

# THE EFFECTIVENESS OF USING E-FLASHCARD BASED WEB MEDIA ON STUDENT'S VOCABULARY MASTERY AT SMPN 1 LAREN

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## Abstract

### Abstract:

*This study aims to determine the effect of using e-flashcards on student's vocabulary mastery. The type of research conducted by this researcher is quantitative research with a pre-experimental design. The research participants in this study consisted of Class VIII students at SMPN 1 Laren in the 2024/2025 academic year. A total of 24 students were selected as participants. The technique used by researchers in collecting data was a test (pretest and posttest). In analyzing the data, researchers used quantitative data analysis by comparing the results of the pre-test and post-test. The results of the study showed that there was a significant difference in the use of e-flashcards to improve students' vocabulary mastery. This is evidenced by the increase in the average pretest score of 53.83 to 85.17 in the average posttest score. In addition, based on the results of the t-test, it can be seen that sig (2-tailed) 0.000 is smaller than 0.05. This means that after implementing the e-flashcard strategy, it has a significant effect on English vocabulary mastery.*

### Abstrak:

*Penelitian ini bertujuan untuk mengetahui pengaruh penggunaan e-flashcard terhadap penguasaan kosakata. Jenis penelitian yang dilakukan oleh peneliti ini adalah penelitian kuantitatif dengan desain pra-eksperimen. Partisipan penelitian dalam penelitian ini terdiri dari siswa Kelas VIII SMPN 1 Laren tahun ajaran 2024/2025. Sebanyak 24 siswa terpilih menjadi partisipan. Teknik yang digunakan peneliti dalam mengumpulkan data adalah tes (pretest and posttest). Dalam menganalisis data, peneliti menggunakan analisis data kuantitatif dengan membandingkan hasil pretest dan posttest. Hasil penelitian menunjukkan bahwa terdapat perbedaan yang signifikan penggunaan e-flashcard untuk meningkatkan penguasaan kosakata siswa. Hal ini dibuktikan dengan adanya peningkatan nilai rata-rata pretest sebesar 53,83 menjadi 85,17 pada nilai rata-rata posttest. Selain itu, berdasarkan hasil uji t dapat diketahui bahwa sig (2-tailed) 0,000 lebih kecil dari 0,05. Artinya setelah diterapkan strategi e-flashcard berpengaruh signifikan terhadap penguasaan kosakata bahasa Inggris.*

**Keywords:** E-flashcard, Vocabulary Mastery, Web Media

## INTRODUCTION

Vocabulary is the most basic element that must be focused on in learning English. By mastering vocabulary, it will be easier for us to write, speak, and understand the language well. Vocabulary mastery is very important for beginners because it is the main key in developing English language skills (Junaidi 2018). The wider the vocabulary a person has, the better their English language skills will be. Conversely, the less vocabulary they have, the lower their English language skills will be.

However, in reality, junior high school students still face various problems and difficulties in understanding English lessons, especially in reading texts. They often have difficulty understanding the contents of reading texts and cannot answer reading practice questions because of limited vocabulary. Many of them do not know the meaning of the words in the text, so they have difficulty understanding the overall meaning. In fact, the more vocabulary students master, the easier it is for them to interpret reading texts (Nashir & Laili, 2018). On the other hand, students' motivation to learn English tends to be low. Many of them consider English as a difficult and scary subject because it is not their mother tongue and still feels foreign, especially for some students who are just starting to learn English at junior high school level.

Another problem is the limited time in teaching English in schools and the lack of variation in material delivery strategies. Based on observations conducted at SMPN 1 Laren, there are several obstacles faced by students. Usually, teachers teach English by explaining the material according to the student workbook (LKS). Teachers often write new vocabulary along with their meanings on the board or ask students to find difficult or unknown words in the text and look for their meanings in the dictionary. Furthermore, teachers train students to repeat the pronunciation of new vocabulary and ask them to memorize the meaning of the word. After that, the teacher gives instructions to students to do the exercises in the LKS and collect them. If students have not completed the exercises, then the task will become homework that must be done at home.

English learning that uses the lecture method and works on student worksheets is often considered boring and less interesting for students (Rahmawati & Dahlina, 2024). Teacher creativity in choosing the right teaching method is very important for the success of the learning process. The use of media in learning activities is very much needed, because it can function as a tool to stimulate students' thoughts, emotions, and attention (Nashir & Laili, 2018).

Flashcards, as one of the visual media that can be applied in teaching English, especially for teaching vocabulary because they can stimulate students' thinking and activate their visual memory. In this way, students will find it easier to remember what they see during the learning process (Rahmawati & Dahlina, 2024). According to Arsyad (2006:119), flashcards are small reminder cards containing images, symbols, or text that help students remember something related to the image on the card. The size is usually around 8x12 cm, although it can be adjusted to the size of the class and the number of students. Most importantly, flashcards must be used quickly, either through games or

demonstrations, and shown at a fairly high speed. The size should also be large enough and clear, so that students in the back row can easily read what is written on the card.

