


Using Flashcards as Media to Increase EFL Students' Vocabulary

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Dwi Putri Toba Anggreani, Rofiqoh Rofiqoh, Nirwana, Nur Sehang Tamarin^{abcd} 

¹²³⁴Universitas Tadulako

Corresponding Author: anilinwijaya@gmail.com

A B S T R A C T

Flashcards are learning media in the form of double-sided cards that contain images and words. The objective of this research is to prove whether the use of flashcards can increase vocabulary of the seventh-grade students of SMPK GPIID Summersari. This research used a quasi-experimental design involving two groups: experimental and control groups. The population consisted of two seventh grade classes. The data were collected through vocabulary test, which was administered twice as pre-test and post-test. Because the data were not normally distributed, the data were analyzed using the Mann-Whitney U test through SPSS version 24. The results showed that the difference between the post-test scores of the control and experimental classes differences significantly from 67 to 88. The Mann-Whitney test showed that both the experimental and control classes had a significant improvement ($Z = -2.102$, $p = 0.036$). It indicates that the research hypothesis is accepted. Thus, the use of flashcards can increase vocabulary of the seventh-grade students of SMPK GPIID Summersari.

Keywords: *Vocabulary, Flashcards, Increase*

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INTRODUCTION

Vocabulary is one of the important elements in teaching English. Without a robust vocabulary, learners struggle to communicate effectively and understand the language in context (Nation, 2020). According to Schmitt et al. (2021), the depth of vocabulary knowledge directly influences language proficiency. It is essential for both comprehension and expression in any language. A deep understanding of vocabulary enriches comprehension and expression enabling students to understand the meaning of a foreign language and to develop fluency. Learning vocabulary is not only understanding the meaning of words, but also knowing how to spell and pronounce it, and use it in different context. Vocabulary acquisition entails more than mere comprehension of lexical meanings; it encompasses spelling, pronunciation, and the capacity to utilize words in a manner consistent with their intended context. Effective vocabulary instruction, therefore, necessitates more than mere definition; it must also encompass the demonstration of vocabulary usage in sentences, the highlighting of multiple meanings, and the addressing of common challenges learners encounter when confronted with new vocabulary.

Effective vocabulary teaching is more than just defining words it also involves demonstrating their use in sentences to address multiple meanings and prevent learning challenges common in English. However, an interview with a teacher revealed that many seventh-grade students at SMPK GPIID Summersari have a limited vocabulary, which hinders their ability to express ideas and meet curriculum expectations. In addition, students feel bored and unmotivated to learn English. Hernandez (2018) states that students often experience boredom and lack of motivation in English language classrooms due to repetitive activities and insufficient engaging materials. Teachers face difficulties in creating engaging English lessons due to persistent vocabulary issues. Rapid technology development can aid in teaching vocabulary. Considering the fact above, teachers need to provide engaging learning resources to actively involve students in vocabulary learning by utilizing various instructional media. Degeng (2001) states that there are two types of learning

media: technical media (such as audio cassettes, television, computers and language labs) and non-technical media (such as flashcards, posters, maps, and realia). According to Mayer (2001), students who learn through visual means tend to retain information better and understand complex concepts more easily. Visual media has long been recognized as an effective tool in language learning. Students can understand and remember information better when information is presented in visual form. Therefore, this study uses flashcards as visual media in the discussion of this study. Empit (2010) state that flashcards are a form of educational game in the form of cards containing pictures and words designed to improve various aspects, including developing memory, practicing independence, and increasing the amount of vocabulary. It means that flashcard is one of media which can help the teacher to teaching English easily. Therefore, the research objective is to prove whether the use of flashcards can increase vocabulary of the seventh-grade students of SMPK GPID Summersari.

Flashcard is a compact card holding an image, text, or symbols to remember and stimulate pupils on certain topics (Arsyad, 2002). Balaghizadeh and Ashoori (2011) state that flashcards as media made of cardboard with a straightforward image, phrase, or sentence printed on them. Flashcards may be customized for large or small classes and typically measure 8 by 12 cm. It may be categorized according to the kind and class, for example, flashcards of locations, modes of transportation, human traits, and tools. Cue cards are another name for flashcards. According to Karpicke and Roediger (2008), flashcards are an effective memory aid. One side of the cards should include a question and the other should have the answer. Flashcards are cards with phrases or images painted or drawn on them.

