



Perceptions of Diverse Students on Integrating Graphic Organizer into Weekly Guided Questions: Enhancing Learner Retention

Clyde A. Alvia, Angelo P. Libre, Jecel Rose Oma, Jessa Mae C. Carbona, and Jove Jean Gonzaga

¹Saint Columban College: Pagadian City, Zamboanga del Sur, IX, PH

^{2,3,4,5} Tubod College, Tubod Lanao Del Norte

E-mail: clyde.alvia@sccpag.edu.ph RCID ID: <https://orcid.org/0009-0005-9800-8602>

E-mail: libreangelo1@gmail.com RCID ID: <https://orcid.org/0009-0004-4237-8981>

E-mail: jecelroseoma5@gmail.com RCID ID: <https://orcid.org/0009-0007-3556-3531>

E-mail: jessamaecarbona6@gmail.com RCID ID: <https://orcid.org/0009-0007-8395-4801>

E-mail: jovejeanagonzaga13@gmail.com RCID ID: <https://orcid.org/0009-0008-7826-6438>

Received 19/01/2026

Revised 10/02/2026

Accepted 31/03/2026

Abstract

Background and Aim: When the conceptual material is complicated, it is usually difficult to digest, and pedagogical tools are required to scaffold the understanding, memorization, and engagement of the student. Graphic organizers (GOs) are visual aids that make learners arrange information, demonstrate relations between ideas, and encourage metacognition. This is a systematic review of recent empirical research (2023-2025) on the effectiveness of GOs in various groups of learners and in various teaching situations, and assessed the effects on literacy, memory, motivation, and student-focused results.

Materials and Methods: A systematic review of peer-reviewed, quasi-experimental, and case-based studies was conducted within K-12, special education, and higher education settings. The important studies are those by Bacarro et al. (2024), which focus on students with intellectual disabilities, Endiape et al (2023), who address online astronomy learners, Petallar and Mosa (2025), who highlight the students of Grade 8 with EAPP, Gladys et al. (2025), who discuss trainees with diverse needs, and Mannag and Dagdag (2024), who describe Grade 8, English learners.

Results: The results have always shown that GOs promote conceptual learning, vocabulary learning, reading performance, and long-term memory. More significantly, better interaction, satisfaction, and self-efficacy were also found in EDD students (Bacarro et al., 2024), online astronomy students (Endiape et al, 2023), EAPS learners in senior high (Petallar and Mosa, 2025), and Grade 8 English students (Mannag and Dagdag, 2024). Such advantages are consistent with Dual Coding Theory (visual-verbal processing) and with Schemas Theory (knowledge structuring).

Conclusion: GOs are evidence-based resources that can be used to facilitate constructivist, student-centered pedagogy through enhancing cognitive organization, motivation, and collaboration. GOs need to be incorporated into curriculum design, especially in the inclusive and online setting, by teachers. The effect of digital go-over retention is suggested to be evaluated through future longitudinal studies.

Keywords: Graphic Organizers, Student-Centered Learning, Constructivism, Dual Coding Theory, Schema Theory, Academic Achievement, Inclusive Education.

Introduction

Students frequently struggle to comprehend intricate concepts, especially when lessons include the identification of linkages among ideas, the organization of information, and the retention of critical content. In this setting, graphic organizers function as efficient educational aids by visually and systematically presenting information, enabling learners to reduce intricate lessons, arrange essential ideas, and establish significant links among topics. Consequently, graphic organizers can improve comprehension, engagement, and memory recall, rendering them invaluable in student-centered learning contexts.

An increasing amount of research substantiates the educational efficacy of graphic organizers in various learning environments. Bacarro et al. (2024) discovered that graphic organizers markedly enhanced comprehension and retention in students with intellectual disabilities. The participants demonstrated favorable views towards visual learning, suggesting that graphic organizers were more effective than conventional instructional methods. Endiape et al (2023) indicated that incorporating graphic organizers in online astronomy education resulted in increased student satisfaction and improved retention, especially





when visual and verbal learning methods were integrated. These findings indicate that graphic organizers can facilitate cognitive processing and enhance long-term memory.

Favorable results have also been noted in language acquisition settings. Petallar and Mosa (2025) indicated that senior high school students in English for Academic and Professional Purposes (EAPP) perceived digitized graphic organizers positively, observing enhancements in comprehension, engagement, and teamwork. The study focused on students' impressions instead of retention outcomes, although it underscored the pedagogical significance of graphic organizers in promoting active learning. Mannag and Dagdag (2024) proved that graphic organizers positively influenced vocabulary acquisition, reading performance, and students' attitudes about learning English. Their findings indicated that learners utilizing graphic organizers surpassed those in the control group across all assessed criteria.

