

Assessing the Effectiveness of Visual Support Strategies in Enhancing the Reading Achievement of Inclusive Learners

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Abstract:

This study examined the effectiveness of visual support strategies in enhancing reading comprehension, vocabulary, and phonological awareness among inclusive learners at Corella National High School. Pre-test results revealed notable gaps in comprehension and vocabulary, with 30% of learners at the beginner level and 35% at beginner or intermediate stages in vocabulary. Phonological awareness, however, showed a strong baseline. Following the intervention, post-test outcomes demonstrated significant improvement: no learners remained at the beginner stage in comprehension, vocabulary scores stabilized with a high concentration in the advanced category, and phonological awareness uniformly reached advanced levels. These findings underscore the role of visual support strategies in scaffolding comprehension, reducing cognitive load, and fostering learner independence. The structured and multimodal approach provided clarity, predictability, and accessibility, enabling learners to better organize information, anticipate tasks, and strengthen literacy outcomes. Recommendations emphasize embedding visual support strategies into daily instruction, prioritizing teacher capacity-building, customizing tools for learner differentiation, institutionalizing monitoring and evaluation, and aligning policies with institutional goals of equity and professionalization. Overall, the study affirmed that visual support strategies are a sustainable and scalable pedagogical strategy that promotes inclusivity, strengthens literacy achievement, and supports diverse learners in varied educational contexts.

Keywords: Special Education, Visual schedules, Inclusive education, Reading comprehension, Vocabulary development, Phonological awareness.

Chapter 1

THE PROBLEM AND ITS SCOPE

INTRODUCTION

Rationale of the Study

Reading comprehension is a foundational skill in literacy development and a crucial component of academic success across grade levels. However, many inclusive learners—particularly those with learning difficulties, attention deficits, or neurodevelopmental disorders such as autism spectrum disorder, often struggle with maintaining focus, organizing tasks, and understanding the sequence of reading activities. These challenges can impede their ability to comprehend texts effectively. Thus, it becomes imperative for educators to employ differentiated and visually supportive teaching strategies that accommodate diverse learning needs within inclusive classrooms. One promising pedagogical approach that addresses these challenges is the use of visual schedules.

Visual schedules such as visual aids, pedagogical visual instruction, and visual supports are structured visual representations such as charts, icons, or pictorial sequences that outline the steps or activities involved in a lesson. They are designed to help learners understand what is expected of them and what will occur next, thereby providing predictability and reducing anxiety. According to (Quintero et al., 2019), visual activity schedules have been shown to improve task engagement, independence, and comprehension among learners with autism spectrum disorders. In the context of reading instruction, visual schedules can serve as cognitive and organizational supports that scaffold students' understanding of text-related activities. For instance, a visual schedule may present the stages of a reading lesson previewing, reading, discussing, answering comprehension questions, and reflecting through a series of images or icons. This visual guidance allows learners to process the lesson sequence independently, promoting engagement and self-regulation.

Additionally, using visual schedules supports inclusive education by fostering a learning environment that values diversity and accessibility. Mastropieri and Scruggs (2020) emphasize that differentiated instruction strategies such as visual and multimodal supports are central to the success of inclusive classrooms. Visual schedules help create a predictable and inclusive learning environment where students with varying abilities can participate meaningfully in reading lessons. For many learners, particularly those with special educational needs, predictability and visual structure reduce cognitive overload, increase motivation, and improve comprehension outcomes (Liang et al., 2024).

On the other side, the need for locally grounded research is urgent: recent DepEd reports and school-level Phil-IRI data continue to show sizable proportions of struggling readers and low reading comprehension among Filipino learners regionally collated Phil-IRI results reported 20% failing in reading comprehension and about 25% classified as struggling readers in the 2022–2023 cycle. Moreover, international assessments and local studies have highlighted persistent challenges in reading proficiency among Filipino students, particularly for populations who are socioeconomically disadvantaged or have special educational needs. Although research in the Philippines has explored visual learning and the use of visual aids studies on visual learning performance in Cebu and recent local investigations into visual-themed reading interventions, there is still a notable gap: few studies have systematically measured the direct effect of structured visual schedules and visual supports on reading comprehension outcomes for inclusive learners across multiple public-school contexts. By focusing on inclusive classrooms in Bohol and Cebu and employing quantitative measures of comprehension, this study addresses that gap and will produce locally relevant empirical evidence on whether and to what extent visual scheduling and supports improve reading comprehension and self-regulation for learners with diverse needs. The findings are expected to contribute actionable recommendations for DepEd practice and school-level instructional planning scalable visual-support templates, teacher training foci, and monitoring tools that directly support inclusive literacy goals in the Philippine basic education system.

