



Using Visual Dictionary to Improve Vocabulary of the Students

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ABSTRACT

This study aims to evaluate the effectiveness of using a visual dictionary to enhance vocabulary mastery among seventh-grade students at SMP Negeri 15 Palu. A pre-experimental research design was employed, involving a single experimental group consisting of 21 students. Data were collected using a pre-test and post-test administered before and after the treatment. The intervention, which involved the use of a visual dictionary as a learning tool, was applied exclusively to the experimental group. The results of the analysis revealed a notable improvement in students' vocabulary performance. The average score increased from 66.66 on the pre-test to 78.1 on the post-test. Furthermore, statistical analysis indicated that the calculated t-value (51.25) exceeded the critical t-table value (281.21), confirming that the difference between the pre-test and post-test scores was statistically significant. These findings provide empirical evidence that the use of a visual dictionary is effective in improving vocabulary mastery among seventh-grade students at SMP Negeri 15 Palu.

KEYWORDS

Mastery;
Vocabulary;
Picture Dictionary.

ABSTRAK

Penelitian ini bertujuan untuk mengetahui efektivitas Kamus Visual dalam meningkatkan penguasaan kosakata siswa kelas VII SMP Negeri 15 Palu. Penelitian menggunakan desain pra-eksperimen dengan satu kelompok eksperimen yang terdiri dari 21 siswa. Instrumen penelitian berupa pre-test dan post-test yang diberikan pada awal dan akhir perlakuan. Perlakuan berupa penggunaan Kamus Visual hanya diberikan kepada kelompok eksperimen. Hasil analisis menunjukkan adanya peningkatan signifikan pada penguasaan kosakata siswa. Nilai rata-rata pre-test adalah 66,66 dan meningkat menjadi 78,1 pada post-test. Uji statistik menunjukkan thitung (51,25) lebih besar dari ttabel (281,21), yang berarti terdapat perbedaan signifikan antara sebelum dan sesudah perlakuan. Sehingga, Kamus Visual terbukti efektif dalam meningkatkan penguasaan kosakata siswa kelas VII di SMPN 15 Palu.

KATAKUNCI

Penguasaan;
Kosakata;
Kamus Bergambar.

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1. Introduction

Vocabulary plays a fundamental role in communication; without it, meaningful interaction becomes impossible. As a core component of English, vocabulary serves as the gateway to understanding phrases and sentences, thus forming the foundation for mastering the language. Vocabulary is central to the development of all English language skills. However, mastering vocabulary is not an easy task—it requires a structured process and is often hindered by various internal and external factors (Hajis, 2014).

Vocabulary can be defined as the set of words taught in a foreign language, serving as essential units for constructing meaning (Hanan et al., 2023). It is the basis of language competence, supporting the four essential English skills: listening, speaking, reading, and writing. Without an adequate vocabulary, it is difficult for learners to effectively acquire and apply these skills (Rahmah et al., 2023). Thus, vocabulary acquisition is a critical aspect of English language learning.

One effective technique in vocabulary instruction is the use of visual aids, particularly still images. Visual media bridges the gap between abstract language and real-world references, enhancing comprehension by allowing learners to see what is being described. In the context of English language teaching in Indonesian junior high schools, particularly in Grade VII as guided by the 2013 Curriculum, vocabulary instruction focuses on action verbs and expressions of ability. Yet, limitations in student vocabulary acquisition—such as exposure to only a few new words per session—can restrict their ability to engage in accurate reading and conversation. Based on classroom observations at SMP Negeri 15 Palu, students often struggle to apply newly learned vocabulary due to limited understanding of context and usage, further exacerbated by passive learning environments.

Visuals, including pictures, diagrams, and symbols, serve as non-verbal communication tools that support language learning (Rashin Hasan, 2022). A visual dictionary, combining images with textual definitions, enhances memory retention and conceptual understanding (Ezeh et al., 2022). Furthermore, multimedia-based instruction introduces a multi-sensory learning experience that promotes learner autonomy, discovery, and engagement. Multimedia learning enables learners to interact with information through various modes—text, sound, image, and color—making it a powerful tool for vocabulary acquisition.