Previous research results related to the use of flashcards in improving students' vocabulary mastery showed positive and significant results. One study conducted at SMP Negeri 1 Gido (2023) found that the application of flashcards can improve students' ability to master vocabulary. This study was conducted in two cycles, where in the first cycle, the average student score only reached 52, which showed that many students were still in the "very poor" category in vocabulary mastery. However, after evaluation and improvement of teaching methods in the second cycle, the average student score increased to 80, with no students in the "very poor" and "poor" categories anymore. This shows that the use of flashcards is effective in improving students' motivation and learning outcomes in mastering English knowledge.

Along with technological advances, teachers are now more easily able to prepare and create vocabulary learning media, such as using computers or laptops to create flashcards in vocabulary teaching. The combination of flashcards and computer technology called electronic flashcards allows for more efficient learning (Nasir and Laili 2018). Because technology continues to develop, making it easier to create learning media, the flashcards used in this study are no longer physical, but computer-based or electronic flashcards.

The combination of flashcards and advancing technology has proven to be effective in supporting second language vocabulary acquisition and enhancing memory recall (Byrd & Lansing, 2016). Visual aids on flashcards help students improve their memory retention, as visual elements have a greater impact on remembering and understanding information. Images on flashcards tend to be easier to recall than concrete words and are more easily stored in memory than abstract ones (Stephen, 2012). Dodigovic (2013) points out that electronic flashcards differ from traditional ones, as they require students to type words during the search process, thereby integrating writing skills with the use of flashcards. Electronic flashcards allow teachers to create cards more quickly, efficiently, and economically, without the need for printing on paper. Additionally, electronic flashcards are easy to store and durable, enabling teachers to generate as many cards as needed without limitations of space or time. Therefore, this study utilizes technology-enhanced or electronic flashcards to enrich students' vocabulary, which in turn can improve their writing skills.

## **RESEARCH METHODOLOGY**

The type of research conducted by this researcher is quantitative research. This study uses pre-experimental design to evaluate the effectiveness of using web-based e-flashcards on students' English vocabulary mastery at SMP N 1 Laren. The purpose of this study is to determine the effect of variable X (the use of web-based e-flashcards) on variable Y (students' English vocabulary mastery).

Research participants in this study consisted of students from Class VIII at SMP N 1 Laren in the 2024/2025 academic year. A total of 24 students were selected as participants, which included 12 male students and 12 female students. The selection of these participants was based on a preliminary study conducted to identify existing issues related to students' vocabulary mastery.

The technique used by researchers in collecting data is a test. The test consists of 25 multiple-choice questions. Researchers use two types of tests that will be tested on students. The first test is a pre-test, which aims to determine the mastery of English vocabulary that students have acquired so far. The second test is a post-test, which is conducted after students receive English learning using e-Flashcard-based Web Media. The pre-test will be conducted in the first week before treatment is given, while the post-test will be conducted after treatment is given to evaluate the increase in students' vocabulary mastery.

In analyzing the data, the researcher used quantitative data analysis by comparing the results of the pre-test and post-test. Data analysis was conducted with the aim of finding significant differences in students' English vocabulary mastery before and after the implementation of the web-based e-Flashcard strategy. The trial was conducted to determine whether or not there were differences after the implementation of the strategy on the material being taught.

The researcher analyzes the data using paired – sample T-test through SPSS program. If the T count > T table, then  $H_a$  is accepted, which means that there is a significant influence between the use of the e-Flashcard strategy on students' English vocabulary mastery at SMPN 1 Laren. Conversely, if the T count < T table, then  $H_a$  is rejected, which indicates that there is no significant influence between the implementation of the e-Flashcard strategy on students' English vocabulary mastery at SMPN 1 Laren.

## **RESEARCH FINDING AND DISCUSSION**

E-Flashcards have many uses in vocabulary learning, not only as a reminder tool but also as a means to expand students' vocabulary. Various activities and games can be applied to help students reinforce the vocabulary that appears on the e-Flashcard interactively. In this study, the researcher conducted seven treatments to improve vocabulary mastery of grade VIII students at SMP N 1 Laren. The researcher collected data from the eight grader of SMPN 1 Laren total of 24 students. Researcher also explain the results of pre-test and post-test in presenting this data.

**Table 1 The Descriptive Statistic of Pre-Test and Post-Test Descriptive Statistics**

**Descriptive Statistics**

|                    |    | Minimum | Maximum | Mean  | Std. Deviation |
|--------------------|----|---------|---------|-------|----------------|
| Pre Test           | 27 | 24      | 76      | 46,30 | 13,482         |
| Post Test          | 27 | 80      | 96      | 89,19 | 4,683          |
| Valid N (listwise) | 27 |         |         |       |                |

It can be seen from the table above that when all the data is combined to see if there is a significant difference in the pre-test and post-test data. The pre-test score is at least 40 and a maximum of 60. While the post-test score is at least 76 and a maximum of 92.

