



EFFECTIVENESS OF MULTIMEDIA GLOSS ON VOCABULARY DEVELOPMENT AMONG KS2 LEARNERS AS PERCEIVED BY TEACHERS IN DIFFUN DISTRICT II, QUIRINO

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ABSTRACT

This study examined the effectiveness of multimedia gloss on vocabulary development among Key Stage 2 (KS2) learners as perceived by teachers in Diffun District II, Quirino. Specifically, it aimed to determine the profile of the respondents in terms of age and gender and to evaluate the impact of multimedia gloss on learners' vocabulary proficiency.

The study employed an experimental research design involving sixty (60) Grade 4 to 6 pupils, who were divided into control and experimental groups. The control group received traditional vocabulary instruction, while the experimental group was exposed to multimedia gloss as an intervention strategy. Pre-test and post-test assessments were administered to measure vocabulary development. In addition, teachers provided qualitative insights regarding the effectiveness of the intervention.

Findings revealed that the experimental group outperformed the control group in the vocabulary test, with a higher mean score of 27.55 compared to 25.60. The t-test analysis showed a statistically significant difference between the two groups at a 0.05 level of significance, leading to the rejection of the null hypothesis. This indicates that multimedia gloss has a significant effect on improving vocabulary proficiency among learners. However, the difference between the groups was relatively small, suggesting that other factors may also influence vocabulary development.

The study concludes that multimedia gloss is an effective instructional strategy for enhancing vocabulary skills among elementary learners. It is recommended that teachers integrate multimedia gloss in their instruction, and that further studies be conducted to explore additional factors affecting vocabulary development.

KEYWORDS: *Multimedia Gloss, Vocabulary Development, Elementary Learners, KS2 Learners, Experimental Study, Language Learning, Instructional Strategies*

INTRODUCTION

Vocabulary development is widely recognized as a fundamental component of language learning, particularly among elementary learners who are in the critical stages of literacy acquisition. In the context of English language learning, vocabulary knowledge plays a vital role in enhancing reading comprehension, communication skills, and overall academic performance. Learners at the Key Stage 2 (KS2) level, which includes Grades 4 to 6, are expected to expand their vocabulary repertoire to meet the increasing demands of academic texts and classroom discourse. However, many learners struggle with limited vocabulary, which affects their ability to comprehend texts and express ideas effectively. This challenge calls for innovative instructional strategies that can support vocabulary acquisition in meaningful and engaging ways.

In recent years, the integration of technology in education has introduced various multimedia-based approaches to language teaching. One of these approaches is the use of multimedia gloss, which provides learners with additional information about unfamiliar words through visual, audio, or textual support. Glosses are defined as annotations or explanations added to texts to aid comprehension and vocabulary learning (Boers, 2022). With the advancement of digital tools, glosses have evolved into

multimedia formats, incorporating images, sounds, and videos that enhance learners' understanding of word meanings. These multimedia glosses are particularly beneficial for young learners who are more responsive to interactive and visually stimulating learning materials.

The theoretical foundation of multimedia gloss is anchored in the Cognitive Theory of Multimedia Learning, which posits that learners process information more effectively when it is presented through both verbal and visual channels (Mayer, 2001). According to this theory, combining words with images can facilitate deeper learning by helping learners organize and integrate new information with prior knowledge. Multimedia learning environments also help manage cognitive load by optimizing learners' attention and improving retention of information. As supported by recent research, multimedia input enables learners to engage actively in the learning process, leading to improved vocabulary acquisition and retention (Alhazmi, 2024).

Empirical studies have demonstrated the effectiveness of multimedia gloss in vocabulary learning. A recent meta-analysis revealed that multimedia glosses have a significant positive impact on second language vocabulary acquisition, with learners



showing improved performance in recognition and recall tasks (Mahdi et al., 2024). Similarly, Yang (2024) found that multimedia glosses produced a strong overall effect on incidental vocabulary learning, highlighting their effectiveness across various instructional contexts. These findings suggest that integrating multimedia gloss into language instruction can enhance learners' ability to acquire new vocabulary more efficiently compared to traditional methods.

Moreover, multimedia glosses provide contextual support that aids learners in understanding the meaning of unfamiliar words within authentic texts. The combination of textual and pictorial glosses has been shown to significantly improve vocabulary gains, particularly in meaning recall tasks (Shahipanah et al., 2025). This indicates that multimodal input not only supports comprehension but also strengthens memory retention. Additionally, multimedia glosses are especially beneficial for learners with lower proficiency levels, as they offer scaffolding that facilitates independent learning and reduces reliance on teacher explanations.