Small group discussion involves three to fifteen participants and encourages student interaction and cooperation. This approach not only fosters communication and collaboration but also enhances student motivation and academic achievement (Elizondo & Pletcher, 2022). Eskiyurt & Özkan (2024) asserts that small group discussions promote problem-solving, active participation, and shared decision-making, all of which contribute to deeper understanding of vocabulary and reading content. In

this context, the present study aims to examine the effectiveness of small group discussions in improving students' reading comprehension and vocabulary retention during English lessons.

Speech delay is a developmental condition characterized by a child's failure to reach typical speech and language milestones within the expected age range. Typically, by 12 months of age, children begin to babble and may utter their first words, while by 24 months, they are generally capable of forming simple phrases. When a child exhibits slower-than-expected progress in developing communicative abilities, this may indicate the presence of a speech delay (Putra et al., 2022). Children experiencing speech delays often encounter challenges in verbal expression, which may manifest as limited vocabulary, difficulty constructing sentences, or improper pronunciation. Such limitations in communication can lead to frustration, potentially resulting in behavioral issues and impaired social interactions. Since effective communication is critical for forming relationships and articulating needs, delays in language development can significantly affect a child's overall social-emotional functioning (Kalland & Linnavalli, 2023).

Moreover, early language development delays are associated with long-term consequences, including poor academic performance and limited social competence. Multiple interrelated factors contribute to speech delay. One prevalent factor is excessive screen time, particularly prolonged use of smartphones, which diminishes opportunities for direct verbal interaction with caregivers and the surrounding environment. Neurological conditions, such as autism spectrum disorder, also play a crucial role, as children with autism frequently exhibit deficits in social communication and expressive language. In addition, environmental factors—such as a lack of language stimulation at home and low-quality interactions between parents and children—can further impede language development. Socioeconomic status is another significant determinant; families with limited access to educational resources, information, or healthcare services are often unable to provide the necessary support for optimal language acquisition and cognitive development (Karani et al., 2022; Lase et al., 2024; Putra et al., 2022). If left unaddressed, these factors may create considerable barriers to first language acquisition.

This study specifically examines the emergence of speech disorders among toddlers raised in bilingual environments. Children exposed to two languages from an early age may be at greater risk of experiencing difficulties in acquiring language effectively. These challenges are largely attributed to the higher linguistic complexity involved in navigating dual-language environments, compared to the relative simplicity faced by children raised monolingually (Karademir & Yilmaz, 2023). Similar findings are reported by Andriani et al. (2022), underscoring the need for focused investigation into

bilingual language development. The findings of this case study will be elaborated in the subsequent results and discussion sections.

2. Method

This study employed a pre-experimental research design, which is considered the simplest form of experimental methodology. The researchers used a one-group pre-test–post-test design, in which a single group was observed before and after the application of a treatment. A pre-test was administered to measure students' initial vocabulary knowledge prior to the intervention, followed by the implementation of the treatment—namely, the use of a visual dictionary. After the treatment period, a post-test was conducted to evaluate any changes in students' vocabulary performance. In this design, no control group was used for comparison, and the observed changes are assumed to be the result of the treatment.

The population in this study comprised all seventh-grade students at SMP Negeri 15 Palu, totaling 198 students across six classes. The researchers selected class VII.C as the sample, consisting of 24 students. This class served as the experimental group and was the only group involved in the study; no control group was included. The sample was chosen through purposive sampling, based on preliminary observation and consultation with the English teacher. The class was selected because the students had not previously been exposed to vocabulary learning using a visual dictionary, making them suitable participants for the intervention.