Nevertheless, the integration of visual schedules as a pedagogical tool in teaching reading comprehension provides a structured, inclusive, and learner-centered approach that supports the diverse needs of students. It empowers inclusive learners by promoting comprehension, independence, and engagement while upholding the principles of equitable education. This pedagogical practice, therefore, holds significant potential in enhancing literacy instruction and ensuring that no learner is left behind in the reading process.

Henceforth, this study aims to quantitatively assess the relationship between the application of visual schedules, visual aids, and visual supports as pedagogical strategies in selected schools in Bohol and Cebu as a basis for developing an enhanced pedagogical instructional plan for the school year 2025–2026.

Theoretical Background

Proposed by Allan Paivio, Dual Coding Theory posits that the human mind processes information through two distinct yet interconnected channels: one for verbal information (language) and another for non-verbal/visual imagery (Clark & Paivio, 1991).

In an inclusive reading context, visual strategies like graphic organizers or "doodle notes" allow learners to encode information in both channels simultaneously. This creates "referential connections" between words and images, making the information more memorable and easier to retrieve than if it were presented in text alone (Dewald, 2024; Paivio, 2014). For learners with reading disabilities, this dual-channel approach provides a non-linguistic "safety net" that supports comprehension even when decoding text is a struggle (Bobek & Tversky, 2016).

Cognitive Load Theory, developed by John Sweller, focuses on the limited capacity of the working memory. It suggests that learning is hindered if the "cognitive load" exceeds what the working memory can handle (Sweller, 1988). CLT is critical for assessing visual strategies because visuals can either help or hurt. When visual aids (like a diagram) and verbal explanations are integrated correctly, they reduce extraneous cognitive load (wasted effort) and allow the brain to focus on germane load (building knowledge) (Gkintoni et al., 2025). If visuals are poorly designed or redundant, they can cause "split-attention effects," where the learner's brain is overwhelmed trying to reconcile multiple sources of information (Sozio et al., 2024).