**Table 2 Table of Normality Tests**

**One-Sample Kolmogorov-Smirnov Test**

|                                  |                | Pre-test | Post-test |
|----------------------------------|----------------|----------|-----------|
| N                                |                | 24       | 24        |
| Normal Parameters <sup>a,b</sup> | Mean           | 53.83    | 85.17     |
|                                  | Std. Deviation | 5.776    | 5.338     |
| Most Extreme Differences         | Absolute       | .190     | .202      |
|                                  | Positive       | .143     | .125      |
|                                  | Negative       | -.190    | -.202     |
| Test Statistic                   |                | .190     | .202      |
| Asymp. Sig. (2-tailed)           |                | .024c    | .012c     |

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Based on the table above, the pre-test significance value is 0.024 and the post-test is 0.012. This shows that the pre-test and post-test significance values are less than 0.05,

which means that the data is not normally distributed. Therefore, it means that  $H_0$  is rejected and  $H_a$  is accepted. So, it means that all data is not normally distributed.

Statistical tests using the Wilcoxon test, because after conducting a normality test using the One-Sample Kolmogorov-Smirnov test, it turned out that the data was not normally distributed. The output of the statistical test results using SPSS can be seen based on the following table:

**Table 3 Wilxocon Statistic**

**Test Statistics<sup>a</sup>**

|                        | Pre-test – Post-test |
|------------------------|----------------------|
| Z                      | -4.371 <sup>b</sup>  |
| Asymp. Sig. (2-tailed) | .000                 |

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

The results of the pre-test and post-test data were processed using Wilcoxon for detailed calculations. The table above shows that  $\text{Sig. } 0.000 \leq 0.05$ . It can be concluded that  $H_a$  is accepted. This means that after implementing the e-flashcard strategy, it has a significant effect on English vocabulary mastery.

Data processing was assisted by SPSS and data collection included pre-test and post-test using the one-sample Kolmogorov-Smirnov test to determine data normality and continued with the Wilcoxon test to determine data significance. The average pre-test score of students after being processed by SPSS was 53.83. In table 1 it can be seen that the pre-test scores of students were only within the minimum score of 40 and the maximum score of 60, this did not reach the minimum completion criteria (70) set by the school. Meanwhile, the average score of students after being given treatment experienced a significant increase of 85.17 with a minimum score of 76 and a maximum score of 92. This means that there was an increase in children's English vocabulary mastery after e-flashcards were applied.

This can be seen from table 3 in Asymp. Sig. (2-tailed) of 0.000 which means  $\leq 0.05$ . Thus,  $H_a$  is accepted, and  $H_0$  is rejected. It can be concluded that there is a significant influence on English vocabulary mastery after being taught using e-flashcards in grade VIII students of SMPN 1 Laren. The researcher's problem formulation can be answered, namely "is there a significant influence after using e-flashcards on the mastery of English vocabulary of grade eight students at SMPN 1 Laren?" Thus, it can be concluded that e-flashcards have an effect on English vocabulary mastery.

This can be seen from table 4.3 in Asymp. Sig. (2-tailed) of 0.000 which means  $\leq 0.05$ . Thus,  $H_a$  is accepted, and  $H_o$  is rejected. It can be concluded that there is a significant influence on English vocabulary mastery after being taught using e-flashcards in grade VIII students of SMPN 1 Laren. The researcher's problem formulation can be answered, namely "is there a significant influence after using e-flashcards on the mastery of English vocabulary of grade eight students at SMPN 1 Laren?" Thus, it can be concluded that e-flashcards have an effect on English vocabulary mastery.

The results of research conducted by Muhammad Nashir and Roudlotun Nurul Laili (2018) also showed that there was a significant increase in vocabulary mastery, as indicated by an increase in the average test score: from 58.24 in the pre-test to 70.05 in cycle I, and then to 77.3 in cycle II. In addition, the percentage of students who achieved a minimum score of 70 increased from 70.27% in cycle I to 81.08% in cycle II. This finding shows that electronic cards are effective in improving students' vocabulary mastery.

It can be seen that the application of electronic flashcards in the learning process can improve students' vocabulary achievement. The use of electronic flashcards in vocabulary teaching can stimulate right brain activity, maximize visual memory, train students' concentration, and expand their vocabulary. Flashcards can also stimulate visual memory, which means that students will find it easier to remember what they see when learning vocabulary with this method.

## CONCLUSION AND SUGGESTIONS

Based on the results of the study it can be concluded that students' English vocabulary before and after being taught with the application of e-flashcards has a significant influence. This can be seen in table 4.1 regarding students' scores on the pre-test and post-test. Table 4.1 shows the average pre-test score of students, which is 53.83. While the average post-test score of students is 85.17. In table 4.3 on Asymp. Sig. (2-tailed) of 0.000 which means  $\leq 0.05$ . Thus it can be concluded that  $H_a$  is accepted. Web media based on e-flashcards has a significant influence on English Vocabulary Mastery of students of SMPN 1 Laren.

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