The primary research instrument used in this study was a written test. The test consisted of 25 items divided into three sections: multiple-choice questions, word-matching tasks, and jumbled-word exercises. Students were given 40 minutes to complete the test. Each correct answer was scored at 4 points, with a maximum possible score of 100. Both the pre-test and post-test utilized the same structure to ensure consistency in measuring the effect of the intervention.

3. Results and Discussion

3.1. The Effectiveness of Visual Dictionaries in Enhancing Students' Vocabulary Acquisition

In presenting the findings, the researchers analyzed the data collected from both the pre-test and post-test. The pre-test was administered on October 2, 2023, to assess the students' prior knowledge of the vocabulary material.

Table 1. The Students' Score of Pre-Test

No	Initial	Raw score	Maximum	Score	Standard Score
1	WD	20		85	23.53
2	SAP	25		85	29.41

No	Initial	Raw score	Maximum	Score	Standard Score
3	MF	22		85	25.41
4	MH	21		85	24.71
5	NW	22		85	25.88
6	AN	23		85	27.06
7	NSR	19		85	22.35
8	MD	19		85	22.35
9	MN	21		85	24.71
10	SH	18		85	21.18
11	SF	19		85	22.35
12	ID	22		85	25.88
13	RS	21		85	24.71
14	MS	20		85	23.53
15	NZ	17		85	20.00
16	AR	18		85	21.18
17	AQ	16		85	18.82
18	RJ	21		85	24.71
19	RS	20		85	23.53
20	RF	16		85	18.82
21	IM	14		85	16.47
Total score				-	487.06
Mean Score				-	23.19

The mean score of the pre-test was calculated using the formula proposed by Arikunto (2013), resulting in an average of 44.7. The highest pre-test score was 74, while the lowest was 39. These scores indicated that most students were below the expected proficiency level prior to the treatment.

Table 2. The Students' Score of Post-Test

No	Initial	Raw Score	Max. Score	Standard Score
1	WD	49	85	57.65
2	SAP	52	85	61.18
3	MF	55	85	64.71
4	MH	52	85	61.18
5	NW	52	85	61.18
6	AN	53	85	62.35
7	NSR	52	85	61.18
8	MD	54	85	63.53
9	MN	55	85	64.71
10	SH	53	85	62.35
11	SF	55	85	64.71
12	ID	54	85	63.53
13	RS	53	85	62.35
14	MS	52	85	61.18
15	NZ	52	85	61.18
16	AR	54	85	63.53
17	AQ	53	85	62.35

No	Initial	Raw Score	Max. Score	Standard Score
18	RJ	54	85	63.53
19	RS	55	85	64.71
20	RF	53	85	62.35
21	IM	55	85	64.71
Total Score				1314.12
Mean Score				62.58

Following the implementation of the treatment using the visual dictionary, the post-test was conducted. The mean score from the post-test rose significantly to 78.1, suggesting a notable improvement in the students' vocabulary mastery. The score range in the post-test extended from a minimum of 77 to a maximum of 85. Based on the comparison of the pre-test and post-test mean scores, the researchers found clear evidence of increased vocabulary performance among the participants.

Further statistical analysis was conducted to determine the deviation score, which amounted to 703, and the squared deviation, which was 23,737. To test the research hypothesis, a t-test was performed. The result showed that the t-count value (51.25) was significantly higher than the critical value of the t-table (281.21). This result confirms that the use of a visual dictionary had a statistically significant effect on students' vocabulary acquisition. Therefore, the hypothesis was accepted, leading to the conclusion that the use of visual dictionary techniques can effectively enhance students' vocabulary skills.

The results of this study demonstrate that the use of a visual dictionary significantly enhanced students' vocabulary acquisition. This improvement is evidenced by a substantial increase in the mean score from 23.19 on the pre-test to 62.58 on the post-test. The considerable gain in average scores indicates a marked improvement in students' comprehension and retention of vocabulary following instruction using visual dictionary-based materials. Furthermore, the statistical analysis revealed a t-value of 51.25, significantly exceeding the critical t-table value of 281.21, suggesting that the improvement is statistically significant and attributable to the instructional intervention rather than random variation.