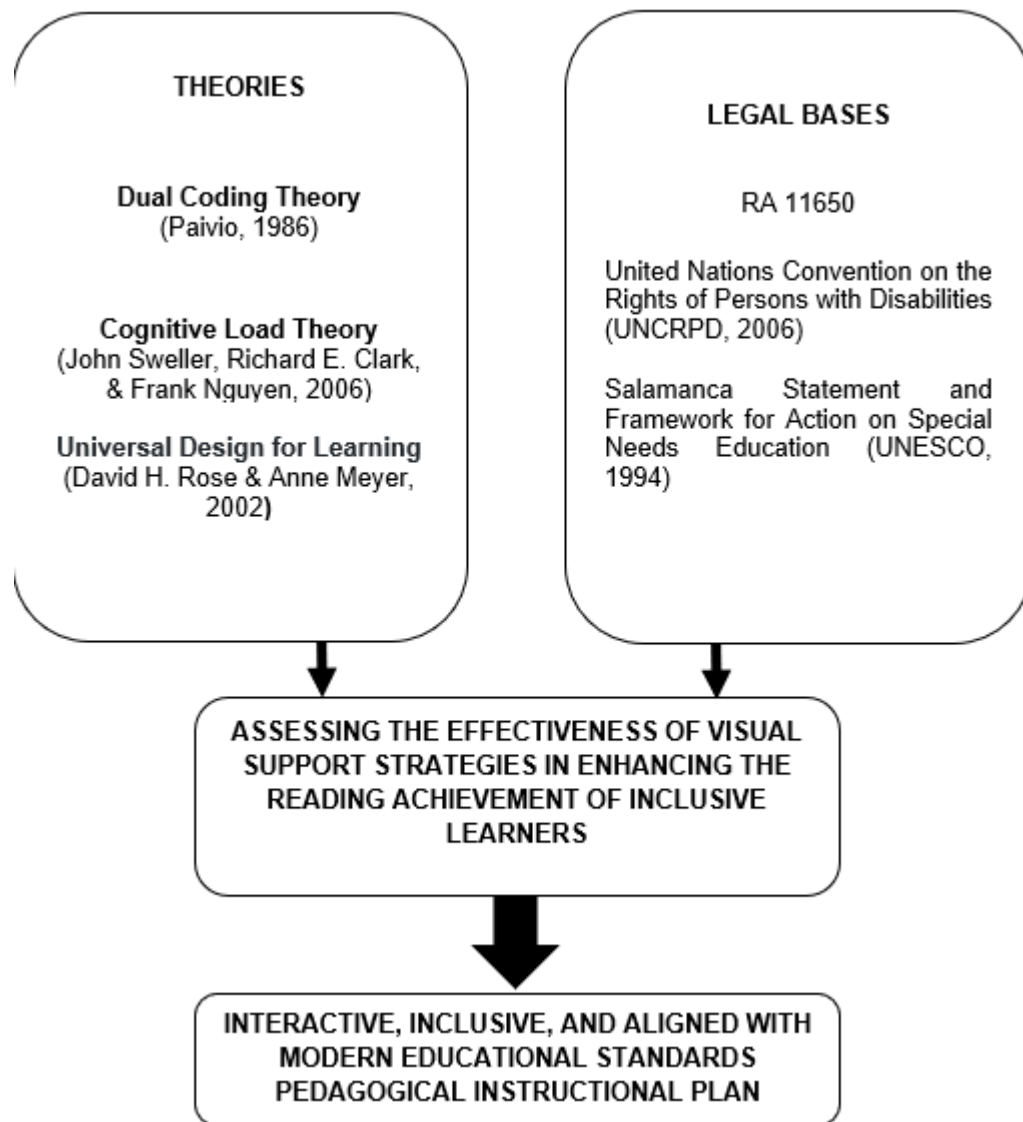


Figure 1. Theoretical Framework of the Study

While DCT and CLT explain how we learn, Universal Design for Learning (UDL) is a proactive framework for designing that learning. Grounded in neuroscience, UDL advocates for three core principles: multiple means of Engagement, Representation, and Action/Expression (CAST, 2018).

Visual strategies serve as a primary tool for providing "multiple means of representation." Instead of relying solely on printed text (the "what" of learning), educators use videos, infographics, and symbols to ensure information is accessible to all learners, including those with dyslexia or ADHD (Espada-Chavarria et al., 2023).

UDL shifts the focus from the "disability of the learner" to the "disability of the instruction," arguing that visual supports should be a standard feature of the curriculum rather than a post-hoc accommodation (Taylor & Francis, 2023).

Republic Act No. 11650, also known as the "Instituting a Policy of Inclusion and Services for Learners with Disabilities in Support of Inclusive Education Act," was signed into law on March 11, 2022. It serves as a landmark piece of legislation in the Philippines, mandating that all schools—both public and private—ensure that no learner is denied admission based on their disability.

Inclusion Policy: Mandates that all schools provide "reasonable accommodations" and specialized support to ensure learners with disabilities can participate fully in the curriculum.

Inclusive Learning Resource Centers (ILRCs): Establishes at least one ILRC in every city and municipality. These centers serve as hubs for multidisciplinary teams (doctors, therapists, and SPED teachers) to provide support services.

Individualized Education Plan (IEP): Formalizes the requirement for a tailored roadmap for each learner, developed collaboratively by teachers, parents, and specialists.

Child Find System: A proactive mechanism to identify, locate, and evaluate learners with disabilities (ages 3 to 24) who are out of school to facilitate their enrollment.