The efficacy of graphic organizers is also shown among students with varied educational requirements. Gladys et al. (2025) discovered that trainees with diverse learning requirements exhibited increased motivation and engagement when graphic organizers were employed to assist them in classifying, synthesizing, and comprehending material. In contrast to conventional teaching methods, graphic organizers enhanced engagement and elevated educational results. These findings substantiate the perspective that graphic organizers serve as both cognitive aids and motivational instruments that might enhance learners' confidence and engagement in classroom activities.

Collectively, this research demonstrates that graphic organizers are efficacious instruments for enhancing comprehension, retention, engagement, and academic achievement among diverse learner demographics. Their efficacy can be elucidated by cognitive frameworks like Dual Coding Theory and Schema Theory, which propose that learning is enhanced when information is visually structured and linked to existing knowledge. The incorporation of visual organizers into weekly guided questions may offer significant assistance to learners, especially in enhancing retention and fostering a deeper comprehension of lesson material.

Objectives

1. To find out how students feel about using graphic organizers in their weekly written assignments.
2. To find out how students can comprehend and arrange lesson material with the aid of graphic organizers.
3. To analyze how graphic organizers are thought to affect students' ability to remember information.

Literature Review

Recent research has repeatedly demonstrated that graphic organizers are effective teaching aids for enhancing learners' comprehension, retention, engagement, and academic achievement across many educational environments. Their significance is particularly apparent among students who gain from organized and graphically enhanced teaching methods.

Bacarro et al. (2024) investigated the application of graphic organizers for students with intellectual disabilities utilizing a mixed-methods approach. Their research demonstrated that visual organizers markedly enhanced pupils' understanding and retention of knowledge. Participants indicated a predisposition for visual learning and claimed that graphic organizers were more beneficial than traditional teaching techniques. These findings indicate that visual organizers enhance accessibility, comprehension, and retention for a variety of learners. The research underscores the significance of collecting student input to enhance instructional execution and optimize retention advantages.

Petallar and Mosa (2025) examined senior high school students' impressions of digitized graphic organizers within the framework of English for Academic and Professional Purposes (EAPP). The research revealed that both students and educators maintained favorable perspectives of their utilization, especially for enhanced comprehension, classroom participation, and teamwork. The study primarily examined views

[244]

Citation



Alvia, C.A., Libre, A.P., Oma, J.R., Carbona, J.M.C., & Gonzaga, J.J. (2026). Perceptions of Diverse Students on Integrating Graphic Organizer into Weekly Guided Questions: Enhancing Learner Retention. *International Journal of Sociologies and Anthropologies Science Reviews*, 6 (2), 243-250; DOI: <https://doi.org/10.60027/ijssr.2026.10151>

rather than direct retention effects, although the data suggest that learners regard visual organizers as valuable educational aids. The authors additionally advocated for more investigation into the long-term impacts of digital graphic organizers on retention and their systematic incorporation into classroom activities.

Endiape et al (2023) examined the incorporation of graphic organizers in online astronomy education through a quasi-experimental methodology. The research indicated elevated student satisfaction and enhanced retention among learners engaged in graphic organizer-based education, especially when visual and verbal learning modalities were integrated. The research indicates that visual organizers serve as efficient scaffolding tools that enhance both recall and engagement, despite being executed in a specialized content area. The research indicates that pupils react favorably to organized instructional frameworks that use visual aids to elucidate intricate material.

The efficacy of graphic organizers has been recorded among students with varied educational requirements. Gladys et al. (2025) performed a mixed-methods study on trainees with diverse learning requirements, revealing that graphic organizers improved learner motivation, engagement, and academic achievement relative to conventional teaching methods. Participants indicated that graphic organizers facilitated the categorization and synthesis of knowledge, hence enhancing their engagement in the learning process. These data substantiate the assertion that favorable learner attitudes and active involvement using graphic organizers can enhance retention and increase learning outcomes.

Mannag and Dagdag (2024) conducted a quasi-experimental study to examine the impact of graphic organizers on Grade 8 students. Their findings indicated substantial enhancements in vocabulary acquisition, reading proficiency, and attitudes towards learning English among students who use graphic organizers. The experimental group surpassed the control group in all assessed categories, demonstrating that graphic organizers can enhance academic performance and foster good learning experiences. The study emphasizes the significance of visual organizers in assisting learners to structure information, enhance memory retention, and interact more actively with instructional material.

