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The Effect of Word Mapping in Teaching English Vocabulary at SMPN 16 Mataram

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Abstrak

Penguasaan kosakata merupakan aspek penting dalam pembelajaran bahasa Inggris, tetapi banyak siswa masih mengalami kesulitan memahami dan mengingat kosakata baru. Oleh karena itu, diperlukan strategi pembelajaran yang dapat membantu siswa mengembangkan penguasaan kosakata secara lebih efektif. Penelitian ini bertujuan untuk mengetahui efektivitas strategi Word Mapping dalam meningkatkan penguasaan kosakata bahasa Inggris siswa kelas VIII SMPN 16 Mataram pada tahun ajaran 2025/2026. Penelitian ini menggunakan pendekatan kuantitatif dengan desain pra-eksperimen berbentuk one-group pretest–posttest. Sampel penelitian terdiri atas 31 siswa kelas VIII A yang dipilih menggunakan teknik purposive sampling. Data dikumpulkan melalui tes kosakata berupa 25 soal pilihan ganda yang diberikan sebelum dan sesudah perlakuan. Data dianalisis menggunakan statistik deskriptif dan uji paired-sample t-test dengan bantuan SPSS versi 25. Hasil penelitian menunjukkan peningkatan nilai rata-rata siswa dari 55,35 pada pretest menjadi 76,39 pada posttest, dengan peningkatan sebesar 21,04 poin. Hasil uji statistik menunjukkan perbedaan yang signifikan antara nilai sebelum dan sesudah perlakuan ($p < 0,05$). Temuan ini menunjukkan bahwa penerapan strategi Word Mapping berkaitan dengan peningkatan penguasaan kosakata bahasa Inggris siswa secara signifikan. Dengan demikian, strategi Word Mapping berpotensi menjadi alternatif pembelajaran kosakata yang membantu siswa memahami dan mengingat kata melalui hubungan visual dan semantik.

Kata kunci: Word Mapping; penguasaan kosakata; pembelajaran bahasa Inggris; strategi pembelajaran; siswa SM

Abstract

Vocabulary mastery is an essential component of English language learning; however, many students still experience difficulties understanding and remembering new words. Therefore, an appropriate instructional strategy is needed to support students' vocabulary development. This study aimed to investigate the effectiveness of the Word Mapping strategy in improving English vocabulary mastery among eighth-grade students at SMPN 16 Mataram during the 2025/2026 academic year. A quantitative approach was employed using a pre-experimental one-group pretest–posttest design. The participants were 31 students from class VIII A, selected through purposive sampling. Data were collected using a vocabulary test consisting of 25 multiple-choice questions administered before and after the treatment. The data were analyzed using descriptive statistics and a paired-sample t-test with SPSS version 25. The findings revealed that students' mean vocabulary scores increased from 55.35 on the pretest to 76.39 on the posttest, representing an improvement of 21.04 points. The statistical analysis indicated a significant difference between pretest and posttest scores ($p < 0.05$). These findings suggest that the implementation of the Word Mapping strategy was associated with a significant improvement in students' English vocabulary mastery. In conclusion, Word Mapping offers a promising instructional strategy for supporting vocabulary learning by helping students understand and remember words through visual and semantic connections.
Keywords: Word Mapping; vocabulary mastery; English language teaching; instructional strategy; junior high school students.

INTRODUCTION

Vocabulary knowledge is a fundamental component of English language proficiency because it enables learners to understand and communicate meaning effectively across listening, speaking, reading, and writing activities. In the context of English as a Foreign Language (EFL) education, vocabulary mastery plays a particularly important role, as students often have limited opportunities to encounter and use English outside the classroom. Nation (2021) emphasizes that vocabulary knowledge and language use are closely interconnected, suggesting that the development of vocabulary supports learners' ability to comprehend and produce

meaningful language. Similarly, Graves (2016) highlights the importance of systematic vocabulary instruction that encourages learners to develop a deeper understanding of word meanings and their relationships. The improvement in students' vocabulary achievement following the implementation of Word Mapping is consistent with the findings of Suhaili and Sandiarsa (2020), their study involved seventh-grade students and employed a pre-experimental research design. The findings indicated a positive effect of the instructional game on students' vocabulary mastery. Vocabulary learning, therefore, should not be limited to memorizing isolated words and their translations but should also involve understanding word forms, semantic relationships, and contextual usage. Developing these aspects of vocabulary knowledge is essential for helping EFL learners become more confident and effective language users. Consequently, English teachers need to implement appropriate instructional strategies that promote meaningful vocabulary learning and encourage students to participate actively in classroom activities.