Equally consistent to this study is anchored first on Dual Coding Theory, by Allan Paivio, which explains that learning becomes more effective when information is processed through two interconnected systems: the verbal system, which manages language-based input, and the non-verbal or visual system, which handles imagery and symbolic representations. When learners receive information in both verbal and visual forms, they create dual mental representations that strengthen comprehension and memory. In reading instruction, visual schedules operationalize this theory by pairing text-based directions with images or icons that illustrate each stage of the task. This dual presentation is particularly beneficial for inclusive learners, as the visual cues reinforce verbal instructions, reduce confusion, and support students who struggle with processing lengthy or abstract verbal information.

Dual Coding Theory, proposed by Allan Paivio in 1971, posits that learning is enhanced when information is processed simultaneously through two interconnected cognitive subsystems: the verbal system, which handles linguistic input such as spoken or written words, and the non-verbal (imagery) system, which processes visual and affective representations like images, diagrams, or spatial arrangements. This dual processing creates additive memory traces referred to as "double-barreled learning" that strengthen encoding, retention, and retrieval by forming associative links between verbal and visual elements, outperforming single-mode processing in tasks requiring comprehension and recall. In reading instruction, visual schedules exemplify this theory by integrating text-based instructions (verbal channel) with corresponding icons, charts, or pictorial sequences (non-verbal channel) to depict lesson stages, such as previewing, reading, and comprehension checks, thereby reducing cognitive load and clarifying abstract sequences. This approach proves especially advantageous for inclusive learners with special educational needs, including those with autism, ADHD, or dyslexia, as the redundant visual cues reinforce verbal directions, mitigate processing difficulties, and foster independence and engagement, with studies showing improved task adherence and comprehension outcomes. On the other side, this premise is supported by Cognitive Load Theory (CLT), which is developed by John Sweller, which emphasizes that the human working memory has limited capacity, and therefore instructional materials must be designed to prevent overload. CLT identifies intrinsic cognitive load, which relates to the complexity of the material; extraneous load, which stems from poor instructional design; and germane load, which supports meaningful learning. For learners with attention difficulties, executive-function challenges, or learning disabilities, unstructured reading tasks can create unnecessary extraneous load that hinders comprehension. Visual schedules address this by breaking reading activities into manageable steps and providing structured, predictable cues that reduce the mental effort required to plan, organize, and transition between tasks.

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reduce the mental effort required to plan, organize, and transition between tasks. By minimizing extraneous load, visual schedules free students' cognitive resources so they can focus more effectively on understanding the text itself.

The Universal Design for Learning (UDL) framework further supports the use of visual schedules in inclusive classrooms. Rooted in neuroscience, UDL advocates for designing instruction that accommodates learner variability through three core principles: providing multiple means of representation, offering multiple ways for learners to express what they know, and fostering engagement through varied motivational pathways. Visual schedules align with these principles by presenting instructional steps through accessible visual representations, ensuring that learners who may struggle with verbal instructions can still understand and participate in reading activities. They promote predictability, reduce anxiety, and enhance independence, thereby enabling students with diverse needs—including those with disabilities, processing difficulties, and language challenges—to meaningfully engage in literacy learning. Through this alignment with UDL, visual schedules contribute to a more equitable and inclusive learning environment where all students can succeed in reading comprehension tasks.

The Universal Design for Learning (UDL) framework, grounded in neuroscience research on learner variability, advocates for flexible instructional designs that proactively accommodate diverse needs through three core networks: multiple means of representation (offering information via text, visuals, audio, or tactile formats), action and expression (providing varied ways to demonstrate knowledge, such as speech, writing, or multimedia), and engagement (fostering interest through choice, relevance, and sustained motivation). Recent studies affirm UDL's efficacy in inclusive classrooms, where visual schedules exemplify the representation principle by delivering predictable, multimodal sequences that reduce barriers for students with disabilities; for instance, a 2023 South African study found significant positive correlations between UDL compliance including visual supports and enhanced learning outcomes for students with visual impairments ($r=0.447$, $p<0.05$), alongside reduced challenges ($r=-0.435$, $p<0.05$). Similarly, 2024 research across teacher-student dyads revealed strong positive beliefs in UDL's capacity to support inclusive practices, with visual and flexible tools improving engagement and comprehension for neurodiverse learners. In reading instruction, visual schedules operationalize UDL by offering icon-supported task previews, enabling self-paced progression and active participation, thus aligning with DepEd's inclusive education goals.