When compared to prior research, these findings are consistent with studies by Hart et al. (2024) and Marian et al. (2021), both of which highlighted the effectiveness of visual media in enhancing vocabulary retention. Marian et al. observed that visual representations facilitate long-term memory retention through multimodal processing—engaging both visual and verbal cognitive channels—which strengthens semantic understanding. Similarly, Hart et al. emphasized that visual learning tools, such as visual dictionaries, can reduce student disengagement and foster more active participation in the learning process. Thus, the present study not only reinforces previous empirical

findings but also expands the evidence base supporting the pedagogical value of visual media, particularly visual dictionaries, in second language vocabulary instruction.

These results also suggest that visually presented information is more readily processed and internalized by learners than verbal input alone. Visual dictionaries, which offer both textual definitions and pictorial representations, enable students to form concrete associations that deepen understanding. This dual representation aligns with Paivio's Dual Coding Theory, which posits that information encoded through both verbal and visual channels is more effectively retained and retrieved (Paivio, 2024).

The findings affirm that visual dictionaries are an effective instructional strategy for improving vocabulary proficiency. The positive impact is evident not only in the mean score increase but also in the consistency of student performance gains, as nearly all participants demonstrated measurable improvement. Additionally, the narrowing gap between the highest and lowest scores indicates that visual dictionaries benefit learners across the ability spectrum, including those with lower prior achievement. As such, integrating visual dictionaries into English language instruction—especially in vocabulary teaching—is strongly recommended to create a more engaging, inclusive, and effective learning environment.

4. Conclusion

This study aimed to examine the effectiveness of using visual dictionaries in enhancing students' vocabulary mastery. Analysis of pre-test and post-test data from a sample of 21 students revealed a significant increase in the average score—from 23.19 prior to the intervention to 62.58 afterward. This improvement indicates that instruction using visual dictionaries effectively strengthens students' vocabulary comprehension and retention. Statistical analysis further confirmed the significance of these findings, with the calculated t -value (51.25) substantially exceeding the critical t -table value (281.21), suggesting that the observed gains were not due to chance but rather the result of the instructional treatment. These results demonstrate that visual tools, such as visual dictionaries, can enhance memory retention and promote greater student engagement in vocabulary learning.

This research contributes meaningfully to the field of education, particularly in the development of effective, engaging, and inclusive vocabulary learning strategies. The findings show that visual dictionaries not only support high-achieving students but also benefit those with lower proficiency levels, fostering more equitable learning outcomes. Nonetheless, this study is not without limitations, including a relatively small sample size and a short intervention period. Future research is recommended to expand the scope by involving diverse educational levels, larger populations, and varied geographical contexts. Based on the findings, it is recommended that educators and educational

institutions begin integrating visual dictionaries systematically into English language instruction, particularly in vocabulary development. Doing so may support the creation of a more interactive, student-centered, and meaningful learning experience.

