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Developing Vocabulary of The Seventh Grade Students at SMP Negeri 4 Palu through Mind Mapping

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Abstrak

Penelitian ini bertujuan untuk menentukan apakah penerapan Mind Mapping dapat mengembangkan kosakata siswa kelas tujuh di SMP Negeri 4 Palu. Penelitian ini menerapkan desain metode penelitian kuantitatif yang bersifat pra-eksperimen. Subjek penelitian ini adalah dua puluh lima siswa kelas tujuh SMP Negeri 4 Palu. Instrumen yang digunakan adalah tes kosakata yang terdiri dari empat jenis tes. Sebanyak dua puluh lima siswa diminta untuk melakukan pre-test dan post-test. Hasil penelitian menunjukan bahwa pada intervensi mind mapping terhadap cara belajar siswa telah terbukti membantu siswa dalam menghadapi kesulitannya.

Kata kunci: *mind mapping; mengembangkan; kosa kata*

Abstract

This research aims to determine whether the application of Mind Mapping can enhance the vocabulary of seventh-grade students at SMP Negeri 4 Palu. The research employed a quantitative research method with a pre-experimental design. The subjects of this study were twenty five of seventh-grade students from SMP Negeri 4 Palu. The instrument used was a vocabulary test consisting of four types of tests. A total of twenty five students were asked to take a pre-test and a post-test. The results of the study showed that the intervention of mind mapping in students' learning methods has been proven to help students overcome their difficulties.

Keywords: *mind mapping; develop; vocabulary*

Introduction

Mind mapping is a teaching technique for brainstorming essay topics and taking notes, involving the central theme and related ideas branching out from it. By emphasizing key ideas and connections between them, students can create mind maps using pens or markers. This technique fosters free expression of ideas and enhances enjoyment of English learning. It warrants further research due to its potential to significantly improve vocabulary acquisition by engaging both hemispheres of the brain.

The researcher chooses to use mind mapping because it is proven by other

researcher to be effective in improving vocabulary. Albakia, Yahrif, and Rosmayanti (2023) stated that the use of Mind Mapping can improve student learning outcomes and the ability to increase vocabulary. This is supported by Nadia, Sutiyono, and Wahyuningsih (2022) who stated that mapping words is a visual organizer that promotes vocabulary development and this strategy also assists students in developing broader concepts and definitions, or synonyms/antonyms. Early results of the research have shown progress in English learning among students, and the researcher hopes it will also help seventh-grade students at SMP Negeri 4 Palu. Mind mapping organizes vocabulary visually, engaging both creative and logical parts of the brain. Therefore, the researcher proposed the title of "Developing Vocabulary of The Seventh Grade Students at SMP Negeri 4 Palu Through Mind Mapping".

The researcher discovered a fact that in learning the English language, students often face difficulties in memorizing a wide range of vocabulary. To assist students in learning English easily at an early stage, an experimental study were conducted using a scientific approach method by Mind Mapping.

The results of this study expected to be significant for education in Indonesia, benefiting three main parties: students, teachers, and other researchers. Firstly, students can improve their vocabulary and become more active in class. Secondly, English teachers could learn new techniques and media for teaching vocabulary, avoiding monotony and enriching their teaching approach. Lastly, for other researchers, they could gain insights into using mind mapping for teaching vocabulary, offering a fun alternative for teachers and contributing to the quality of English education, particularly in vocabulary.

Methods

In this research, the researcher employed a pre-experimental design following the formula proposed by Creswell (2017). One of the most common pre-experimental designs is the One Group Pretest-Posttest Design, which involves measuring a single group both before and after the treatment or intervention. There were no control group but only the experimental group which got pre-test before the treatment and post-test after the treatment.

There are two variables used in this research: independent and dependent. The dependent variable in this research is the development of vocabulary among Grade VII students of SMP Negeri 4 Palu, while the independent variable is Mind Mapping. Instrument is the way used by researcher to collect data. In this research, the researcher used vocabulary test to collect data.

The test was given twice to the sample. There were two kinds of the test: pre-test and post-test. The pre-test is a test given at the first meeting before treatment. The

researcher gave the pre-test to find out the students' basic knowledge of their vocabulary mastery. The test was intended to find out the effectiveness of the treatment regarding to teaching of developing vocabulary through Mind Mapping. Then the researcher will conduct the post-test in the last meeting. The purpose of this test is to find out whether mind map can develop the vocabulary of grade VII students of SMP Negeri 4 Palu or not. The researcher provided the same types of tests for pre-test and post-test.

