 3.880 and 5.880 with Probability or Sig. (2-Tailed) 0.000 which means it is smaller than 0.05. The responses obtained from the students through the questionnaires on six indicators fall into the excellent category. This signifies that the students have a higher interest in learning by utilizing the wordup application. Additionally, the students demonstrated improved cognitive abilities after the use of the Wordup application, specifically in terms of vocabulary skills within the context of English subjects.

REFERENCES

Alqahtani, M. (2015). The importance of vocabulary in language learning and how to be taught. *International Journal of Teaching and Education*, *III*(3), 21–34. https://doi.org/10.20472/te.2015.3.3.002

Arwan, A. Y. (2021). Deskripsi Respon Siswa Kelas VIII Terhadap Media Pembelajaran Google Classroom Pada Pembelajaran Matematika. *Repository.Iainpalopo.Ac.Id*, 1–106. http://repository.iainpalopo.ac.id/id/eprint/3114/1/SKRIPSI_ADAYANTI_ARWAN

Asgari, A. (2012). Announcement of retraction. *International Education Studies*, *5*(4), 150. https://doi.org/10.5539/ies.v5n4p150

Creswell, J. W. (2014). *Research Design ; Qualitative, Quantitative, and Mixed Methods Approaches*.

Harmer, J. (1998). *How To Teach English-Jeremy Harmer.Pdf*.

Hastuti, H. (2023). *Metode Penelitian Pendidikan*. PT. RajaGrafindo Persada - Rajawali Pers. https://books.google.co.id/books?id=pUnfEAAAQBAJ

Nushi, M., Aghaei, A., & Roshanbin, M. (2021). WordUp: An App that Teaches English Words through Extensive Exposure to Authentic Materials. *Vocabulary Learning and Instruction*, *10*(1), 64–72. https://doi.org/10.7820/vli.v10.1.nushi

Prof. Dr. Sugiyono. (2013). Metode Penelitian Kuantitatif Dan Kualitatif Serta R&D. In *Alfabeta, CV* (Issue April).

Stockwell, G. (2022). Mobile Assisted Language Learning. In *Mobile Assisted Language Learning*. https://doi.org/10.1017/9781108652087

Susilowati, F. (2022). *Pengujian Statistik Dengan SPSS*. Penerbit Pustaka Rumah C1nta. https://books.google.co.id/books?id=yhuKEAAAQBAJ

Teng, M. F., & Zhang, D. (2023). The associations between working memory and the effects of multimedia input on L2 vocabulary learning. *IRAL - International Review of Applied Linguistics in Language Teaching*, *61*(3), 1021–1049. https://doi.org/10.1515/iral-2021-0130