Some previous research has proved the effectiveness of using flashcards to develop students' vocabulary. Yulsardi & Ratmanida (2021) is about the effect of digital flashcard on students' vocabulary mastery experimental research at SMPN 12 Padang. Found that potential efficacy of digital flashcards in enhancing vocabulary mastery in this educational context. Ritonga et al. (2024) examined the flashcards as a tool for vocabulary enhancement: a study on tenth grade students at SMAN 1 Padang Bolak Julu. Reveal that flashcards are effective to enhance vocabulary due to their simplicity and the active recall they promote. Putri et al. (2024) investigated the teaching English using flashcards to improve elementary school students' vocabulary. States that using flashcards in English vocabulary teaching and learning engages the students with the materials, and it helps the students understand the materials even more quickly than without flashcards. The difference between this research and some previous studies is that this research combines digital and traditional flashcards, and the research subjects are students of SMPK GPID Summersari.

METHOD

This study used A quasi-experimental as the research design aimed at establishing a cause-and-effect link. It involved experimental and control groups. The pre-test was administered in this study prior to the intervention. After that, the experimental group received treatment by implementing using flashcards, whereas the control group did not. They were thought vocabulary using flashcards and then they took a post-test following the treatment.

Population and Sample

The population of this research was the grade VII students at SMPK GPID Summersari. The number of the population was 43 students, divided into two parallel classes they were class VII A, and class VII B. Which class VII A totaled 21 students and class VII B totaled 22 students. Because the number of the population was small, all of them were involved to be the sample. Therefore, the selection of this sample used a total sampling technique. The samples of this research were class VII A as the experimental group and class VII B as the control group. Because the students were homogenies, the researcher used a lottery to determine the experimental and control group. By inserting two papers labelled VII A and VII B, and the first to appear was VII A as the experimental class.

Instruments

This research used a vocabulary test as the instrument of collecting data. The research

took the items from a previous researcher. The test was used in the pre-test and post-test. There were two types of tests being multiple choices and matching picture. The test under consideration focuses on four types of vocabulary: nouns, verbs, adjectives, and adverbs. These four types of vocabulary are commonly found in junior high school English materials. The total score for all 30 answers was complete and accurate.

Procedures

The researchers used the treatment only for the experimental group, while the control group was taught by the English teacher without using flashcards media. The researchers applied the treatment to the experimental group for six meetings. Researcher taught students by using flashcards media to develop students' vocabulary. The material given to the control group was same as the experimental class, but the learning model was different. Researcher modified the procedure based on procedures that had been used by experts in previous studies.

Data analysis

After all of the students' scores were collected, the data were analyzed. The purpose of this analysis was to determine the differences between pre-test and post-test results prior to and following treatment. If the data is normally distributed then analyze the data using homogeneity, and then if the data is not normally distributed then analyze the data using Mann-Whitney U.

FINDINGS AND DISCUSSION

Data were obtained from two classes that served as the research samples: the experimental group and the control group. The findings from both groups were analyzed to evaluate the extent to which seventh grade students at SMPK GPID Summersari increase their vocabulary through the use of flashcards.

The Results of Pre-test and Post-test

Table 1. Pre-test and Post-test Score of Experimental and Control Group

No	Experimental Group			Control Group		
	Initial	Pre-Test	Post-Test	Initial	Pre-Test	Post-Test
1	MDA	97	100	SND	57	53
2	NKI	4	87	GRD	100	97
3	RN	40	93	JS	97	97
4	VJ	57	97	AN	43	33
5	FIM	100	100	RAM	97	97
6	GKA	100	100	MA	93	93
7	RK	63	87	IPWL	87	97
8	NMKO	53	83	GVA	33	23
9	KK	63	93	NSD	47	93
10	NNAS	80	93	PBJM	77	97
11	NRY	77	77	LGA	60	70
12	TM	33	63	DP	43	23
13	VAG	33	77	MJ	60	40
14	GO	57	90	NMIW	77	83
15	AS	60	93	KT	40	23
16	ZF	47	83	TC	90	97
17	SA	70	77	MAY	37	23
18	INGS	47	73	VA	60	60
19	AP	80	100	CC	70	53
20	HS	70	93	IN	77	83
21	JM	77	87	MC	77	60
22				FN	33	83
Total		1.350	1.847		1.453	1.480
Mean		64	88		66	67

Based on the data in Table 1, there is a significant increase in students' vocabulary. Before using flashcards, the average score of the pre-test was 64, which indicated that students'

vocabulary skills ranged from low to moderate. After applying flashcards in the learning process, the average post-test score increased from 64 to 88, this shows that flashcards as media can significantly increase students' vocabulary.

The control group's pre-test and post-test results show little improvement. Although some students showed the improvement was not consistent. The highest post-test score was 97, while the lowest score dropped to 23, with many students showing little or no significant change. This shows that students' improvement in vocabulary mastery varied.