The analyzed research indicates that graphic organizers are effective instruments for enhancing learning among diverse student demographics and disciplines. They enhance comprehension, retention, motivation, involvement, and confidence in learning. These findings robustly endorse the incorporation of visual organizers into instructional activities, especially in circumstances designed to enhance learner retention and augment comprehension.

Conceptual Framework

This study focuses on the Dual Coding Theory (Paivio, 1986) and the Schema Theory (Rumelhart, 1980) to discuss the effectiveness of graphic organizers (GOs). Dual Coding is a combination of verbal and visual processing that allows for more effective retention, and the Schema Theory reveals GOs as frames that open and connect knowledge structures. The two assist in enhancing the conceptual knowledge, motivation, and student-centered education in various contexts (Bacarro et al., 2024; Endiape et al, 2023).

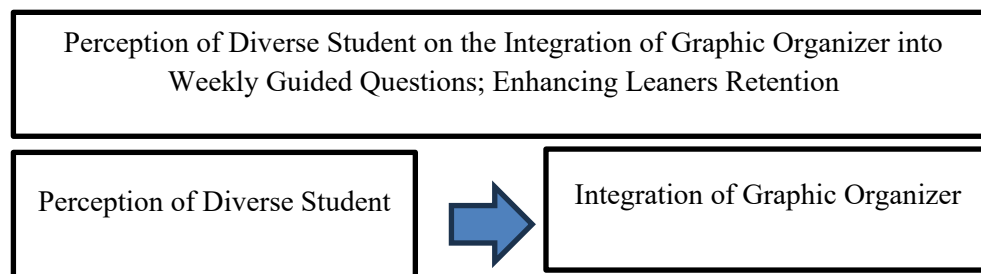


Figure 1: Conceptual Framework



The Generative Theory of Learning states that learning happens when meaning is generated through the selection of key information, the organization of that information into meaningful structures, to integrate it with what the student already knows. The student does not have to passively absorb the information for active processing to occur when learning about new concepts. The student makes sense of the information through the creation of links, relationships, and explanations to enhance understanding and retention of the information in memory. This theory stresses that since learning occurs through the generation of meaning mentally, the role of instruction involves constructing knowledge, not being received.

In the current research, the use of Generative Learning Theory offers a framework to incorporate graphic organizers in weekly guided questions to better consolidate the learning in the minds of the learners, especially those from diverse backgrounds. Guided questions assist learners in pointing out important information, while graphic organizers encourage them to connect the concepts and viewpoints, which in turn assists the learner in developing their own understanding of the topic. The learning theory not only offers avenues to investigate the learners' point of view to understand learning, as the efficiency of the generative strategy largely relies on learning engagement, motivation, and participation.

Methodology

Research Design

This study utilized a descriptive qualitative research methodology to investigate students' impressions of incorporating graphic organizers into weekly guided questions and how this approach facilitates learner recall. A qualitative methodology was suitable as the study sought to gain comprehensive insights into students' experiences, perceptions, and interpretations concerning the utilization of graphic organizers in the learning process. Interviews and survey responses were used to collect data in order to make extensive descriptions of how graphic organizers affect students' learning, the arrangement of concepts, and the memory of course content. This strategy allowed the researchers to gather context-specific viewpoints and offer a thorough elucidation of students' learning experiences with graphic organizers.

Participants and Procedure

The participants were chosen from Tubod College students using purposive sampling. This selection method enabled the researchers to select individuals with firsthand experience utilizing graphic organizers in weekly guided inquiries. Ten (10) students participated in the study. Semi-structured interviews were performed to obtain comprehensive insights into students' experiences and perceptions. The chosen number of participants was deemed adequate to yield significant and pertinent data for fulfilling the research objectives.

Data Analysis

The gathered data underwent thematic analysis to discern repeating patterns and principal topics in students' responses. Research demonstrated that visual organizers enhanced students' comprehension of teachings, facilitated the organization of their thoughts, and improved memory recall. A multitude of participants indicated that the utilization of graphic organizers enhanced engagement in responding to guided inquiries and facilitated long-term information retention.

Nonetheless, certain challenges were also recognized. Several students articulated uncertainty regarding the selection of a suitable graphic organizer, although others deemed the process to be laborious. Several participants encountered difficulties in understanding the guided questions, prompting them to depend on internet sources instead of formulating their own answers. The findings indicate that although graphic organizers can improve learning, explicit instructions and teacher support are essential to optimize their efficacy.





Results

This chapter delineates the findings on the utilization of visual organizers as pedagogical instruments to enhance learners' retention and comprehension, especially among students with varied learning requirements. This discussion integrates recent empirical research and analyzes its conclusions about the aims of the current investigation. This section synthesizes the literature to illustrate how learners engage with, react to, and gain advantages from graphic organizers across many educational settings, rather than presenting the data in isolation.

