Mastering Vocabulary with Flashcards: Unveiling Their Impact on Learning

Fitri Harianingsih¹, Hastini Hastini²
¹²Universitas Tadulako, Palu, Indonesia

ABSTRACT
This research aimed to discover how using flashcards affected seventh-grade SMP Negeri 2 Toili students’ vocabulary growth. The research design used quantitative research. The researcher employed a complete sampling approach to choose the sample. A sample of 42 students was chosen for this research. The research conducted pre-and post-tests to collect data. According to the Paired Sample Statistics table, the average student score for the experimental class is equivalent to the post-test results, which are 86.67 points greater than the pre-test result of 64.76. Given that the significance (2-tailed) value is known to be between 0.001 and 0.05, H0 is refused, whereas H1 is approved. The fact that there was a distinction between the pre- and post-tests indicates that employing flashcards to increase vocabulary among seventh-graders at SMP Negeri 2 Toili had an impact.

Keywords:
Flashcards
Improving Vocabulary Mastery
Quantitative Research

1. INTRODUCTION

English is a worldwide language adopted as a secondary means of communication in Indonesia. It carries importance in multiple facets of life, encompassing social, economic, and cultural dimensions. A robust lexicon plays a pivotal role in facilitating effective interaction, and in Indonesia, English is the principal foreign language [1] taught from primary to secondary education levels.

In their work, Neuman and Dwyer [2] define vocabulary as comprising words essential for effective communication, including those needed for speaking (expressive vocabulary) and listening (receptive vocabulary). This viewpoint aligns with the perspective of experts [3], who emphasize the pivotal role of vocabulary in shaping how children communicate, listen, read, and write. Vocabulary knowledge is independently related to pre-reading skills, and expressive vocabulary knowledge and listening comprehension skills facilitate word identification abilities [4]. Additionally, expressive
vocabulary knowledge and the level of communicative acts of children have a significant predictive role in children's vocabulary status [5]. Vocabulary and decoding skills explain nearly 40% of the variance to reading comprehension across grades, and the unique contribution of decoding decreases over the grades while vocabulary increases [6].

Furthermore, children whom it has been read to since birth are often given a good foundation for learning and reading successfully later in life [7]. Therefore, it is important to foster receptive vocabulary development in children, especially early childhood, through various didactic techniques, including Information and Communication Technologies (ICT) [8]. Parents play an invaluable role in early reading to the child because, in addition to developing the child's vocabulary, imagination, and faster understanding, the time parent and child spend together is quality time [7]. Harmer [9] further distinguishes between two types of vocabulary. The first category relates to words students have been explicitly taught and are expected to use, while the second category includes words students can recognize but may find challenging to pronounce when encountered.

The more vocabulary the people learn, the more fluently they speak [10]. Recognizing the different components of speech is essential for developing vocabulary. Vocabulary instruction can be separated into three levels, according to Fleak & Cross [11]. They are presentation, practice, and production. Words are given designations known as parts of speech based on how they are used in sentences. In English, there are a total of eight significant parts of speech. Nouns, pronouns, verbs, adjectives, adverbs, prepositions, conjunctions, and interjections are examples of these [12]. If students want to build sentences properly, they must understand nouns and verbs among these. Verbs serve the purpose of expressing actions or activities performed by the subject of a sentence. Verbs are categorized into tenses: present, denoting ongoing actions; past, indicating actions that have already occurred; and future, signifying actions yet to occur [13]. Some verbs are action, transitive, intransitive, irregular, and regular [14]. According to Frank, Pronouns, common nouns, concrete nouns, abstract nouns, uncountable nouns, countable nouns, collective nouns, concrete nouns, and noun plurals are the different types of nouns [15]. Adjectives can be categorized into six different categories, according to Martinet & Thomson [16]. These categories include demonstrative, distributive, quantitative, interrogative, possessive, and quality adjectives. According to Haycaft [17], There are two forms of vocabulary, both receptive and productive, cited by Hatch and Brown [18]. Understanding these elements aids in our understanding of how words work and how they come together to produce meaningful communication.

The more words children acquire in their vocabulary, the more fluently they can express themselves [19]. Developing vocabulary hinges on identifying the various elements of language [20]–[24]. Vocabulary instruction can be divided into three stages, as Fleak & Cross [11] outlined: introduction, practice, and application. Words are classified into parts of speech based on their usage in sentences, and in English, there are a total of eight significant parts of speech, including nouns, pronouns, verbs, adjectives, adverbs, prepositions, conjunctions, and interjections, as described by O'Brien [12]. Students must grasp the concepts of nouns and verbs from this list to construct sentences effectively.
Verbs are crucial in conveying actions or activities performed by the sentence's subject. They can be categorized into tenses: present (indicating ongoing actions), past (representing actions that have already occurred), and future (suggesting actions yet to happen), as stated by MacFadyen [13]. There are various types of verbs, such as action verbs, transitive verbs, intransitive verbs, irregular verbs, and regular verbs, among others, as explained by Garlic [14].