According to Vygotsky (1978), learners construct knowledge within their Zone of Proximal Development (ZPD) through the assistance of more capable peers or teachers who provide scaffolds that guide learning. cognitive load, thereby optimizing the use of working memory for meaningful learning processes load—such as decoding text or organizing information—AT tools enable students to focus their cognitive resources on understanding and integrating content. This alignment with CLT principles can enhance reading comprehension, writing skills, and overall academic performance among students with LD.

The use of visual schedules as a pedagogical approach in teaching reading comprehension for inclusive learners is anchored on several national and international laws that promote inclusive education, equitable learning opportunities, and quality literacy instruction. These legal provisions support the inclusion of all learners, regardless of ability, within mainstream classrooms and emphasize the need for differentiated and accessible instructional strategies.

At the national level, the 1987 Philippine Constitution, Article XIV, Section 1, declares that “the State shall protect and promote the right of all citizens to quality education at all levels and shall take appropriate steps to make such education accessible to all.” This constitutional mandate establishes education as a right and obliges schools to provide appropriate pedagogical interventions, including the use of visual and adaptive supports, to meet diverse learners' needs.

In alignment with this, Republic Act (RA) 11650, or the Inclusive Education Act of 2022, reinforces the Philippine government's commitment to providing equitable and accessible education for all learners, particularly those with disabilities and other learning difficulties. The law mandates the establishment of Inclusive Learning Resource Centers in every city and municipality, promotes early identification and intervention, and ensures that learners with disabilities receive appropriate support services within regular schools. RA 11650 emphasizes the need for accessible learning materials, individualized support, and responsive pedagogical approaches that enable full participation in classroom activities. Within the context of reading instruction, the law underscores the responsibility of schools and teachers to adopt instructional strategies such as visual schedules and other visual supports that reduce barriers to learning and allow diverse learners to meaningfully engage with literacy tasks.

Similarly, the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD, 2006), which the Philippines has ratified, provides a global human-rights framework affirming that persons with disabilities must enjoy inclusive, quality, and free education on an equal basis with others. Article 24 specifically mandates that states ensure learners with disabilities are not excluded from the general education system and that reasonable accommodations and effective individualized supports are provided to maximize academic and social development. This international commitment aligns with the need for accessible instructional strategies in mainstream classrooms. The use of visual schedules, multimodal materials, and structured supports directly responds to the UNCRPD's call for pedagogical flexibility and barrier-free learning environments that honor the rights, dignity, and full participation of learners with disabilities.

Nevertheless, the Salamanca Statement and Framework for Action on Special Needs Education (UNESCO, 1994) serves as a foundational global declaration promoting inclusive education as the most effective means of addressing diverse learning needs. It emphasizes that ordinary schools must accommodate all children regardless of physical, intellectual, social, emotional, linguistic, or other conditions, and that inclusive education improves both equity and quality of learning outcomes. The statement urges governments and educators to adopt learner-centered pedagogy, flexible instructional strategies, and supportive learning environments that respond to individual differences. In literacy instruction, this includes ensuring that classroom practices such as visual schedules, visual aids, and other structured supports are designed to make reading activities accessible and predictable for all learners. By encouraging the development of inclusive teaching approaches, the Salamanca Statement provides a strong philosophical and policy foundation for integrating visual supports into daily instruction.

Collectively, these national legal bases provide a strong foundation for this study. They affirm that inclusive education requires innovative and responsive teaching strategies such as visual schedules that enable all learners to develop essential literacy skills, including reading comprehension, within an equitable and supportive learning environment.

As to the elements of the reading, **comprehension** refers to the ability to understand, interpret, and construct meaning from written text. It involves integrating information from words and sentences with the reader's background knowledge to form a coherent understanding of the text's message. According to Snow (2002), reading comprehension is "the process of simultaneously extracting and constructing meaning through interaction and involvement with written language" (p. xiii). This definition highlights that comprehension is not merely decoding words but actively engaging in meaning-making. Effective comprehension requires cognitive processes such as predicting, inferring, summarizing, and evaluating textual information. For inclusive learners, comprehension instruction often benefits from visual and structured supports, such as visual schedules, that guide them through each stage of the reading process and help them make sense of what they read.