Improved Retention and Comprehension

A constant observation across the analyzed studies is that visual organizers enhance students' memory and comprehension of course material. Bacarro et al. (2024) indicated that students with intellectual disabilities exhibited enhanced memory and comprehension when graphic organizers were employed in instruction. Both quantitative outcomes and participant feedback demonstrated that visual structuring enhanced learners' retention of key concepts more effectively than conventional lecture-based instruction.

Likewise, Endiape et al (2023) discovered that students subjected to graphic organizer-based online training exhibited superior retention compared to those who underwent traditional instruction. The study, albeit centered on astronomy, indicates that recall enhances when learners receive assistance via organized visual-verbal scaffolding. Mannag and Dagdag (2024) demonstrated that students use graphic organizers had superior vocabulary retention and reading comprehension compared to the control group. These findings demonstrate that visual organizers promote both immediate comprehension and the retention of acquired concepts over time.

Positive Learner Perceptions and Engagement

A significant discovery in the literature is the consistently favorable view of learners about the utilization of graphic organizers. Bacarro et al. (2024) discovered that students with intellectual disabilities regarded graphic organizers as engaging, comprehensible, and beneficial. The participants indicated that these methods alleviated feelings of overload, perhaps enhancing sustained attention and engagement in learning activities.

Petallar and Mosa (2025) revealed similar findings, indicating that senior high school students in EAPP classes had a favorable perception of digitized graphic organizers. Students reported that the utilization of these technologies enhanced their comprehension, elevated their interest, and facilitated cooperation with classmates. The study primarily examined learner views instead of actual retention measures; however, the findings indicate that graphic organizers foster a conducive learning environment that promotes enhanced engagement.

Similarly, Gladys et al. (2025) discovered that trainees with varied learning requirements exhibited increased motivation and engagement when graphic organizers were incorporated into teaching. Participants highlighted that graphic organizers facilitated the organization of ideas, visualization of linkages among concepts, and enhanced active participation in classroom discussions. These findings underscore the significance of graphic organizers as both cognitive instruments and motivational aids in the educational process.

Graphic Organizers as Instructional Scaffolds

The analyzed research indicates that visual organizers serve as excellent scaffolding instruments, particularly for learners who have difficulties with abstract concepts or extensive information. Endiape et al (2023) observed that the structured implementation of graphic organizers enabled students to systematically engage with intricate material, resulting in improved learning outcomes and increased satisfaction levels. This discovery indicates that organized visual aids can alleviate confusion and assist learners in tackling challenging subjects more methodically.

The scaffolding role was additionally corroborated by Bacarro et al. (2024), who discovered that graphic organizers enhanced lesson content accessibility for children with intellectual disabilities. Graphic organizers facilitate the segmentation of knowledge into digestible components, allowing learners to





concentrate on fundamental topics without experiencing cognitive overload. This is especially significant in inclusive classrooms, where students differ in ability, learning style, and academic requirements.

The data demonstrate that graphic organizers substantially enhance comprehension, retention, engagement, and accessibility in learning. In the analyzed research, students typically exhibited favorable reactions to graphic organizers and showed improved academic performance when education used structured visual aids. The results indicate that visual organizers are effective instructional aids for facilitating meaningful learning, especially among varied learner demographics.

Discussion

The findings of the reviewed studies strongly support the view that graphic organizers are effective instructional tools for enhancing retention, comprehension, and learner engagement. Across different educational contexts, the consistent improvement in students' learning outcomes suggests that graphic organizers help learners process information more effectively and meaningfully. Their value appears particularly significant in situations where students are required to understand complex concepts, organize ideas, and retain essential information over time.

The positive effect of graphic organizers on retention is consistent with cognitive learning perspectives, particularly the idea that visual representations improve the encoding and retrieval of information. When learners are able to see relationships among concepts in a structured format, they are more likely to understand the lesson and remember it for a longer period. This explains why studies such as Bacarro et al. (2024), Endiape et al (2023), and Mannag and Dagdag (2024) reported better comprehension and retention among students exposed to graphic organizer-based instruction.

Another important point emerging from the literature is the role of learner perception in the effectiveness of graphic organizers. Students' positive experiences suggest that these tools not only support cognition but also influence motivation and participation. When learners perceive instructional materials as clear, manageable, and helpful, they are more likely to remain engaged and invest effort in the learning process. This relationship between engagement and retention is evident in the findings of Gladys et al. (2025) and Petallar and Mosa (2025), where students reported greater motivation, collaboration, and active involvement when graphic organizers were used.