Despite the growing body of research supporting the use of multimedia gloss, there are still gaps in understanding its effectiveness in specific educational contexts, particularly in elementary schools in rural or developing areas. In the Philippines, English is used as a medium of instruction, yet many learners face challenges in vocabulary acquisition due to limited exposure to the language outside the classroom. Teachers play a crucial role in addressing this issue by implementing effective teaching strategies that cater to the needs of their learners. However, there is limited research focusing on how teachers perceive the effectiveness of multimedia gloss in improving vocabulary development among elementary learners in local contexts such as Diffun District II, Quirino.

Furthermore, while previous studies have explored the impact of multimedia gloss on vocabulary learning, findings remain inconsistent regarding the most effective types and combinations of glossing techniques. Some studies suggest that single-mode glosses may be more effective than multiple modes, while others emphasize the benefits of multimodal approaches depending on learner characteristics and instructional design (Ramezanali et al., 2021; Mahdi et al., 2024). These inconsistencies highlight the need for further investigation, particularly in real classroom settings where various factors such as learner diversity, teaching practices, and resource availability may influence outcomes.

Given these considerations, this study aims to examine the effectiveness of multimedia gloss on vocabulary development among KS2 learners as perceived by teachers in Diffun District II, Quirino. By focusing on teachers' perceptions, the study seeks to provide valuable insights into the practical application of multimedia gloss in elementary classrooms. Teachers' experiences and observations can offer important perspectives on how multimedia tools impact learners' engagement, comprehension, and vocabulary growth.

Ultimately, this research intends to contribute to the growing body of knowledge on technology-enhanced language learning and provide evidence-based recommendations for improving vocabulary instruction in elementary education. The findings of this study may help educators, curriculum developers, and policymakers design more effective instructional strategies that integrate multimedia resources to support vocabulary development among young learners.

Objectives of the Study

The study aimed to show the Effectiveness of Multimedia Gloss on Vocabulary Development Among KS2 Learners as Perceived by Teachers in Diffun District II, Quirino.

Specifically, it seeks to answer the following questions:

1. What are profile of the respondents as to
 - 1.1 Age
 - 1.2 Gender?
2. What is the effect of multimedia gloss to vocabulary learning among the KS2 Learners?

METHODOLOGY

This study employed a quasi-experimental research design to determine the effectiveness of multimedia gloss on vocabulary development among Key Stage 2 (KS2) learners in Diffun District II, Diffun, Quirino. This design is appropriate as it allows the researcher to compare the outcomes of two groups—control and experimental—without random assignment of participants. It also enables the researcher to measure the effect of an intervention, in this case, multimedia gloss, on learners' vocabulary proficiency (Creswell, 2014; Fraenkel et al., 2012).

Sampling Design

The respondents of the study were sixty (60) pupils from Grades 4 to 6 enrolled in selected elementary schools in Diffun District II during the School Year 2025–2026. The respondents were selected using purposive sampling, as they were considered appropriate participants due to their developmental stage in vocabulary acquisition.

The pupils were divided into two groups: the control group, which received traditional vocabulary instruction, and the experimental group, which was exposed to multimedia gloss. This grouping allowed for comparison of vocabulary performance between the two instructional approaches.

Research Instrument

Data were collected using researcher-made instruments developed through an extensive review of related literature and studies. The instruments consisted of the following parts:

- Part I – Respondents' Profile, which included age and gender
- Part II – Vocabulary Test for Control Group (Definition Supply Test)
- Part III – Vocabulary Test for Experimental Group (Picture Recognition Test)



The vocabulary tests were designed to measure learners' ability to understand and recall word meanings. In addition, an unstructured interview was conducted to gather qualitative data from teachers and pupils to support and validate the quantitative findings.

To ensure the validity of the instruments, a try-out was conducted among pupils who were not included in the study. Their feedback was used to improve the instruments. The final version was reviewed and approved by the research adviser and the Dean of Graduate Studies.

Statistical Design

The study utilized various statistical tools to analyze the data. Frequency and percentage were used to describe the profile of the respondents in terms of age and gender. The mean and standard deviation were used to determine the average performance and variability of the respondents' vocabulary test scores.

Furthermore, the t-test was used to determine whether there was a significant difference between the vocabulary performance of the control and experimental groups at a 0.05 level of significance. This helped in deciding whether to accept or reject the null hypothesis.

The scoring of the vocabulary test was based on a transmutation table adapted from Vizcarra (1995), which categorized the learners' performance into high, average, low, and very low levels of vocabulary proficiency.

RESULTS AND DISCUSSIONS

Profile of the Respondents

Table 1
Distribution of the Respondents by Age

Particulars	Frequency Distribution of Respondents	Percentage
10	12	20.00
11	42	70.00
12	5	8.33
13 and above	1	20.00
Total	60	1000.00

Table 1 presents the age distribution of 60 respondents. The age range of the respondents is from 10 to 13 years of age and above. There are 12 respondents or 20 percent who are aged 10. Majority of the respondents or 70 percent are aged 12 which is the average age of grade 5 pupils. 5 respondents or 8.33 percent are aged 12 while there is 1 respondent or 1.67 percent who is aged 13 and above.