According to Frank, different types of nouns exist, including pronouns, common nouns, concrete nouns, abstract nouns, uncountable nouns, countable nouns, collective nouns, and noun plurals [15]. Adjectives, as described by Martinet & Thomson [16], can be classified into six categories: demonstrative, distributive, quantitative, interrogative, possessive, and quality adjectives. Furthermore, Hatch and Brown [18] refer to two forms of vocabulary: receptive and productive, as identified by Haycraft [17]. Understanding these linguistic elements enhances our comprehension of how words function and combine to form meaningful communication.

As stated by Cameron [25], Flashcards are informative visual cards designed to assist children in improving their vocabulary mastery. According to Cross [26], they are a straightforward visual aid, typically featuring images or text on cards or paper. Baleghizadeh and Ashoori [27] describe flashcards as cardboard pieces that contain basic images, words, or sentences. Edwards [28] characterizes a flashcard as a rectangular piece of cardboard, approximately 18 by 6 inches, with a single word, sentence, or basic outline drawing. The application of flashcards in vocabulary instruction is particularly advantageous, especially for beginners, as it simplifies the comprehension of words.

As Nugroho [29] explains, there are two main categories of flashcards: pictures and words. Picture flashcards have a dual function, helping students recognize action verbs and improving their ability to participate in spontaneous dialogues. These picture flashcards must be visually appealing and large enough to be seen by the entire class [30]. On the other hand, word flashcards can be utilized to practice sentence structures. In this scenario, the teacher can create sentences that use the provided structure, making it easier for students to engage in structured practice.

In Ansar's [31] method of incorporating flashcards into the classroom setting, a series of actions were undertaken. Initially, the class was segmented into smaller groups, typically consisting of three to four students each. The instructor then presented and elucidated the vocabulary flashcards and associated questions. The students were directed to replicate and revise the vocabulary. Subsequently, the flashcards were allocated to the groups, typically with five to six cards assigned to each group. Each group engaged in discussions about the vocabulary, practiced pronunciation, and formulated brief sentences.

Earlier studies on vocabulary, exemplified by Rahma's investigation titled "Utilizing Flashcards for Improving Vocabulary Proficiency in Eighth-Grade Students," yielded significant results. In Rahma's research [32], the initial assessment scores averaged 34.75, but the subsequent evaluation showed a substantial enhancement, with an average score of 76.74. These outcomes strongly indicate that incorporating flashcards as an educational aid notably augmented students' vocabulary mastery.
Sutresno [33] conducted a comparable investigation titled "Boosting Vocabulary of Seventh Grade Students with Flashcards," utilizing classroom action research, test scores, and participant interviews as data collection methods. The findings demonstrated a significant rise in average test scores, going from 55.00 in the initial assessment to 97.87 after two rounds of testing. Additionally, interviews with students affirmed their contentment and enjoyment throughout the learning experience.

As mentioned, the researcher undertook a study involving seventh-grade students from SMPN 2 Toili. The primary aim was to explore these students' obstacles when learning English, explicitly focusing on vocabulary. The research encompassed interviews with teachers and students, unveiling that the students encountered difficulties grasping new words. Most of the seventh-graders exhibited a deficiency in vocabulary, and they experienced challenges in comprehending and retaining unfamiliar terms. The traditional method of searching for word meanings in a dictionary failed to engage their interest and motivation, resulting in a rapid loss of newly acquired vocabulary when confronted with new topics.

Consequently, the researcher utilized a teaching method to enhance English vocabulary, specifically employing flashcards to assist seventh-grade students at SMP Negeri 2 Toili in their vocabulary learning. The primary aim of this study was to investigate the effectiveness of using flashcards to boost students' vocabulary skills.

2. METHOD

The researcher utilized a non-equivalent pretest-posttest control group in a quasi-experimental design in this study. The experimental and control groups got the same pre-test and post-test of measurements in this setup. This research design was derived from Gay, Mills, and Airasian [34] as follows:

<table>
<thead>
<tr>
<th>Experimental</th>
<th>O1</th>
<th>X</th>
<th>O2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>O3</td>
<td></td>
<td>O4</td>
</tr>
</tbody>
</table>

Where:
- O1 : group pre-testing of experimental
- O2 : group post-testing of experimental
- O3 : group pre-testing of control
- O4 : group post-testing of control
- X : Treatment

The participants in this study are comprised of seventh-grade students from SMP Negeri 2 Toili, specifically from two simultaneous classes, namely VII A and VII B. Sugiyono [35] stated that the researcher adopted a comprehensive sampling approach to select the study's sample. The researcher opted for this entire sampling method for its suitability for the research design. VII A served as the experimental group, while VII B acted as the control group, selecting these classes based on the school teacher's
recommendation. Data collection involved the use of multiple-choice exams administered both as pre-tests and post-tests.