In this research, there are four types of test: multiple choices (10 numbers), jumble words (5 numbers), making sentences (5 numbers) and decriptive paragraph (only 1 number). Thus, the total test contains 21 items and each correct item were given a score depends by kinds of test. This means that the maximum total score is 40 point.

Results

This chapter is presented to answer the research question. The findings of this research are divided into two which are pre-test and post-test. The researcher uses vocabulary test as the instrument to collect the data both pre-test and post-test. The pre-test is used to assess participants' initial abilities in terms of their vocabulary proficiency before starting a learning program or intervention. By conducting a pre-test, the researcher can measure the extent of the participants' prior knowledge or abilities of their vocabulary. After that, the researcher gives treatment to develop students' vocabulary. Then, the researcher uses post-test to measure students' vocabulary after the treatment.

The result of students' pre-test and post-test will be provided into table below:

Table 1. Result of Pre-Test and Post-Test

No	Initials	Pre-test		Post-test	
		Y1	$Y1^2$	Y2	$Y2^2$
1.	ARA	92,5	8556,25	97,5	9506,25
2.	AS	72,5	5256,25	95	9025
3.	A	45	2025	62,5	3906,25
4.	ADR	57,5	3306,25	77,5	6006,25
5.	AJI	42,5	1806,25	57,5	3306,25
6.	ATR	70	4900	77,5	6006,25
7.	AP	72,5	5256,25	95	9025
8.	ANZ	72,5	5256,25	77,5	6006,25
9.	AM	65	4225	70	4900
10.	AAAP	80	6400	85	7225
11.	HKI	60	3600	70	4900
12.	MRA	35	1225	50	2500
13.	MPS	27,5	756,25	60	3600
14.	MZT	40	1600	72,5	5256,25
15.	MDF	50	2500	65	4225

16.	MRAD	65	4225	77,5	6006,25
17.	MRPD	57,5	3306,25	70	4900
18.	MAS	55	3025	65	4225
19.	MNA	70	4900	75	5625
20.	NSS	67,5	4556,25	72,5	5256,25
21.	RQP	77,5	6006,25	80	6400
22.	RL	67,5	4556,25	77,5	6006,25
23.	RNA	15	225	50	2500
24.	SRP	70	4900	77,5	6006,25
25.	TR	22,5	506,25	70	4900
∑		1450	92875	1827,5	137218,8
X		58,75	3715	73,1	5488,75
Max		92,5		97,5	
Min		15		50	

Based on the table 4.1, it can be seen that the highest score in the pre-test is 92,5 and the lowest score is 15. While in the post-test, the highest score is 97,5 and the lowest score is 50. The mean score of pre-test is 58,7 and the mean score of post-test is 73,1. From this result, it can be conclude that there are big difference between score of pre-test and post-test.

Table 2. Distribution of Pre-Test and Post-Test Gain Score

No	Initials	Pre-Test (X)	Post-Test (Y)	Gain (d) = Y-X
1.	ARA	92,5	97,5	5
2.	AS	72,5	95	22,5
3.	A	45	62,5	17,5
4.	ADR	57,5	77,5	20
5.	AJI	42,5	57,5	15
6.	ATR	70	77,5	7,5
7.	AP	72,5	95	22,5
8.	ANZ	72,5	77,5	5
9.	AM	65	70	5
10.	AAAP	80	85	5
11.	HKI	60	70	10
12.	MRA	35	50	15
13.	MPS	27,5	60	32,5
14.	MZT	40	72,5	32,5
15.	MDF	50	65	15
16.	MRAD	65	77,5	12,5
17.	MRPD	57,5	70	12,5
18.	MAS	55	65	10
19.	MNA	70	75	5
20.	NSS	67,5	72,5	5
21.	RQP	77,5	80	2,5
22.	RL	67,5	77,5	10
23.	RNA	15	50	35
24.	SRP	70	77,5	7,5

25.	TR	22,5	70	47,5
∑		1450	1827,5	377,5

In order to find out the deviation between pre-test and post-test, the researcher uses the formula proposed by Arikunto (2010) as follows:

$$Md = \frac{\sum d}{n}$$

$$= \frac{377,5}{25}$$

= 15,1

The calculation shows that the deviation between pre-test and post-test is 15,1 with total of gain (d) score is 377,5. After calculating the deviation, the researcher wants to calculate the sum of square of deviation (∑x2d). The result will be presented in table below:

Table 3. Sum of Square Deviation

No	Initials	D	Xd= d - Md	X2d
1.	ARA	5	-10,1	102,01
2.	AS	22,5	7,4	54,76
3.	A	17,5	2,4	5,76
4.	ADR	20	4,9	24,01
5.	AJI	15	-0,1	0,01
6.	ATR	7,5	-7,6	57,76
7.	AP	22,5	7,4	54,76
8.	ANZ	5	-10,1	102,01
9.	AM	5	-10,1	102,01
10.	AAAP	5	-10,1	102,01
11.	HKI	10	-5,1	26,01
12.	MRA	15	-0,1	0,01
13.	MPS	32,5	17,4	302,76
14.	MZT	32,5	17,4	302,76
15.	MDF	15	-0,1	0,01
16.	MRAD	12,5	-2,6	6,76
17.	MRPD	12,5	-2,6	6,76
18.	MAS	10	-5,1	26,01
19.	MNA	5	-10,1	102,01
20.	NSS	5	-10,1	102,01
21.	RQP	2,5	-12,6	158,76
22.	RL	10	-5,1	26,01
23.	RNA	35	19,9	396,01
24.	SRP	7,5	-7,6	57,76
25.	TR	47,5	32,4	1049,76
∑		∑d = 377,5		∑X2d = 3168,5

N = 25 ∑d = 377,5 Md = 15,1 $\sum X^2d$ = 3168,5 df = 25-1= 24

Then, in order to find out whether the mind mapping can develop students' vocabulary, the researcher counting t-count which is significant difference of mean score between pretest and posttest by used formula purposed by Arikunto (2010):

$$= \frac{Md}{\sqrt{\frac{\sum x^2 d}{N\,(N-1)}}}$$

$$= \frac{15{,}1}{\sqrt{\frac{3158{,}5}{25\,(25-1)}}}$$

$$= \frac{15{,}1}{\sqrt{5{,}264167}}$$

$$= \frac{15{,}1}{2{,}294377}$$

$$= 6{,}581$$

In order to find the t-table, the researcher applies the 5% level of significance which is 0.05. The researcher finds out that the df = degree of freedom is 23. Based on the calculation, the researcher finds that the t-count is 6.581while the t-table is 1.714. It can be concluded that the t-count is higher than t-table. Based on this, the hypothesis is accepted that the application of Mind Mapping can develop the vocabulary of seventh-grade students at SMP Negeri 4 Palu.

The objective of this research is to know whether the application of mind mapping can develop students' vocabulary of the seventh-grade students at SMP Negeri 4 Palu or not. Therefore, the researcher presents the discussion of the findings of the data analysis.

By applying mind mapping technique, the student's problem in vocabulary has been proven to be resolved effectively. During the implementation of this technique, the students worked the tests in individual. This enables students to learn comfortably and think the ideas seamlessly.

The statistical analysis further supports these findings. The t-test calculation yielded a t-count of 6.581, which is substantially higher than the critical t-table value of 1.714 at the 5% significance level. This high t-count confirms that the improvement in vocabulary scores is statistically significant and is unlikely to have occurred by chance. Therefore, the Mind Mapping intervention can be confidently attributed to the observed gains in vocabulary proficiency.

This study is in line with the previous study; Albakia et al., (2023) entitled "Improving Students' Vocabulary Mastery Through Mind Mapping of Eight-Grade Students at SMP Negeri 03 Waesama; Herman et al., (2022), entitled Increasing Students' Vocabulary Mastery by Using Mind Mapping; Nadia et al., (2022), entitled

Improving Students' Vocabulary Mastery Through Mapping Words Technique at The Seventh-grade of MTs Raudhatul Mu'minin Bandar Lampung. These previous showed that the use of mind mapping can enhance students' vocabulary.

Conclusion

The results of the data analysis in the previous chapter indicate that the mind mapping technique can effectively enhance the vocabulary of seventh-grade students at SMP Negeri 4 Palu. The t-count obtained was higher than the t-table value. Which means the mind mapping technique is more effective than conventional methods, particularly for seventh-grade students at SMP Negeri 4 Palu.

References

Al-Kufaishi, A. (1988). A vocabulary building program is a necessity not a luxury. English Teaching Forum, 26(2), 42–44.

Akbar, M. R., Korompot, C. A., & Tahir, M. (2024). Improving the vocabulary mastery of year eleven students using mind mapping method. Journal of Excellence in English Language Education, 3(2), 161-167.

Albakia, D., Yahrif, M., & Rosmayanti, V. (2023). Improving Students' Vocabulary Mastery Through Mind Mapping of Eight-Grade Students at SMP Negeri 03 Waesama. Jurnal Pendidikan, Sosial Dan Humaniora, 2, 75–81.