After finding the student's score of experimental group and control group, the researcher calculated the mean, minimum, maximum, and standard deviation after determining the standard score for both the control and experimental groups using SPSS v.24. The results of the descriptive statistical analysis are presented as follows:

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Error	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
Pre-test Experimental	21	33	100	64.33	4.419	20.252
Post-test Experimental	21	63	100	87.90	2.210	10.129
Pre-test Control	22	33	100	66.14	4.796	22.495
Post-test Control	22	23	97	67.18	6.180	28.989
Valid N (listwise)	21					

The results showed that the experimental group experienced significant improvement after the treatment, with the mean score rising from 64.33 (range 33-100) to 87.90 (range 63-100), as well as a decrease in standard deviation from 20.25 to 10.13, signifying more consistent improvement. In contrast, the control group only experienced an increase in mean score from 66.14 (range 33-100) to 67.18 (range 23-97), accompanied by an increase in standard deviation from 22.49 to 28.99, indicating greater variation in learning outcomes. This indicates that the treatment in the experimental group was effective in increasing student learning outcomes more evenly and significantly.

Normality Test

The normality test was used to check if the data followed a normal distribution. This research used SPSS version 24 to analyze the data with the Shapiro-Wilk test because the sample size was 54, which is less than 100. If the significance value (p-value) is greater than 0.05, it means the data is normally distributed. However, if the p-value is 0.05 or lower, the data is not normally distributed, and a different method (non-parametric) should be used for analysis. The normality test result obtained as follows:

Table 3. Normality Test Result

Class	Kolmogorov-Smirnov ^a			Shapiro-Wilk			
	Statistic	df	Sig.	Statistic	df	Sig.	
Pre-test	Control	.140	22	.200*	.927	22	.106
	Experiment	.098	21	.200*	.954	21	.400
Post-test	Control	.207	22	.015	.844	22	.003
	Experiment	.169	21	.122	.921	21	.093

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the results of the Shapiro-Wilk normality test, most of the data showed normal distribution, except for the post-test control group. The Shapiro-Wilk significance values for the control pre-test (.106), experimental pre-test (.400), and experimental post-test (.093) groups are all above 0.05, indicating normally distributed data. However, the post-test control group had a significance value of .003, which was below 0.05, thus not meeting the assumption of normality. Therefore, further analysis used non-parametric tests because not all data were normally distributed.

Hypothesis Test

The next step in the analysis is to conduct hypothesis testing to determine whether the research hypothesis is accepted or rejected. The hypothesis testing was performed using SPSS

24. Since one of the data sets (post-test control group) did not follow a normal distribution, the researcher decided to use a non-parametric test to ensure the validity of the analysis. The Mann-Whitney U test was chosen as a substitute for the independent t-test to compare the outcomes between the experimental and control groups.

This test is appropriate because it does not require the assumption of normality, making it a reliable choice given the mixed normality results in the data. The Mann-Whitney U test helps determine whether the treatment applied to the experimental group resulted in a significant difference in students' pronunciation skills compared to the control group. By using a non-parametric approach, the study ensures that the statistical analysis remains accurate and suitable for the characteristics of the collected data.

Table 4. Mann-Whitney U Ranks Test Result

	Class	N	Mean Rank	Sum of Ranks
Score	post-test (control)	22	18.09	398.00
	post-test (experimental)	21	26.10	548.00
	Total	43		

The Mann-Whitney Test is used to compare whether there is a significant difference between two independent groups based on their learning outcomes. This test is a non-parametric alternative to the independent t-test, used when the data is not normally distributed.

Table 4 presents the post-test ranking data for two groups: the Experimental Group and the Control Group. The Experimental Group consisted of 21 students who received a specific treatment, while the Control Group comprised 22 students who followed the standard learning method. The results indicate that the Experimental Group had a mean rank of 26.10 with a total rank of 548.00, whereas the Control Group had a mean rank of 18.09 with a total rank of 398.00. In total, 43 students participated in the study.

Table 5. Statistics Test Result

Score	
Mann-Whitney U	145.000
Wilcoxon W	398.000
Z	-2.102
Asymp. Sig. (2-tailed)	.036

a. Grouping Variable: group

The mean rank reflects the relative position of students' scores after ranking, while the sum of ranks represents the total of all ranks within each group. The Experimental Group had a higher mean rank than the Control Group, suggesting that students in this group generally achieved higher scores compared to those in the control group. The next step involves conducting statistical significance testing to determine whether the difference in ranks between the two groups is meaningful. This test will help verify whether the observed differences were genuinely caused by the treatment or occurred by chance.