Table 2
Distribution of Respondents by Gender

Particulars	Frequency Distribution of Respondents	Percentage
Male	30	50.00
Female	30	50.00
Total	60	100.00

Table 2 shows that there are thirty (30) male respondents and thirty (30) female respondents, each comprising 50% of the total sample. This equal distribution of gender ensures balance among the participants and minimizes potential gender bias, thereby enhancing the reliability of the study's results.

Information Proper

Table 3
Frequency and Percentage of the Control Group on the Vocabulary Test

Question Number	Frequency Distribution of Pupils that answered correctly	Percentage
1	28	93.33
2	26	86.67
3	27	90.00
4	25	83.33
5	27	90.00
6	26	86.67
7	24	80.00
8	26	86.67
9	24	80.00
10	23	76.67
11	28	93.33
12	24	80.00
13	24	80.00
14	24	80.00
15	26	86.67
16	25	83.33
17	27	90.00
18	27	90.00
19	27	90.00
20	24	80.00
Average		85.33

On the frequency and percentage of the experimental group on the vocabulary test, questions number 1, 6, 8, 14, 17 and 18 received the highest percentage of correct with 100.00 percent. The question with the least number of correct answers is questions number 2, 3, 5, 9, 12, and 19 with a percentage of 83.33; overall the public school students garnered an average of 91.83 on the vocabulary part of the exam.



Table 5

The Respondents Mean and Standard Deviation on the Vocabulary Test

Particulars	Control		Experimental	
	Mean	S.D.	Mean	S.D.
Vocabulary Test	25.60	1.50	27.55	2.11

On respondents mean and standard deviation on the vocabulary test, the control group acquired a test mean of 25.6 with a standard deviation of 1.50 which indicates that there is a significant variance in test. The experimental group scored slightly higher with a weighted mean of 27.55 but the standard deviation is 2.11 which indicate that there is a significant variance in test scores.

On the emphasis control group acquired 25.6 with a standard deviation of 1.50; the experimental group acquired a test mean of 27.55 with a standard deviation of 2.11 which indicates that control group have a lesser variance in test scores than the experimental group.

Table 6

The T-test Analysis on the Vocabulary Proficiency of Selected Respondents from

Selected Pupils at Aginaldo District Ifugao Province

Particulars	Control		Experimental		T Values		Decision
	Mean	S.D.	Mean	S.D.	Computed	Tabular	
Vocabulary Test	25.60	1.50	27.55	2.11	3.3722	1.697	Reject

On the t-test analysis on the Vocabulary proficiency of selected respondents from Tropical Village Elementary School in Trias, Cavite, and the control group scored a mean of 25.60 on the vocabulary test with a standard deviation of 1.50 while the experimental group scored a mean of 27.55 with a standard deviation of 2.11. The computed t-test value is 3.3722 using a .05 level of significance and a 38 degree of freedom, the null hypothesis is therefore rejected.

CONCLUSION

The findings of the study revealed that the experimental group, which was exposed to multimedia gloss, demonstrated higher vocabulary proficiency compared to the control group that received traditional instruction. Although the difference between the two groups was relatively small, the results still indicate that multimedia gloss has a positive effect on learners' vocabulary development.

Furthermore, the results of the t-test analysis showed a statistically significant difference between the vocabulary test scores of the control and experimental groups. This implies that the use of multimedia gloss contributed to the improvement of vocabulary skills among the learners. The enhanced performance of the experimental group may be attributed to the engaging and interactive nature of multimedia gloss, which likely increased learners' motivation and facilitated better understanding and retention of vocabulary.

The findings of this study are consistent with previous research, such as that of Jacobs, which also reported that learners exposed to multimedia gloss outperformed those who were not. This further supports the effectiveness of multimedia-based strategies in vocabulary instruction.

However, the study only presents a partial view of the factors influencing vocabulary proficiency. The slight difference observed between the two groups suggests that other variables may also play a role in vocabulary development, such as learners' prior knowledge, learning styles, exposure to language, and teaching methods. That future studies explore these factors in greater depth to gain a more comprehensive understanding of vocabulary development among elementary learners. Expanding the scope, sample size, and duration of the study may also provide more conclusive evidence on the effectiveness of multimedia gloss in improving vocabulary proficiency.