The importance of vocabulary instruction becomes particularly evident when students experience difficulties understanding and using English words in meaningful contexts. Preliminary observations and an interview with an English teacher conducted at SMPN 16 Mataram on June 15, 2025, indicated that many students had limited English vocabulary, which affected their ability to comprehend reading materials, express ideas, and participate in classroom communication. These difficulties were associated with several factors, including differences between English spelling and pronunciation, insufficient exposure to English, and limited opportunities to explore relationships among words. Such conditions suggest that vocabulary instruction needs to provide students with more opportunities to understand, organize, and remember new vocabulary rather than relying primarily on conventional memorization activities. Nation (2021) explains that vocabulary development involves understanding multiple dimensions of word knowledge, including meaning, form, and use. In addition, Graves (2016) emphasizes that meaningful vocabulary instruction should engage learners in exploring words through different types of associations and learning activities. Therefore, the vocabulary

learning difficulties identified at SMPN 16 Mataram highlight the need for an instructional strategy that can support students' understanding of word meanings while making vocabulary learning more engaging and accessible.

One instructional strategy that may address these challenges is Word Mapping, a visual and semantic approach that encourages learners to organize vocabulary through meaningful connections. This strategy involves placing a target word at the center of a graphic organizer and connecting it to relevant information, such as definitions, synonyms, antonyms, examples, sentences, and visual representations. Graves (2016) emphasizes the importance of teaching vocabulary through systematic instruction, word-learning strategies, and activities that develop learners' awareness of word meanings. Similarly, Nation (2022) explains that effective vocabulary learning requires attention to different aspects of word knowledge and opportunities for learners to process and use vocabulary meaningfully. Through Word Mapping, students are encouraged to explore relationships among words, connect new vocabulary with their existing knowledge, and develop a more comprehensive understanding of word meanings. Previous studies, including those conducted by Juniarni (2016), Ulfa, and Utami, reported positive vocabulary learning outcomes following the implementation of Word Mapping. However, these studies were conducted in different educational settings and involved different student populations. Although their findings provide support for the potential benefits of Word Mapping, they do not directly establish how the strategy performs among eighth-grade students at SMPN 16 Mataram, particularly in relation to the vocabulary difficulties identified during preliminary observations.

Despite the growing recognition of meaningful and strategy-based vocabulary instruction, further classroom-based evidence is needed to understand how Word Mapping can support vocabulary development in specific EFL learning contexts. The research gap addressed in the present study concerns the limited evidence identified in the reviewed literature regarding the implementation of Word Mapping among eighth-grade students at SMPN 16 Mataram. Unlike the previous studies conducted in other schools, this research focuses on students whose vocabulary learning

difficulties were associated with limited word knowledge, spelling and pronunciation differences, and insufficient engagement with semantic relationships. Therefore, this study aimed to investigate the effectiveness of the Word Mapping Strategy in teaching English vocabulary to eighth-grade students at SMPN 16 Mataram during the 2025/2026 academic year. Specifically, it examined whether students' vocabulary scores improved significantly after receiving instruction through Word Mapping by comparing their pre-test and post-test performance. Using a pre-experimental one-group pretest–posttest design, the study sought to provide empirical evidence of vocabulary development following the implementation of this strategy. The findings were expected to contribute to the practical understanding of visual and semantic vocabulary instruction and provide English teachers with an alternative approach to supporting vocabulary learning in junior high school classrooms.

METHOD

This study employed a quantitative approach with a pre-experimental research design, specifically a one-group pretest–posttest design, to investigate the effectiveness of the Word Mapping strategy in improving students' English vocabulary. This design involved measuring students' vocabulary mastery before and after the implementation of the treatment without involving a control group. According to Creswell and Creswell (2018), quantitative research allows researchers to examine relationships between variables through numerical measurements and statistical analysis. The research was conducted at SMPN 16 Mataram during the 2025/2026 academic year, focusing on the changes in students' vocabulary achievement following instruction using the Word Mapping strategy.

The population consisted of 120 eighth-grade students distributed across four classes at SMPN 16 Mataram. The sample comprised 31 students from class VIII A, selected through purposive sampling based on specific considerations, including class size, students' motivation, and their participation in English learning activities. Purposive sampling involves selecting participants according to characteristics relevant to the research objectives (Etikan et al., 2016). The selected students

participated in three main stages of the research: the pretest, the implementation of the Word Mapping strategy, and the posttest.

Data were collected using vocabulary tests administered before and after the treatment. The research instrument consisted of 25 multiple-choice questions developed in accordance with the junior high school English curriculum and selected from a standardized vocabulary question bank. The pretest was administered for 60 minutes to measure students' initial vocabulary mastery. Subsequently, students received vocabulary instruction through the Word Mapping strategy, which encouraged them to identify word meanings and establish semantic relationships through visual representations. After the treatment, a posttest containing questions similar to those in the pretest was administered to assess changes in students' vocabulary achievement. The use of pretest and posttest measurements is consistent with quantitative educational research procedures for examining changes in learning outcomes (Creswell & Creswell, 2018).

