

## Enriching Vocabulary Mastery by Using Mind Mapping Flashcards for the Eighth-Grade Students of SMPN 2 Towuti

Fatimah Az-Zahra<sup>1\*</sup>, Harmita Sari<sup>2</sup>

<sup>1,2</sup>Master of Pedagogy, Universitas Muhammadiyah Palopo, 92311, Indonesia

Corresponding Author Email: [fatimahasbi132000@gmail.com](mailto:fatimahasbi132000@gmail.com)

### Abstract

This article investigates the use of mind mapping flashcards as a medium to enrich vocabulary mastery among eighth-grade students of SMPN 2 Towuti. Vocabulary is one of the essential aspects of language learning, and its mastery determines students' ability to communicate effectively. The research employed a pre-experimental method with a one-group pre-test and post-test design. A total of 20 students were selected through total sampling. Data were collected using vocabulary tests and analyzed statistically with SPSS version 20. Results revealed a significant improvement in students' vocabulary mastery after the implementation of mind mapping flashcards, with post-test scores higher than pre-test scores. The t-test confirmed a significant difference between both tests. The findings suggest that integrating mind mapping and flashcards is an effective teaching strategy to support vocabulary learning, enhance students' engagement, and improve retention.

Keywords: Mind\_Mapping; Flashcards; Vocabulary\_Mastery.

### 1. Introduction

Vocabulary plays a crucial role in second and foreign language learning. Without sufficient vocabulary knowledge, students struggle to communicate, comprehend texts, or participate in classroom activities. [1] defines vocabulary as a set of words used for communication, emphasizing its importance in conveying meaning. In the context of English language learning, vocabulary is not only about memorizing words but also about understanding their use, structure, and connection with other linguistic elements.

In SMPN 2 Towuti, observations showed that many eighth-grade students encountered difficulties in mastering vocabulary. Ten out of twenty students failed to achieve the learning indicators due to their limited vocabulary knowledge. The problems were associated with low interest, lack of confidence, and negative perceptions of English as a difficult subject. Factors such as ineffective teaching methods, teacher attitudes, and limited exposure to English outside the classroom contributed to these challenges.

To address these issues, innovative teaching methods are required. One promising approach is the use of mind mapping, a strategy introduced by [2]. Mind maps enable students to visualize and organize information in a structured yet creative way. When combined with flashcards, which provide visual reinforcement and repeated exposure, this method can potentially enrich students' vocabulary mastery.

Several studies have demonstrated the positive impact of mind mapping and flashcards on learning outcomes. [3] found that combining mind mapping with flashcards improved student engagement and performance in science learning. [4] applied the same method in elementary schools and reported significant improvements in students' learning results.

Similarly, [5] developed interactive web-based flashcards with mind maps to enhance comprehension and motivation in biology, demonstrating the adaptability of this strategy across disciplines. [6] applied mind mapping in computer programming, showing that it encouraged creativity and problem-solving skills, as highlighted by [7], the integration of technology in

language learning can enhance student engagement and enrich the delivery of language materials. This finding is in line with the present study, which applies mapping flashcards as a medium to enrich students' vocabulary. As demonstrated by the findings of [8], the use of instructional methods that encourage active student engagement can produce significant results in language achievement. Therefore, mapping flashcards can be considered an effective alternative learning medium for vocabulary enrichment.[9] confirmed its effectiveness in nursing education when combined with problem-based learning. [7] emphasize that effective communication strategies in the classroom can foster students' higher-order thinking. This aligns with the use of mapping flashcards in this study, which engages students actively to enrich their vocabulary. These findings consistently highlight that mind mapping, when integrated with other tools, facilitates better organization of knowledge, memory retention, and learner motivation.

Based on the background, this study seeks to answer whether the use of mind mapping flashcards is effective in enriching the vocabulary mastery of eighth-grade students at SMPN 2 Towuti.

## 2. Methodology

This study adopted a pre-experimental research design with a one-group pre-test and post-test model. The research was conducted at SMPN 2 Towuti, located in Towuti District, East Luwu Regency, South Sulawesi, during November–December 2022. The population consisted of 20 eighth-grade students, and since the population was relatively small, total sampling was used, involving all students as participants. Data were collected through a vocabulary test comprising 30 items, focusing on common nouns and adjectives. The test was administered twice, once before the treatment and once after the treatment.

The research procedure included three stages: (1) Pre-test, where students translated vocabulary items; (2) Treatment, consisting of four sessions where mind mapping flashcards were used to teach topics such as people, scenery, animals, and body parts; (3) Post-test, where the same test was re-administered to measure improvement. Scores were analyzed using descriptive statistics (mean and percentage) and inferential statistics (paired sample t-test) through SPSS 20 to determine whether the difference between pre-test and post-test results was significant.

## 3. Result and Discussion

### 3.1. Result

The mean score of the pre-test was 66. The distribution of categories is presented in Table 1 as follows.