3. RESULTS AND DISCUSSION

3.1. Result

a. Descriptive Statistics

For each class, the research required calculating average scores, minimum scores, maximum scores, and standard deviations. The scores were analyzed using SPSS 22 software. Before the analysis, individual scores were computed using the formula described by Arikunto [36]. The following examples illustrate the process of conducting descriptive statistics analysis on the data:

<table>
<thead>
<tr>
<th>Table 1. Descriptive Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Exp. w/ pre-testing</td>
</tr>
<tr>
<td>Exp. w/ post-testing</td>
</tr>
<tr>
<td>Ctrl. w/ pre-testing</td>
</tr>
<tr>
<td>Ctrl. w/ post-testing</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
</tr>
</tbody>
</table>

According to the information in Table 1, both the experimental and control groups consist of 21 students each. The experimental group scored 25 in the pre-test, which increased to 65 in the post-test. In contrast, the control group scored 90 in the pre-test, which increased to 100 in the post-test. The control group displayed a range of pre-test scores, with a minimum of 30 and a maximum of 100.

The average score for the experimental group was 68.76 in the pre-test and 86.67 in the post-test. On the other hand, the control group had an average score of 68.57 in the pre-test and 74.28 in the post-test. Additionally, the standard deviation for the experimental group was 20.58 in the pre-test and 9.91 in the post-test, while the control group had a pre-test standard deviation of 20.44 and a post-test standard deviation of 16.98.

b. Test of Normality

In this research, the test of normality was performed using the Shapiro-Wilk method in SPSS 22 with the criteria (p > 0.05). The normality test's results are shown below:

<table>
<thead>
<tr>
<th>Table 2. Test of Normality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shapiro-Wilk</td>
</tr>
<tr>
<td>Statistics</td>
</tr>
<tr>
<td>Exp. w/ pre-testing</td>
</tr>
<tr>
<td>Exp. w/ post-testing</td>
</tr>
<tr>
<td>Ctrl. w/ pre-testing</td>
</tr>
<tr>
<td>Ctrl. w/ post-testing</td>
</tr>
</tbody>
</table>
The researcher exclusively examined the post-test scores presented in Table 2. Analyzing the post-test results, it becomes evident that the experimental group exhibits a significance level of 0.063. Given that 0.063 exceeds the threshold of 0.05 (0.063 > 0.05), we can infer that the data conforms to a normal distribution. Conversely, the control group's post-test significance level was 0.313. As 0.313 surpasses the 0.05 threshold (0.313 > 0.05), the data is similarly distributed normally. Put differently, the experimental and control groups exhibit a normal distribution.

c. Homogeneity Test

The researcher determined that all the data for both groups (experimental and control) were homogenous. The findings of the group of experimental and control homogeneity test data are shown below:

<table>
<thead>
<tr>
<th>Table 3. Homogeneity Test</th>
</tr>
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<tbody>
<tr>
<td></td>
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<tr>
<td>Experiment and Control Class</td>
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<tr>
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</table>

Table 3 shows the similarity between the experimental and control groups is 0.206. Consequently, a value of 0.206 greater than 0.05 (0.206 > 0.05) suggests that the test results show uniformity between the experimental and control groups.

d. Hypothesis Test

The final step in the analysis involves hypothesis testing, a crucial process for determining whether a significant distinction exists between enhancing children's vocabulary and improving students' grades before and after receiving therapy, specifically through flashcards in the experimental group. Researchers employ the Paired Sample Test within SPSS 22 to perform this analysis. Two conditions must be met: H0 (the null hypothesis) is rejected when the two-tailed significance level is below 0.05, while Ha (the alternative hypothesis) is accepted. Conversely, if the two-tailed significance level exceeds 0.05, H0 is accepted, and Ha is rejected. The experimental group's performance results before and after the flashcard treatment are presented in Table 4 below.

Following Santoso's findings [37], the decision regarding the t-test for paired samples is determined based on the significance value (Sig.) derived from the SPSS output. When the two-tailed significance level is set at 0.05, the null hypothesis (H0) is rejected, and the alternative hypothesis (Ha) is accepted. Conversely, if the two-tailed significance level exceeds 0.05, H0 is accepted, and Ha is not supported. Referring to the table, the calculated two-tailed significance level is 0.001, less than 0.05. Consequently, H0 is invalidated, and Ha is substantiated. This implies a discernible difference in average performance between pre-testing and post-testing, suggesting that using flashcards as a
teaching aid positively impacts the vocabulary proficiency of seventh-grade students at SMP Negeri 2 Toili.