Table 5 shows the results of the Mann-Whitney U test used to compare the post-test scores between the Experimental Group and the Control Group. This test aims to determine whether there is a statistically significant difference between the two groups after treatment.

The test results show that the Mann-Whitney U value is 145.000, the Z value is -2.102, and the asymptotic significance value (2-tailed) is .036. Since the significance value of .036 is smaller than the significance limit of .05, it can be concluded that there is a significant difference between the post-test scores of the Experimental Group and the Control Group.

This shows that the use of flashcards as vocabulary learning media has a significant impact compared to the conventional learning method used in the Control Group. Thus, the null hypothesis (H₀) is rejected and the alternative hypothesis (H_a) is accepted, which means that the use of flashcards effectively helps to improve students' vocabulary mastery, especially in seventh grade students at SMPK GPID Summersari.

The objective of this research is to prove whether the use of flashcards can increase vocabulary of the seventh-grade students of SMPK GPID Summersari. The use of flashcards helped students be more active to get more vocabulary by using flashcards during

the learning process. The students seem more easily to memorize the vocabulary and enjoy the learning by using flashcard.

Despite the encouraging results, several challenges were observed during the study. One of the main issues was the students' low motivation to learn English. Many students showed a lack of enthusiasm and interest during the lessons, which affected their participation and willingness to engage with the flashcard activities. This lack of motivation limited the potential benefits that could have been gained from the learning process. Another difficulty faced by the students was their very limited initial vocabulary. Their poor vocabulary base made it difficult for them to understand the meaning of new words or to connect them with familiar ones. As a result, students often needed additional explanations or examples to fully grasp the new terms introduced through the flashcards. Without a sufficient number of basic words, students found it challenging to comprehend sentences or interpret the overall meaning of short texts.

Moreover, while flashcards helped students remember individual words, they often struggled to use those words in complete sentences or different contexts. This problem was particularly evident when dealing with abstract vocabulary or less common adjectives and verbs. Some students tended to guess the meaning of words instead of understanding them deeply, which sometimes led to errors in usage. Overall, flashcards proved to be an effective tool in helping students overcome their vocabulary limitations.

Flashcards provided repeated exposure to words in a simple and visual manner, which made it easier for students to memorize and internalize vocabulary. The colorful visuals and straightforward format of flashcards also created a more engaging and less intimidating learning environment, which helped boost students' interest and motivation over time. According to Lisa (2019), flashcards are an efficient and motivating method for vocabulary learning, especially when learners need frequent repetition and visual reinforcement to retain new words. It means that flashcards not only aid memory but also help sustain students' attention during the learning process, making vocabulary acquisition more effective and enjoyable.

The finding of this research supports the previous findings. A most previous studies revealed the effectiveness of using flashcards to improve students' vocabulary (Yulsardi and Ratmanida (2021); Fauziah (2023); Rachmadi et al. (2023); Syamsiyah and Ma'rifatulloh (2023); Ritonga et al. (2024); Putri et al. (2024)). This medium can be used for teaching at all levels of education, making it an effective tool not only in primary education but also at the secondary and even higher education levels.

Furthermore, the findings of this research show that flashcards are not only effective but also practical in vocabulary teaching. Nurarisda et al. (2023) state that Flashcards are an easy-to-use tool that supports effective vocabulary teaching. Their accessibility and ease of use make them a valuable tool for both teachers and students. This research contributes to the growing body of studies supporting the use of instructional media in language education. By demonstrating the effectiveness of flashcards, this research provides a strong basis for their application in effective vocabulary instruction.

CONCLUSIONS

After conducting the treatment for 6 meetings, analyzing the data, and discussing the findings, the researcher founded that the use of flashcards can effectively increase the vocabulary of seventh grade students of SMPK GPID Sumber Sari. This improvement can be seen from the difference in students' performance between the post-test of experimental and control group. The average post-test score of students different from 67 in the control group to 88 in the experimental group. It shows the results indicate a significant increase in students' vocabulary after being taught with flashcards. The conclusion is that the use of flashcards can increase vocabulary of the seventh-grade students of SMPK GPID Sumber Sari. Therefore, teachers are encouraged to use flashcards as a medium in vocabulary teaching to create a more interesting and interactive learning environment. flashcards can help students validate and memorize new words better, so that learning becomes more effective and fun. in addition,

flashcards can be used flexibly in individual, pair, or group activities, so that teachers can adapt them to the needs of different classes and learning styles.

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