Arikunto. 2006. Prosedur Penelitian Suatu Pendekatan Praktek. Jakarta : PT. Rineka Cipta.

Arikunto. 2010. Prosedur Penelitian Suatu Pendekatan Praktek. Jakarta : PT. Rineka Cipta.

Arikunto. 2011. Prosedur Penelitian: Suatu Pendekatan Praktik. Edisi Revisi VII. Jakarta: PT. Rineka Cita.

Blaz, D. (2001). A Collection of Performance Tasks and Rubrics: Foreign Languages. New York: Eye On Education, Inc.

Brown, H. D. (1994). Principle of Language Learning and Teaching, Third edition. United States of America: Pretince Hall Regent.

Buzan, T. (2007). Mind Map: The Ultimate Thinking Tool. London: Thorsons.

Cameron, L. (2001). Cambridge Language Teaching Library Group Dynamics in the Language Classroom by Zoltán Dörnyei and Tim Murphey Language Learning in Distance Education by Cynthia White Language Learning in Intercultural Perspective edited The Language Teaching Matrix Moti. Cambridge University Press, 14.

Creswell, J. W., & Creswell, J. D. (2017). Research design: Qualitative, quantitative, and mixed methods approaches. Sage publications.

Crystal, D. (2003). English as a global language. New York: Cambridge University Press.

Damayanti, I. L., Febrianti, Y., Nurlaelawati, I., Suharto, P. P., Fellani, A. J., & Rahmadhani, R. (2022). English For Nusantara. Jakarta Selatan: Badan Standar, Kurikulum, dan Asesmen Pendidikan Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi.

Harmer, J. (2001). The practice of English language teaching. London/New York, 401–405.

Herman, Ibrahim, M., & Yahrif, M. (2022). Increasing Students' Vocabulary Mastery by Using Mind Mapping. Jurnal Ilmiah Pendidikan Bahasa, Sastra, Dan Matematika, 3783(April), 15–25.

Hudson, R. (2000). Language as a cognitive network. In Hanne Gram Simonsen & Rolf Theil Endresen (eds.), A Cognitive Approach to the Verb. Morphological and Constructional Perspectives, 49–72.

Keraf, G. (2004). Komposisi: Sebuah Pengantar Kemahiran Bahasa. Flores: Nusa Indah.

Mashar, R., Yasir, C., Rahmawati, D., Aisah, N., Shalehah, N. A., & Wiyarti, S. (2023). The strategy for implementing merdeka curriculum-based early reading for kindergarteners. Genius: Indonesian Journal of Childhood Education, 4(1), 65–80. https://eprints.uad.ac.id/49062/1/129-Article Text-875-1-10-20230629 kemampuan membaca dan kurmer 2023.pdf

Nadia, Sutiyono, A., & Wahyuningsih, S. (2022). Improving Students' Vocabulary Mastery Through Mapping Words Technique at The Seventh-grade of MTs Raudhatulmu'minin Bandar Lampung. Journal of English Education Students (JEES), 4(2).

Nugroho, Y. S., Nurkamto, J., & Sulistyowati, H. (2012). Improving Students'vocabulary Mastery Using Flashcards. English Education, 1(1).

Napa, P. A. (1991). Vocabulary Development skill. Yogyakarta: Kanisius.

Nordquist, R. (2020). Understanding the Types of Nouns in English Grammar. https://www.thoughtco.com/noun-in-grammar-1691442

O'Brien, E. (2015). Parts of Speech. https://www.english-grammar-revolution.com/parts-of-speech.html

O'Dwyer, B. (2006). Modern English Structures-: Form, Function, and Position. Broadview Press.

Saville-Troike, M. (1976). Foundations for Teaching English as a Second Language. Theory and Method for Multicultural Education.

Singh, Kultar. (2007). Quantitative social research methods. New Delhi: Sage Publications.

Sugiyono. (2017). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Bandung: CV Alfabeta.

Surmanov, S., & Maftuna, A. (2020). Analysis of Difficulties in Vocabulary. Journal of Legal Studies, September.

Thornbury, S. (2002). How to Teach Vocabulary. Edinburgh: Longman.

Tony, B., & Buzan, B. (1993). The Mind Map book: How to use radiant thinking to maximize your brain's untapped potential. Dutton: Published by Penguin Group.

Weigle, S. C. (2002). Assessing Writing. Cambridge: Cambridge University Press.