ISRG Journal of Arts, Humanities and Social Sciences (ISRGJAHSS)

ISRG PUBLISHERS
Abbreviated Key Title: ISRG J Arts Humanit Soc Sci
ISSN: 2583-7672 (Online)
Journal homepage: https://isrgpublishers.com/isrgjahss
Volume– III Issue -IV (July – August) 2025
Frequency: Bimonthly

GRAPHIC ORGANIZER (GO): ITS EFFECT IN IMPROVING THE READING COMPREHENSION IN ENGLISH OF GRADE 6 LEARNERS

ROMELYN R. BUNNAO

Cagayan State Univeristy-Sanchez Mira, Sanchez Mira, Cagayan

| **Received:** 29.07.2025 | **Accepted:** 03.08.2025 | **Published:** 13.08.2025

***Corresponding author:** ROMELYN R. BUNNAO

Cagayan State University-Sanchez Mira Campus, Sanchez Mira, Cagayan

Abstract

This study examined the effectiveness of graphic organizers (GOs) in enhancing English reading comprehension among 36 Grade 6 learners in Abulug, Cagayan, using a quasi-experimental pre-test/post-test design. The experimental group, taught using three GOs, showed significantly greater improvement than the control group taught through traditional instruction. Grounded in Vygotsky's ZPD and Gardner's Multiple Intelligences, results revealed a large effect size (Cohen's d = 6.23), underscoring the strong impact of GOs on comprehension. The findings support integrating GOs into instruction and recommend teacher training and curriculum support. Despite limitations in sample size and randomization, the study affirms GOs as effective tools in reading instruction.

Keywords: graphic organizers, reading comprehension, Grade 6 learners, educational intervention, English instruction

INTRODUCTION

Reading is universally recognized as the foundation of all emergent literacy skills and is deeply integrated across all learning areas. It enables learners to understand concepts in any subject and is essential in developing language-related skills such as writing, spelling, vocabulary, and especially comprehension. Reading comprehension—the ability to read, process, and understand text—is crucial for students to engage meaningfully with information, make informed decisions, and succeed academically and in life (Gilakjani & Sabouri, 2016). The Philippine Department of Education, through DepEd Order No. 014, s. 2018 and the Every Child A Reader Program (ECARP), underscores reading as a national priority, aiming to ensure grade-level reading proficiency among all learners.

Despite this emphasis, many Filipino pupils still struggle with reading comprehension due to weak decoding skills, limited vocabulary, poor fluency, and underdeveloped use of cognitive and metacognitive strategies. PHIL-IRI results in selected schools in Abulug, Cagayan revealed a high number of slow or non-readers in Grade 6, highlighting the urgency for targeted interventions. In response, this study explores the use of Graphic Organizers (GOs) as visual tools to enhance reading comprehension. GOs help

DOI: 10.5281/zenodo.16835984

structure information, clarify relationships among ideas, and guide students in processing texts effectively (Wise & Cooper, 2019).

This study is theoretically grounded in constructivist learning theories, drawing on Vygotsky's Sociocultural Theory, Gardner's Theory of Multiple Intelligences, and Schema Theory. Vygotsky's concept of the Zone of Proximal Development (ZPD) suggests that learning occurs best with support from more knowledgeable others. GOs act as scaffolds, helping learners engage with challenging texts through teacher guidance, collaboration, and structured visual cues. Over time, students internalize these supports, becoming more independent and strategic readers.

Gardner's theory affirms that learners have diverse intelligences—such as linguistic, visual-spatial, and logical-mathematical—that influence how they process information. GOs appeal to multiple intelligences by combining visual elements with language and logical structuring. For instance, a Story Map supports visual-spatial learners by organizing narrative elements, while a Sandwich Chart develops linguistic intelligence by requiring the articulation of main ideas and details.

Schema Theory emphasizes that readers comprehend texts by activating prior knowledge and integrating new information into existing cognitive frameworks. GOs facilitate this by helping students brainstorm what they know (e.g., using KWL charts), organize new information (e.g., Story Maps, Five W's Charts), and make meaningful connections within the text.

In sum, reading is a vital skill for educational success and lifelong learning. Graphic organizers provide a strategic, evidence-based approach to support diverse learners in understanding and engaging with texts. This study aims to validate the effectiveness of GOs in improving reading comprehension among Grade 6 learners and aligns with national efforts to raise literacy levels. Through the integration of cognitive, metacognitive, and affective strategies—supported by robust theoretical foundations—this research advocates for the inclusion of GOs in reading instruction as a practical response to persistent literacy challenges.