The collected data were analyzed using descriptive and inferential statistics with IBM SPSS Statistics version 25. Descriptive statistics, including the mean, median, mode, and standard deviation, were calculated to summarize students' vocabulary scores before and after the treatment. Furthermore, a paired-samples t-test was employed to determine whether the difference between the pretest and posttest mean scores was statistically significant. This statistical procedure is appropriate for comparing two related measurements obtained from the same participants (Field, 2018). The significance level was established at 0.05, indicating that a p-value below 0.05 was considered statistically significant. The analysis was used to evaluate vocabulary achievement changes associated with the implementation of the Word Mapping strategy.

RESULTS AND DISCUSSION

Results

This study investigated the effectiveness of the Word Mapping strategy in improving English vocabulary mastery among eighth-grade students at SMPN 16 Mataram during the 2025/2026 academic year. The study involved 31 students from

class VIII A who participated in a one-group pretest–posttest design. Students completed vocabulary assessments before and after receiving instruction through the Word Mapping strategy. The collected data were analyzed using descriptive statistics and a paired-samples t-test with SPSS version 25.0.

Students' Vocabulary Achievement

The findings revealed an improvement in students' vocabulary achievement following the implementation of Word Mapping. The pretest results indicated that students initially experienced difficulties in mastering English vocabulary, while the posttest results showed higher achievement after the instructional treatment.

Table 1. Descriptive Statistics of Students' Vocabulary Achievement

Statistical measure	Pretest	Posttest
Number of students	31	31
Mean score (reported)	55.35	76.39
Highest score	64	88
Lowest score	44	64
Standard deviation	5.85	5.87

The mean vocabulary score increased from 55.35 in the pretest to 76.39 in the posttest, representing an improvement of approximately 21 points. The highest score increased from 64 to 88, indicating that students achieved better vocabulary test results after the treatment. Furthermore, the individual scores showed that all 31 students obtained higher posttest scores than pretest scores.

These results suggest that Word Mapping was associated with improved vocabulary achievement across the participating class. The relatively similar reported standard deviations also suggest that the overall spread of students' scores remained broadly comparable before and after instruction.

Statistical Analysis and Hypothesis Testing

Inferential statistical analysis was conducted to examine whether the difference between students' pretest and posttest scores was statistically significant. The normality testing, homogeneity testing, and a paired-samples t-test.

Table 2. Summary of Statistical Test Results

Statistical test	Result	Interpretation
Pretest normality	$p = 0.050$	Borderline at $\alpha = .05$
Posttest normality	$p = 0.099$	No significant departure
Homogeneity test	$p = 0.700$	No significant variance difference reported
Paired-samples t-test	$t = 43.447$	significant difference
Significance (2-tailed)	$p = 0.000$	$p < .001$
Significance level	$\alpha = 0.05$	H_0 rejected

It showed a paired-samples t-test value of 43.447, exceeding the reported critical value of 2.040. The significance value was reported as 0.000, which should be expressed as $p < .001$ rather than interpreted as an exact probability of zero.

Accordingly, the reported hypothesis test indicated a statistically significant difference between students' vocabulary scores before and after Word Mapping instruction. The findings support an improvement in vocabulary achievement during the intervention period. However, because the study did not include a control group, the observed improvement cannot be attributed exclusively to Word Mapping without considering other possible influences.

Discussion

The findings demonstrated a substantial improvement in students' English vocabulary achievement following the implementation of the Word Mapping strategy. The increase in the reported mean score from 55.35 to 76.39 suggests that students developed better vocabulary knowledge after participating in learning activities involving visual and semantic word relationships. This finding is consistent with Graves (2016), who emphasizes that connecting words with definitions, synonyms, antonyms, and examples encourages deeper vocabulary processing. By organizing vocabulary into meaningful relationships, learners can develop a more structured understanding of unfamiliar words rather than relying solely on memorization.

The improvement also supports Nation's (2021) perspective that vocabulary knowledge involves understanding word meaning, form, and use. Word Mapping provides opportunities for students to examine several aspects of vocabulary simultaneously, including definitions, related words, and contextual examples. Such activities may help learners establish connections between new vocabulary and their existing linguistic knowledge. The present findings are also consistent with the study by Karendra et al. (2017), which examined the implementation of Word Mapping to improve students' vocabulary mastery.

The Word Mapping strategy reflects this pedagogical orientation because it provides a structured learning activity in which students actively explore the relationships between vocabulary items. Instead of memorizing isolated words, students organize vocabulary into interconnected concepts that include definitions, examples, synonyms, and antonyms. Such activities may encourage deeper processing of vocabulary and provide students with opportunities to develop their understanding of word meanings. The improvement in students' vocabulary scores in the present study is consistent with the broader instructional principles discussed by Sandiarsa and Firman (2024).