### Table 4. The test of Paired Sample

<table>
<thead>
<tr>
<th>Paired differences</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Std. errorr mean</th>
<th>The 95% confidence interval difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental Pre-test - Experimental Post-test</td>
<td>-21.905</td>
<td>24.366</td>
<td>5.317</td>
<td>- 32.996 - 10.814</td>
<td>-4.120</td>
<td>20</td>
<td>.001</td>
</tr>
</tbody>
</table>

The provided table also contains data regarding the mean difference between pairs, which amounts to -21.905. This value is derived by subtracting the pre-test and post-test averages, precisely 64.76 minus 86.67, resulting in -21.905. It is also the difference between -32.996 and -10.814, representing the lower and upper limits of the 95% confidence interval for the difference.

Based on the data analysis, a noteworthy contrast emerged in enhancing students' vocabulary between the experimental group, which employed flashcards, and the control group, which did not utilize them. This disparity becomes evident when examining the students' initial and final test scores. The experimental group had an average initial score of 68.76, which improved to 86.67 in their final test. Conversely, the control group started with an average pre-test score of 68.57 but only reached an average score of 74.28 in their post-test.

To sum up, using flashcards was a successful method for boosting the vocabulary of seventh-grade students, particularly at SMP Negeri 2 Toili. This conclusion is supported by the significant enhancement in students' vocabulary observed after using flashcards compared to their initial scores. In brief, flashcards were identified as a beneficial and effective approach for enhancing these students' vocabulary.

### 3.2. Discussion

In this section, the study's results are condensed. The researcher conducted their research at SMP Negeri 2 Toili and employed a data collection process involving three phases: a pre-test, exclusive treatment for the experimental group, and a post-test. The experimental group participated in eight sessions spanning two and a half hours.

During the first session, the researcher conducted a preliminary assessment by giving students a pre-test to evaluate their understanding of English vocabulary. In the subsequent meetings, from the second to the seventh, the researcher instructed the experimental group on nouns, verbs, and adjectives, utilizing flashcards as a supplementary educational tool. It is important to note that the control group did not receive this instructional intervention. Finally, in the last meeting, the eighth session, the researcher administered a post-test to the experimental and control groups.
The information presented above pertains to data collected from two groups of students: an experimental group of 21 students and a control group of 21 students. Table 3 provides descriptive statistics for both groups' pre-test and post-test results. For the experimental group, the average score on the pre-test was 68.76, ranging from a minimum of 25 to a maximum of 90. After undergoing therapy, the average post-test score significantly improved to 86.67, with scores ranging from a minimum of 65 to a maximum of 100. Notably, the average post-test score was higher than the average pre-test score for this group.

In contrast, the control group had an average pre-test score of 68.57, with scores varying from a minimum of 30 to a maximum of 100. After the intervention, the average post-test score for this group increased to 74.28, with scores ranging from a minimum of 40 to a maximum of 100. These findings suggest that using media flashcards has successfully enhanced students' vocabulary, as evidenced by the improvement in test scores for both the experimental and control groups.

One could argue that this study's outcomes align with prior research, even though they may not carry substantial significance due to time constraints during the research process. Nation and Nation [38] stress the importance of teaching a word by addressing three fundamental aspects: its form, meaning, and the connection between form and meaning. Rahma's [32] study, "Enhancing Vocabulary Proficiency in Eighth-Grade Students Through Improved Flashcards," is built upon the initial study's discoveries. These findings indicated an enhancement in students' language proficiency. Sutresno [33] conducted a similar study titled "Utilizing Flashcards to Aid Seventh-Grade Students in Enhancing Their Vocabulary." This research suggests that using flashcards can enhance students' vocabulary. Upon employing flashcards as a learning tool for English, the researcher identified several student issues that hindered their English vocabulary development, including difficulties in comprehending and retaining new vocabulary and a lack of motivation to learn English. However, the results demonstrated that using flashcards as a learning aid can improve students' vocabulary mastery.

4. CONCLUSION

Based on the researcher's discoveries, the use of flashcard media has a notable positive impact on the vocabulary of seventh-grade students at SMP Negeri 2 Toili. This conclusion stems from the examination and analysis conducted in the preceding section. More specifically, the Paired Sample Statistics table demonstrates a substantial increase in the average post-test score of the experimental group, rising from 64.76 to 86.67. The p-value, which is 0.001, falls below the significance threshold of 0.05. Consequently, the null hypothesis (HO) is rejected, while the alternative hypothesis (H1) is accepted.

REFERENCES