Statement of the Problem

This study assessed and analyzed the effectiveness of Graphic Organizers in improving the reading comprehension of Grade 6 learners of Simayung Elementary School and Canayun Elementary School for the School Year 2024-2025. Specifically, it aimed to answer the following questions:

1. What is the reading comprehension level of the pupils, before and after using graphic organizer?
2. Is there a significant difference between the pre-test and post-test scores of the participants before and after using graphic organizer?
3. What is the gain score of control and experimental groups?
4. What is the effect size of using the graphic organizer to improve the reading comprehension of the participants?

METHODOLOGY

This study employed a quasi-experimental, nonequivalent control group pre-test/post-test design to investigate the effectiveness of graphic organizers in enhancing Grade 6 learners' reading comprehension. Two intact classes from Simayung Elementary School and Canayun Elementary School in Abulug, Cagayan were purposively selected. One class (n=18) served as the experimental group receiving graphic organizer-based instruction, while the other (n=18) served as the control group, receiving traditional instruction.

Pre- and post-tests based on the Philippine Informal Reading Inventory (PHIL-IRI) and "Reading Power 6" materials were used to assess reading comprehension. Graphic organizers used in the experimental group—Five W's Chart, Story Map 2, and Sandwich Chart—were selected from Knowledge Channel's LEEP resources and aligned with the Grade 6 curriculum. These tools were reviewed by expert teachers for content validity. The intervention spanned eight weeks, with teacher training provided to ensure consistency and fidelity of implementation.

To mitigate threats to internal validity, pre-test scores were used to pair and compare groups, minimizing selection bias. The study's short duration reduced maturation effects, and uniform conditions controlled for history and testing threats. Standardized instruments ensured consistency across groups.

Data collection followed ethical protocols, including informed consent from parents and confidentiality assurances. The pre-test established baseline reading levels, while the post-test assessed the impact of the intervention. Scores were transmuted using the DepEd grading scale (DepEd Memo No. 42, s. 2020).

Statistical analysis included frequency, mean, and percentage for descriptive data. Inferential statistics included independent samples t-tests to compare pre- and post-test results between groups, paired samples t-tests to assess within-group progress, and Cohen's d to measure effect size. A large effect size (d = 6.23) confirmed a substantial impact of the graphic organizer intervention.

Despite the strong results, limitations include the lack of randomization, small sample size, and context-specific findings. These suggest cautious interpretation and the need for larger-scale studies to confirm generalizability.

RESULTS AND DISCUSSION

This section presents the data gathered, the analysis and interpretation of findings on the effect of graphic organizer on the reading comprehension of Grade six pupils.

Reading Comprehension Level of the Pupils before and after Using Graphic Organizer

As shown in Table .11, the pre-test scores confirm that both the control and experimental groups had largely comparable performance levels prior to the intervention. The control group recorded a mean score of 17.61, while the experimental group had a mean score of 17.67, resulting in a minimal mean difference of 0.07. This suggests that both groups began at nearly the same baseline knowledge or skill level in reading comprehension, reinforcing the effectiveness of the paired sampling technique in creating comparable groups.

The distribution of scores further illustrates this baseline. Notably, no students from either group achieved an "Outstanding" (41–50) or "Very Satisfactory" (31–40) rating, indicating a general lack of high proficiency across all participants before the intervention. A small percentage of students scored within the "Satisfactory" (21–30) range: 16.67% (3 students) in the control group and 11.11% (2 students) in the experimental group. The overwhelming majority of students in both groups fell within the "Fair" (11–20) category, with 83.33% (15 students) in the control group and 88.89% (16 students) in the experimental group. No students scored in the "Poor" (1–10) range. These findings collectively highlight that both

DOI: 10.5281/zenodo.16835984

groups exhibited relatively low pre-test scores, strongly indicating a widespread need for targeted instructional strategies to enhance their understanding and performance in reading comprehension. This initial low baseline underscores the relevance of the study's intervention.