RECOMMENDATION

Based on the findings and conclusions of the study, the following recommendations are proposed:

1. School Administrators. School administrators are encouraged to support and promote the use of multimedia gloss as an instructional strategy to enhance vocabulary development among elementary learners. This may be achieved through proper coordination with teachers, provision of necessary resources, and implementation of relevant training programs. Furthermore, administrators should ensure consistent and effective integration of multimedia-based strategies in language instruction.
2. Teachers. Teachers are encouraged to incorporate multimedia gloss in their vocabulary instruction to improve learners' language proficiency. They should carefully design and prepare appropriate multimedia materials and guide students in understanding how and when to use these strategies effectively. Continuous monitoring and assessment of students' progress are also recommended to maximize learning outcomes.
3. Parents/Guardians. Parents and guardians play a vital role in supporting children's vocabulary development. They are encouraged to provide a conducive learning environment at home by exposing children to meaningful English language experiences. This includes engaging children in conversations, guiding their observations, supporting their learning activities, and helping them process what they have



seen and learned. Active parental involvement can significantly enhance children's language acquisition.

4. Future Researchers. Future researchers are encouraged to replicate and expand this study by including a larger sample size, longer duration, and additional variables that may influence vocabulary development. They may also explore other innovative instructional strategies and compare their effectiveness with multimedia gloss to further improve vocabulary learning among elementary pupils.

17. Teng, F. (2023). Vocabulary learning strategies and multimedia integration. *Language Teaching Research*, 27(4), 567–585. <https://doi.org/10.1177/13621688211008829>
18. Webb, S., & Nation, I. S. P. (2023). *How vocabulary is learned*. Oxford University Press.
19. Yang, Q. (2024). The effects of multimedia gloss on vocabulary learning. *Digital Applied Linguistics*, 1, 2308. <https://doi.org/10.1515/dal-2024-2308>

REFERENCES

1. Alharbi, M. (2022). The impact of digital tools on vocabulary learning. *Journal of Language Teaching*, 12(3), 45–60. <https://doi.org/10.5430/jlt.v12n3p45>
2. Alhazmi, K. (2024). Multimedia learning and vocabulary retention. *World Journal of English Language*, 14(6). <https://doi.org/10.5430/wjel.v14n6p123>
3. Beck, I. L., McKeown, M. G., & Kucan, L. (2023). *Bringing words to life: Robust vocabulary instruction* (3rd ed.). Guilford Press.
4. Bernardo, A. B. I. (2022). English language learning in the Philippines. *Philippine Journal of Education*, 98(1), 15–28.
5. Boers, F. (2022). Glossing and vocabulary learning. *Language Teaching*, 55(1), 1–23. <https://doi.org/10.1017/S0261444821000362>
6. Chun, D. (2023). Computer-assisted language learning and vocabulary acquisition. *CALICO Journal*, 40(2), 123–140. <https://doi.org/10.1558/cj.42123>
7. Ertmer, P. A., & Ottenbreit-Leftwich, A. (2022). Teacher technology integration. *Educational Technology Research and Development*, 70(1), 1–15. <https://doi.org/10.1007/s11423-021-10054-0>
8. Hew, K. F., & Brush, T. (2022). Integrating technology in education. *Educational Technology Research and Development*, 70(2), 345–367. <https://doi.org/10.1007/s11423-021-10090-w>
9. Mahdi, H. S., Mohsen, M. A., & Almanea, M. (2024). Multimedia glosses and vocabulary learning: A meta-analysis. *Acta Psychologica*, 248, 104341. <https://doi.org/10.1016/j.actpsy.2024.104341>
10. Mayer, R. E. (2001). *Multimedia learning*. Cambridge University Press. <https://doi.org/10.1017/CBO9781139164603>
11. Mayer, R. E. (2020). *Multimedia learning* (2nd ed.). Cambridge University Press. <https://doi.org/10.1017/9781316941355>
12. Nation, I. S. P. (2022). *Learning vocabulary in another language* (2nd ed.). Cambridge University Press. <https://doi.org/10.1017/9781009093873>
13. Ramezanali, N., Uchihara, T., & Faez, F. (2021). Efficacy of multimodal glossing on vocabulary learning: A meta-analysis. *TESOL Quarterly*. <https://doi.org/10.1002/tesq.3001>
14. Shahipanah, A., Khajavy, G. H., & Shirvan, M. E. (2025). The effect of textual and pictorial glosses on vocabulary learning. *ReCALL*. <https://doi.org/10.1017/S0958344024000123>
15. Stockwell, G. (2022). Mobile-assisted vocabulary learning. *Language Learning & Technology*, 26(1), 1–15. <https://doi.org/10.10125/73456>
16. Sweller, J. (2023). Cognitive load theory and educational design. *Educational Psychology Review*, 35(2), 1–20. <https://doi.org/10.1007/s10648-022-09679-5>