Overall, the reviewed literature indicates that graphic organizers contribute to both the cognitive and affective dimensions of learning. They improve understanding and memory while also creating a more supportive and engaging learning environment. These findings reinforce the relevance of integrating graphic organizers into instructional practice, especially in learner-centered and inclusive educational settings.

Conclusion

The research results demonstrate that overall, students have positive attitudes toward the use of graphic organizers of weekly guided questions. Students liked that these tools assisted them to make organization of their thoughts easier, understanding lessons in a better way, and being more involved in classroom discussions. This is in line with the findings of Bacarro et al. (2024), who established that graphic organizers are very effective in improving comprehension, retention, and confidence among learners, especially those who are visual learners. Additionally, the research confirms that graphic organizers are efficient in terms of remembering the lesson material and learning to master the lesson content, which is also proved by Endiape et al (2023) and Mannag and Dagdag (2024). Graphic organizers have been very useful to simplify complex topics and aid in comparisons being made across concepts. Nevertheless, in line with the results of Petallar and Mosa (2025), the research also gives the significance of teacher guidance to help in the effective use of both printed and digitized graphic organizers.





Recommendations

The study's findings yield various recommendations for students, educators, school officials, and prospective researchers.

Firstly, students are urged to persist in utilizing graphic organizers as educational instruments to organize their thoughts, enhance understanding, and reinforce memory of instructional material. The utilization of various visual organizers, including digital formats, may further augment involvement and motivation in educational activities. Visual organization of information enhances pupils' comprehension of conceptual linkages and improves their ability to recall significant ideas.

Secondly, educators are advised to continuously incorporate graphic organizers into guided inquiries and instructional practices. To enhance their efficacy, educators must deliver explicit directions, illustrate the use of graphic organizers, and furnish supervised practice to students. This instructional support can assist learners, particularly those with varied learning requirements, in comprehending how to structure information and utilize graphic organizers proficiently in their academic endeavors.

Third, school administrators are urged to endorse the incorporation of graphic organizers in educational practices by offering professional development, training programs, and access to digital technologies that enhance their implementation. Institutional assistance can facilitate the consistent implementation of graphic organizers across many disciplines and grade levels, hence enhancing instructional quality and learning outcomes.

Future researchers are urged to examine the long-term impacts of graphic organizers on learner retention, academic achievement, and motivation. Subsequent research may investigate their effects on various learner demographics, especially individuals with intellectual disabilities and those with varied learning requirements. Longitudinal and experimental investigations would yield profound insights into the role of graphic organizers in promoting enduring learning and academic achievement.

References

- Bacarro, J. M., Galorport, A. E., Quimco, R. F. H., Rollon, M., Sua, A. J., Cabanilla, A., & Cortes, V. (2024). Graphic organizers, pedagogy, and retention skills of students with intellectual disability: A sequential explanatory mixed methods inquiry. *CNU Journal of Higher Education*, 18(1), Article 5. <https://doi.org/10.70997/2546-1796.1157>
- Endiape, J. A., Lopez, J. F. V., Lastimosa, Z. T., Gecain, C. A. V., Herbierto, N. M. C., Sanchez, J. M. P., & Picardal, M. T. (2023). Students' performance, satisfaction, and experiences in the graphic organizer-integrated online instruction of astronomy. *Science Education International*, 34(4), 303–311. <https://doi.org/10.33828/sei.v34.i4.6>
- Gladys, K. J., Ogoto, C., & Mbatha, C. (2025). Trainees' perception and engagement with graphic organizers and the influence on outcomes of trainees with diverse learning needs. *International Journal of Research and Innovation in Applied Science*, 10(8), 638–645. <https://doi.org/10.51584/IJRIAS.2025.100800055>
- Mannag, C. M., & Dagdag, J. (2024). Effects of graphic organizers on vocabulary acquisition, reading performance, and English learning attitude of Grade 8 students. *Journal of Education and Innovation*, 26(3), 138–152. https://so06.tci-thaijo.org/index.php/edujournal_nu/article/view/264551
- Paivio, A. (1986). *Mental representations: A dual coding approach*. Oxford University Press.
- Petallar, C. J. G., & Mosa, C. P. (2025). Perception of the use of a graphic organizer in teaching English for academic professional purposes. *International Journal of English Literature and Social Sciences*, 10(4), 188–220. <https://doi.org/10.22161/ijels.104.30>
- 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: Perspectives from cognitive psychology, linguistics, artificial intelligence, and education* (pp. 33–58). Lawrence Erlbaum.