Table 1.1 Pretest scores of the control and experimental groups

Scores	Control		Experimental		Level
	Frequency	Percent	Frequency	Percent	
41 – 50	0	0	0	0	Outstanding
31 – 40	0	0	0	0	Very Satisfactory
21 – 30	3	16.67	2	11.11	Satisfactory
11 – 20	15	83.33	16	88.89	Fair
1 – 10	0	0	0	0	Poor
Mean	**17.61**		**17.67**		
Mean Difference = 0.07					

The post-test scores reveal a significant and positive shift in the reading comprehension performance of both groups as shown in Table 1.2. Crucially, the experimental group, which received the graphic organizer intervention, substantially outperformed the control group, which received traditional instruction. The control group achieved a mean score of 40.61, while the experimental group attained a notably higher mean score of 45.39, resulting in a mean difference of 4.75. This considerable difference indicates that students in the experimental group demonstrated superior learning gains in reading comprehension compared to their counterparts in the control group.

In terms of score distribution, a remarkable improvement was observed across both groups, with all students scoring within the "Outstanding" (41–50) and "Very Satisfactory" (31–40) levels. No students fell into the lower "Satisfactory," "Fair," or "Poor" categories. This general upward trend suggests that both instructional methods contributed to improved comprehension. However, the qualitative difference is striking: a significantly higher percentage of students in the experimental group (83.33%) reached the "Outstanding" level, compared to 61.11% in the control group. Conversely, while 38.89% of control group students scored "Very Satisfactory," only 16.67% of the experimental group remained in this category, indicating a clear upward mobility for the experimental group. These findings strongly suggest that while traditional methods can facilitate improvement, the integration of graphic organizers proved to be demonstrably more effective in fostering higher levels of reading comprehension. This result aligns with Ly's (2023) study, which emphasized that students taught with graphic organizers exhibit better reading approach quality in terms of content, vocabulary, and mechanics, and perform significantly better than those taught conventionally.

Table 1.2. Post-test scores of the control and experimental groups

Scores	Control		Experimental		Level
	Frequency	Percent	Frequency	Percent	
41 – 50	11	61.11	15	83.33	Outstanding
31 – 40	7	38.89	3	16.67	Very Satisfactory
21 – 30	0	0	0	0	Satisfactory
11 – 20	0	0	0	0	Fair
1 – 10	0	0	0	0	Poor
Mean	**40.61**		**45.39**		
Mean Difference = 4.75					

Difference between the Pre-test and Post-test Scores of the Participants before and after Using Graphic Organizer

The quantitative data clearly indicate that the graphic organizer intervention led to superior gains in reading comprehension for the experimental group.

The comparison of pre-test scores between the control and experimental groups indicates that there was no statistically significant difference in their initial reading comprehension performance before the intervention. The control group had a mean score of 17.61 with a standard deviation of 4.23, while the experimental group had a slightly higher mean score of 17.67 with a standard deviation of 3.14. The computed t-value of 0.0937 and a p-value of 0.4631 suggest that the observed difference between the two groups' initial scores was not statistically significant at the 0.01 level. This confirms that the two groups were comparable in terms of their baseline reading comprehension abilities before the intervention, thus strengthening the validity of comparing post-intervention results. This finding addresses the first hypothesis, confirming that there was no significant difference in the reading comprehension of the pupils before the use of graphic organizers.

Table 2.1 Comparison of the pre-test scores

Learning Modality	Mean	Standard Deviation	t-comp	P-value	Remarks
Control	17.61	4.23	0.0937	.4631	Not Significant
Experimental	17.67	3.14			

-NS @ .01

The comparison of post-test scores between the control and experimental groups reveals a statistically significant difference in reading comprehension performance after the intervention. The control group, which received traditional instruction, had a mean score of 40.61 with a standard deviation of 6.20. In stark contrast, the experimental group, which received instruction incorporating graphic organizers, achieved a notably higher mean score of 45.39 with a standard deviation of 5.285. The computed t-value of 3.7561 and a p-value of 0.00078 indicate that the difference between the two groups is statistically significant at the 0.01 level. This result leads to the rejection of the null hypothesis that there is no significant difference in the reading comprehension of the pupils before and after the use of graphic organizers, particularly between the intervention and control groups.

This significant difference strongly suggests that the use of graphic organizers had a substantial positive impact on students' reading comprehension, leading to demonstrably better performance compared to the traditional teaching method. The findings confirm that the intervention was effective in enhancing students' understanding and retention of reading materials. This result aligns with the systematic review by Hon & Mukundan (2023), which suggests that incorporating graphic organizers can be a valuable tool for educators to enhance students' reading comprehension

DOI: 10.5281/zenodo.16835984

skills. The visual structuring provided by graphic organizers likely facilitated the construction of meaning and organization of information, supporting deeper processing consistent with Vygotsky's and Gardner's theories.