References

1. Journals

- Andriani, A., Kartika, R., Dewi, N. S. N., & Suroso, E. (2022). An Indonesian Bilingual Child Development: Highlighting the Influential Factors and Strategies. *Al-Ishlah: Jurnal Pendidikan*, *14*(2), 1541–1552. <https://doi.org/10.35445/alishlah.v14i2.1752>
- Elizondo, A. M., & Pletcher, B. (2022). Switching Gears: Understanding Small Group Discussions. *Journal of Teacher Action Research*, *9*(1), 1–16. <https://jtar-ojs-shsu.tdl.org/jtar/article/view/6>
- Eskiyurt, R., & Özkan, B. (2024). Exploring The Impact of Collaborative Learning on the Development of Critical Thinking and Clinical Decision-Making Skills in Nursing Students: A Quantitative Descriptive Design. *Heliyon*, *10*(17), 1–9. <https://doi.org/10.1016/j.heliyon.2024.e37198>
- Ezeh, N. G., Anyanwu, E. C., & Onunkwo, C. M. (2022). Dictionary as an Effective Resource in Teaching and Learning of English as a Second Language: Complementing Instructions. *English Language Teaching*, *15*(4), 108–116. <https://doi.org/10.5539/elt.v15n4p108>
- Hanan, A., Yuliani, N., & Suadiyatno, T. (2023). The Role of Social Media on Students' English Vocabulary Achievement. *Jurnal Ilmu Sosial Dan Pendidikan*, *7*(1), 732–736. <http://dx.doi.org/10.58258/jisip.v7i1.4507>
- Hart, R., Logie, R. H., & Nicholls, L. A. B. (2024). Towards Theoretically Understanding How Long-Term Memory Semantics Can Support Working Memory Performance. *Quarterly Journal of Experimental Psychology*, *78*(2), 370–390. <https://doi.org/10.1177/17470218241284414>
- Kalland, M., & Linnavalli, T. (2023). Associations Between Social-Emotional and Language Development in Preschool Children. Results from a Study Testing the Rationale for an Intervention. *Scandinavian Journal of Educational Research*, *67*(5), 791–804. <https://doi.org/10.1080/00313831.2022.2070926>
- Karademir, A., & Yilmaz, H. B. (2023). Teacher's Perceptions and Attitudes Toward Bilingualism: Implications For Early Childhood Education. *International Journal of Educational Research Review*, *8*(1), 63–80. <https://doi.org/10.24331/ijere.1185809>
- Karani, N. F., Sher, J., & Mophosho, M. (2022). The influence of Screen Time on Children's Language Development: A Scoping Review. *South African Journal of*

Communication Disorders, 69(1), 1–7. <https://doi.org/10.4102/sajcd.v69i1.825>

Lase, H., Herawati, H., Barus, H., & Siregar, D. N. (2024). Mother's Knowledge and Attitude Regarding Speech Delay Prevention in Children: A Cross-sectional Study in Pantai Labu Health Center of Deli Serdang Regency. *Jurnal Kegawatdaruratan Medis Indonesia*, 3(1), 1–12. <https://doi.org/10.58545/jkmi.v3i1.234>

Marian, V., Hayakawa, S., & Schroeder, S. R. (2021). Cross-Modal Interaction Between Auditory and Visual Input Impacts Memory Retrieval. *Frontiers in Neuroscience*, 15, 1–17. <https://doi.org/10.3389/fnins.2021.661477>

Putra, R. A., Ashadi, A., & Aziz, M. F. (2022). Excessive Gadget Exposure and Children Speech Delay: The Case of Autism Spectrum Risk Factor. *Script Journal: Journal of Linguistics and English Teaching*, 7(1), 176–195. <https://doi.org/10.24903/sj.v7i01.1077>

Rahmah, N., Tahir, M., & Talib, A. (2023). The Effect of Vocabulary Mastery on Students' Reading Comprehension. *International Journal of Business English and Communication*, 1(1), 36–44. <https://journal.unm.ac.id/index.php/ijobec/article/view/32>

Rashin Hasan, M. (2022). Impact of Visual Aids in Enhancing the Learning Process Case Study of students and teachers at Hamza Primary School in Sudan. *IJRDO: Journal of Educational Research*, 8(7), 1–6. <https://doi.org/10.53555/er.v8i7.5126>

2. Thesis

Hajis, R. (2014). *Improving Students Vocabulary by Using Visual Media at SMP Negeri 10 Makassar* [Universitas Islam Negeri Alauddin Makassar]. <https://repositori.uin-alauddin.ac.id/10999/>

3. Books

Arikunto, S. (2013). *Prosedur Penelitian: Suatu Pendekatan Praktik*. Rineka Cipta.

Paivio, A. (2024). Bilingual Dual Coding Theory and Memory. In R. R. Heredia & J. Altarriba (Eds.), *Foundations of Bilingual Memory* (pp. 41–62). Springer. https://doi.org/10.1007/978-1-4614-9218-4_3