Furthermore, the increase in vocabulary scores can be understood through the role of visual organization in supporting meaningful learning. The Word Mapping strategy encourages learners to identify characteristics, examples, and relationships associated with target vocabulary. This explanation is consistent with the vocabulary instruction principles attributed to Marzano (2017). It also corresponds with Thornbury's (2017) emphasis on presenting vocabulary through meaningful explanations, synonyms, antonyms, and contextual information. These connections suggest that the combination of visual representation and semantic analysis may have supported students' vocabulary learning during the intervention.

The findings are also in line with previous research. Juniarni (2020) reported positive outcomes from the use of Word Mapping in vocabulary instruction, while the study by Ulfa, as described in Chapter II, reported an increase in mean vocabulary scores from 54.23 to 67.80. Although these studies involved different participants and

research designs, their findings provide supporting evidence that Word Mapping can be a useful strategy in EFL vocabulary instruction. The present study extends this discussion to eighth-grade students at SMPN 16 Mataram.

Another important finding was that all participating students achieved higher scores in the posttest than in the pretest. This pattern suggests that improvement was not limited to students with higher initial achievement. Nevertheless, the study measured vocabulary achievement through written multiple-choice tests and did not separately examine long-term retention, speaking performance, or students' engagement. Therefore, conclusions about these additional learning outcomes should remain tentative.

Despite the statistically significant improvement, the one-group pretest–posttest design limits causal interpretation. Without a comparison group, other factors, including repeated testing, familiarity with the assessment, and additional learning experiences, cannot be excluded. Consequently, the results provide encouraging evidence of vocabulary improvement following Word Mapping instruction rather than definitive proof that the strategy alone caused the observed gains.

CONCLUSION

The findings of this study indicate that the Word Mapping strategy is effective in improving English vocabulary mastery among eighth-grade students at SMPN 16 Mataram in the 2025/2026 academic year. This is supported by the increase in students' mean scores from 55.35 in the pre-test to 76.39 in the post-test, representing an improvement of 21.04 points. The paired-sample t-test also shows a statistically significant difference between the two scores ($p < 0.05$). These findings suggest that Word Mapping is a useful strategy for supporting vocabulary learning through visual organization and meaningful connections between words. Therefore, the study concludes that Word Mapping is associated with a significant improvement in students' English vocabulary mastery, although the one-group pretest–posttest design limits causal conclusions.

REFERENCES

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative,*

and mixed methods approaches (5th ed.). SAGE Publications.

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1–4. https://doi.org/10.11648/j.ajtas.20160501.11

Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). SAGE Publications.

Graves, M. F. (2015). *Teaching vocabulary to English language learners*. Teachers College Press.

Graves, M. F. (2016). *The vocabulary book: Learning and instruction* (2nd ed.). Teachers College Press. https://doi.org/10.65528/9780807775028

Harmer, J. (2017). *How to teach vocabulary*. Pearson Education.

Juniarni, I. (2020). *The effect of using word mapping strategy to the students' vocabulary mastery at SMPN 15 IT Binjai* [Undergraduate thesis, Universitas Islam Negeri Sumatera Utara Medan].

Karendra, R., Nurweni, A., & Suka, R. G. (2017). The implementation of word mapping strategy to increase students' vocabulary mastery. *Journal of English Education*, 5(2), 123–132.

Nation, I. S. P. (2021). *Learning vocabulary in another language* (2nd ed.). Cambridge University Press.

Nation, I. S. P. (2022). *Learning vocabulary in another language* (3rd ed.). Cambridge University Press. https://doi.org/10.1017/9781009093873

Sandiarsa, K. D., & Firman, E. (2024). Enhancing English language teaching: Strategies, challenges, and opportunities. *Jurnal Ilmiah Mandala Education*, 10(2), 454–457. https://doi.org/10.58258/jime.v10i2.6834

Suhaili, M., & Sandiarsa, K. D. (2020). The effect of modified domino cards game on students' vocabulary mastery. *Jurnal Ilmu Sosial dan Pendidikan*, 4(3), 856–862.

Thornbury, S. (2017). *An A–Z of ELT* (2nd ed.). Macmillan Education.

Ulfa, A. (2019). *The effect of word mapping strategy toward students' vocabulary of*

the first grade students at SMPN 1 Bengkalis [Undergraduate thesis, Universitas Islam Riau]. Repository Universitas Islam Riau. https://repository.uir.ac.id/7701/1/156310910.pdf

Utami, D. W. (2017). *The effectiveness of using word mapping strategy in teaching vocabulary: An experimental study at the seventh grade students of SMP Negeri 1 Plupuh academic year 2015/2016* [Undergraduate thesis, State Islamic Institute of Surakarta].