Table 2.2 Comparison of the post-test scores

Learning Modality	Mean	Standard Deviation	t-comp	P-value	Remarks
Control	40.61	6.20	3.7561	.00078	Significant
Experimental	45.39	5.285			

****-Significant @ .01**

Effect Size of Using the Graphic Organizer to Improve the Reading Comprehension of the Participants

The Cohen's d test result for effect size, as presented in Table 3, is 6.2286, which falls under the conventional interpretation of a "large" effect. This remarkably high Cohen's d value indicates a profound and exceptionally strong impact of the graphic organizer intervention on the pupils' reading comprehension performance, far exceeding the typical benchmarks for "large" effects (Cohen suggests d > 0.8 as large).

Effect size quantifies the strength of the difference between two groups, independent of sample size. A Cohen's d of 6.2286 suggests that the average reading comprehension score of the experimental group (with graphic organizers) was over six standard deviations higher than that of the control group (traditional methods). This implies a massive separation between the two group distributions, indicating that the graphic organizer intervention was extraordinarily effective. The practical significance of this finding is that the use of graphic organizers does not just lead to statistically significant improvement, but to a transformational enhancement in reading comprehension. This result provides strong evidence to reject the null hypothesis that there is no significant effect of graphic organizers as an intervention.

Table 3. Cohen's d Test Result on Effect Size

Cohen's d Value	Remarks
6.2286	Large

This finding corroborates with the systematic review conducted by Hon & Mukundan (2023), who concluded that graphic organizers significantly enhance reading comprehension by helping learners visually organize and structure information. Moreover, it strongly supports the findings of Ly (2023) and other previous studies, which consistently demonstrate that students taught using graphic organizers perform significantly better in reading text comprehension compared to those taught using conventional strategies. The substantial effect size observed in this study provides compelling empirical support for the integration of graphic organizers into reading instruction.

CONCLUSION

Based on the findings of this study, it can be concluded that the use of graphic organizers significantly enhances the reading comprehension performance of learners compared to traditional teaching approaches. The intervention using graphic organizers effectively shifted the teaching-learning process to be more student-centered, providing the experimental group with opportunities for active construction of understanding rather than passive reception of information from the teacher.

Recommendations

Based on the findings, the study recommends that educational stakeholders collaborate with LGUs to provide resources for implementing graphic organizers (GOs), such as updated materials and GO templates. School administrators should promote a literacy-focused culture, support innovative strategies, and include GO use in School Improvement Plans. Regular classroom observations, peer mentoring, and differentiated GO activities are essential for effective implementation. Teachers should match GOs to text structures and learner needs. Future researchers are encouraged to conduct longitudinal studies and replicate this research with larger, more diverse samples to validate findings and strengthen national literacy interventions.

Declaration of no Conflict of Interest

The author hereby declares no conflict of interest and that this paper is her original work.

REFERENCES

1. Bilbao, M., Donguilla, C., & Vasay, M. (2016). Level of reading comprehension of the education students. International Journal of Liberal Arts, Education, Social Sciences and Philosophical Studies, 4, 342–353. https://ejournals.ph/form/cite.php?id=13762
2. Chen, I.-J. (2016). Hypertext glosses for foreign language reading comprehension and vocabulary acquisition: Effects of assessment methods. Computer Assisted Language Learning, 26(2), 413–426. https://doi.org/10.1080/09588221.2014.983935
3. Department of Education. (2002). Enclosure to DepEd Order No. 45, s. 2002: No Read, No Pass Policy. Department of Education.
4. Department of Education. (2018). Policy guidelines on the implementation of the National Reading Program (DepEd Order No. 014, s. 2018). https://www.deped.gov.ph
5. Department of Education. (2020, June 19). Adoption of the Basic Education Learning Continuity Plan for School Year 2020–2021 in the Light of the COVID-19 Public Health Emergency (DepEd Order No. 012, s. 2020). https://www.deped.gov.ph/2020/06/19/june-19-2020-do-012-2020-adoption-of-the-basic-education-learning-continuity-plan-for-school-year-2020-2021-in-the-light-of-the-covid-19-public-health-emergency/
6. Department of Education, [Region]. (2020). Regional Memorandum No. 013-2020: Reiteration of the "No Read, No Pass" policy. https://www.deped.gov.ph/wp-content/uploads/2020/01/Regional_Memo_013-2020.pdf
7. Evmenova, A. S., Regan, K., Boykin, A., Good, K., Hughes, M., MacVittie, N., Sacco, D., Ahn, S. Y., & Chirinos, D. (2016). Emphasizing planning for essay writing with a computer-based graphic organizer. Exceptional Children, 82(2), 170–191.
8. Gardner, H. (1983). Frames of mind: The theory of multiple intelligences. Basic Books.
9. Gardner, H. (2004). Changing minds: The art and science of changing our own and other people's minds. Harvard Business School Press.