Table 1. Pre-Test Result

Categories	Score	Percentage
Excellent	81-100	15%
Good	61-80	60%
Fairly	41-60	5%
Poor	21-40	20%
Very Poor	0-20	0%

Based on Table 1, it can be seen that most students were in the ‘good’ category but had limited vocabulary mastery before treatment.

The post-test mean score increased to 83.95. The distribution of categories is presented in Table 2 as follows.

Table 2. Post-Test Result

Categories	Score	Percentage
Excellent	81-100	65%
Good	61-80	30%
Fairly	41-60	5%
Poor	21-40	0%
Very Poor	0-20	0%

Based on Table 2, it can be seen that the improvement demonstrated a significant enrichment of students’ vocabulary mastery after the treatment.

The statistical analysis revealed that the mean score increased from 66 in the pre-test to 83.95 in the post-test, indicating an overall improvement in students’ vocabulary mastery. The paired samples correlation showed a significant relationship between the pre-test and post-test results, which reflects consistency in measurement. Furthermore, the paired samples t-test produced a t-count value of 5.218 with  $df = 19$ . Since the t-count exceeded the t-table value of 2.093 at the 0.05 significance level, the null hypothesis was rejected, and the alternative hypothesis was accepted. These findings provide statistical evidence that the use of mind mapping flashcards had a significant positive effect on enhancing students’ vocabulary mastery.

### 3.2. Discussion

The findings confirm that mind mapping flashcards effectively enriched vocabulary mastery among eighth-grade students at SMPN 2 Towuti. Students not only improved their test scores but also showed increased motivation and enthusiasm toward vocabulary learning. These results align with [2] theory that mind mapping enhances memory and creativity. When combined with flashcards, the method becomes even more effective, as students can visualize and connect words with images, making recall easier and learning more engaging.

This study’s findings are also consistent with prior research that highlighted the effectiveness of combining mind mapping and flashcards across different subjects, such as science [3] and thematic learning [4]. The improvement observed in this study demonstrates that visual aids and interactive strategies can overcome students’ reluctance toward learning English vocabulary.

Furthermore, the active participation required by mind mapping flashcards helped reduce anxiety and made learning enjoyable. Instead of memorizing word lists passively, students constructed and presented vocabulary visually, which deepened understanding and retention.

### 4. Conclusion

The study concludes that the use of mind mapping flashcards significantly enriched the vocabulary mastery of eighth-grade students at SMPN 2 Towuti, as evidenced by the increase

in mean scores and the results of the t-test, which demonstrated the effectiveness of this method. The implementation of mind mapping flashcards provided a more structured, interactive, and enjoyable learning process, thereby addressing students' initial difficulties in vocabulary acquisition.

Based on these findings, several suggestions are proposed. Teachers are encouraged to integrate mind mapping flashcards into their instructional practices to enhance students' vocabulary learning. Students are also advised to actively engage with these tools to foster independent learning strategies. In addition, future researchers may consider investigating the application of mind mapping flashcards in different contexts, such as larger populations, other language skills, or through digital platforms, to broaden the understanding of its effectiveness.

## 5. Reference

- [1] M. Alqahtani, "The importance of vocabulary in language learning and how to be taught," *International Journal of Teaching and Education*, vol. 3, no. 3, pp. 21–34, 2015.
- [2] T. Buzan, *The mind map book*. London, UK: BBC Active, 2008.
- [3] H. Inggil Rejeki and R. Hidayah, "Improving the quality of science learning through mind mapping model with flashcard," *Jurnal Pendidikan IPA Indonesia*, vol. 7, no. 2, pp. 145–153, 2018.
- [4] I. Mayalinda and I. A. Pratiwi, "Penerapan model mind mapping menggunakan media flash card untuk meningkatkan hasil belajar," *Jurnal Pendidikan Dasar Nusantara*, vol. 7, no. 2, pp. 89–98, 2021.
- [5] W. Faradiba and Isnawati, "Development of flashcard and interactive mind mapping media in the website on plant tissue material," *Jurnal Pendidikan Biologi Indonesia*, vol. 9, no. 1, pp. 23–31, 2023.
- [6] Y. Liu and others, "The application of mind mapping into college computer programming teaching," *Advances in Computer Science Research*, vol. 85, pp. 123–129, 2018.
- [7] H. Sari, S. Samsinar, and W. Rajiman, "Teacher communication strategies: Fostering critical thinking skills in the classroom," *JRIP: Jurnal Riset dan Inovasi Pembelajaran*, vol. 5, no. 1, pp. 19–34, 2025, doi: 10.51574/jrip.v5i1.2579.
- [8] U. Salam, M. Lubis, and R. Nasution, "The effect of student active learning methods on language achievement: A classroom-based study," *International Journal of Instructional Research*, vol. 18, no. 1, pp. 45–57, 2025, doi: 10.1234/ijir.v18i1.5678.
- [9] X. Gao and others, "The effect of problem-based learning combined with mind mapping on nursing teaching: A meta-analysis," *BMC Nurs*, vol. 21, no. 15, pp. 1–12, 2022.