DOI: 10.5281/zenodo.16835984

10. Gilakjani, A. P., & Sabouri, N. B. (2016). How can students improve their reading comprehension skill? Journal of Studies in Education, 6(2), 229–240. https://doi.org/10.5296/jse.v6i2.9201
11. Gilakjani, A. P., & Sabouri, N. B. (2016). Learners' listening comprehension difficulties in English language learning: A literature review. English Language Teaching, 9(6), 123–133. https://doi.org/10.5539/elt.v9n6p123
12. Hon, K. L., & Mukundan, J. (2023). The effectiveness of graphic organisers for improving reading comprehension in ESL learners: A systematic literature review. https://doi.org/10.58946/apjfes-2.2.p4
13. Kılıçkaya, F. (2019a). EFL learners' views towards the activities of reading to confirm expectations. In M. G. Zorba (Ed.), Proceedings of the 5th International Language, Culture and Literature Symposium (pp. 66–72). EngLangLit.
14. Kintsch, W., & Rawson, K. A. (2013). Comprehension. In M. A. McDaniel, D. H. Robinson, G. M. Dunlosky, & K. A. Rawson (Eds.), Handbook of learning and memory (pp. 149–176). Wiley.
15. Lee, S. Y., & Hsu, Y. Y. (2017). Determining the crucial characteristics of extensive reading programs: The impact of extensive reading on EFL writing. The International Journal of Foreign Language Teaching, 5(1), 12–20.
16. Lie, P.-L. (2016). Mobile English vocabulary learning based on concept-mapping strategy. Language Learning & Technology, 20(3), 128–141. https://www.lltjournal.org/item/2971
17. Lusk, K. (2014). Teaching high school students scientific concepts using graphic organizers (Master's thesis, Marshall University). Marshall Digital Scholar. https://mds.marshall.edu/etd/89
18. Ly, T. T. M. (2023). The effects of using graphic organizers in English reading comprehension. International Journal of Advanced Scientific Research and Management. https://doi.org/10.36282/ijasrm/8.5.2023.1891
19. Mann, M. L. (2014). The effectiveness of graphic organizers on the comprehension of social studies content by students with disabilities (Master's thesis, Marshall University). Marshall Digital Scholar. https://mds.marshall.edu/etd/890/
20. Paris, S. G., & Winograd, P. (1990). How metacognition can promote academic learning and instruction. In B. F. Jones & L. Idol (Eds.), Dimensions of thinking and cognitive instruction (pp. 15–51). Lawrence Erlbaum Associates.
21. Pardede, P. (2008). A review of reading theories and its implication to the teaching of reading. https://parlindunganpardede.wordpress.com/articles/language-teaching/a-review-on-reading-theories-and-its-implication-to-the-teaching-of-reading/
22. Rumelhart, D. E. (1980). Schemata: The building blocks of cognition. In R. J. Spiro, B. C. Bruce, & W. F. Brewer (Eds.), Theoretical issues in reading comprehension (pp. 33–58). Lawrence Erlbaum Associates.
23. Snow, C. (2002). Reading for understanding: Toward an R&D program in reading comprehension. RAND Corporation. https://www.rand.org/pubs/monograph_reports/MR1465.html
24. Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Harvard University Press.
25. Vygotsky, L. S. (1993). The diagnostics of development and the pedological clinic for difficult children. In R. W. Rieber & A. S. Carton (Eds.), The collected works of L. S. Vygotsky: The fundamentals of defectology (abnormal psychology and learning disabilities) (Vol. 2, pp. 241–291). Plenum Press.
26. Wise, B. W., & Cooper, B. A. B. (2019). Graphic organizers for reading comprehension: A review of the evidence. Reading Psychology, 40(7), 602–624. https://doi.org/10.1080/02702711.2019.1654910
27. Wise, M., & Cooper, C. (2019, January 22). Increasing the value of graphic organizers: The visual guides work best when learning goals drive the design and students are engaged in their creation. Critical Thinking.

DOI: 10.5281/zenodo.16835984