Vocabulary refers to the body of words that individuals understand and use in communication, both oral and written. It is a critical component of reading development because understanding word meanings directly influences a learner's ability to comprehend text. Stahl and Nagy (2006) define vocabulary knowledge as "the knowledge of word meanings and the ability to access and use that knowledge effectively in context." A rich vocabulary enables learners to decode and interpret words with greater accuracy, thereby supporting comprehension. In inclusive education, vocabulary instruction must be explicit, multimodal, and visually supported, allowing learners with language or learning difficulties to connect words to concepts through images, actions, and experiences. Strengthening vocabulary builds the foundation for reading comprehension, as students who know more words can access and interpret texts more effectively.

Lastly, **phonological awareness** is the understanding that spoken language consists of smaller units of sound such as words, syllables, rhymes, and phonemes that can be identified and manipulated. It is a metalinguistic skill essential to reading development, as it enables learners to connect sounds to written symbols when decoding words. According to Adams (1990), phonological awareness involves "the insight that oral language can be segmented into smaller components, such as syllables and phonemes," which serves as a critical precursor to successful reading and spelling. In inclusive settings, developing phonological awareness through multisensory and visually supported methods helps learners who experience language or reading difficulties recognize sound patterns and word structures. As such, phonological awareness lays the groundwork for decoding, word recognition, and ultimately, reading comprehension.

Together, comprehension, vocabulary, and phonological awareness form the core components of reading proficiency. Phonological awareness supports the decoding of words, vocabulary provides the meanings of those words, and comprehension integrates both to construct overall understanding. For inclusive learners, these skills can be strengthened through pedagogical approaches such as visual schedules that make reading processes explicit, structured, and accessible.

Undeniably, several studies have explored the effectiveness of visual and structured supports in improving reading comprehension among inclusive learners. Knight, Sartini, and Spriggs (2015) evaluated visual activity schedules as an evidence-based practice for learners with autism spectrum disorders and found that such tools significantly increased task engagement and comprehension by providing predictable and organized learning routines. Similarly, a meta-analysis on the use of pictorial and graphic representations for students with autism spectrum disorder revealed that visual supports, such as story maps and graphic organizers, enhance reading comprehension by making abstract ideas more concrete and accessible.

In the Philippine context, Cullamar and Maghuyop (2024) developed a reading manipulative tool to strengthen phonological awareness among Grade 4 learners with reading frustration and reported notable improvements in both decoding and comprehension skills. These studies underscore that visual aids whether schedules, charts, or manipulatives promote focus, understanding, and participation among learners with diverse needs, validating the potential of visual schedules as an inclusive reading strategy.

Furthermore, research on foundational reading components such as vocabulary and phonological awareness reinforces the role of structured and multimodal instruction in literacy development. A longitudinal study by van Tilborg et al. (2015) found that phonological awareness and letter-sound knowledge were strong predictors of reading comprehension among children with intellectual disabilities, highlighting the importance of explicit skill instruction. Similarly, Adams (1990) emphasized that phonological awareness serves as a prerequisite to successful reading and comprehension, while Stahl and Nagy (2006) identified vocabulary knowledge as a crucial determinant of text understanding. Despite these findings, descriptive studies (e.g., Browder et al., 2022) reveal that comprehension instruction remains less frequent in special education classrooms

compared to other reading components, suggesting a gap in inclusive literacy practice. Collectively, these studies provide empirical support for integrating visual and scaffolded pedagogies such as visual schedules into reading instruction to enhance comprehension, vocabulary development, and phonological awareness among inclusive learners.

THE PROBLEM

Statement of the Problem

This study aimed to assess the effectiveness of using visual support strategies as a pedagogical tool in enhancing the reading comprehension skills of inclusive learners at Corella National High School, Poblacion, Corella, Bohol as basis for an enhanced pedagogical instructional plan during the school year 2025-2026.

Specifically, it will seek to answer the following sub-problems:

1. What are the pre-post test scores in the reading comprehension skill performance of the respondents as to:
 - 2.1 comprehension;
 - 2.2 vocabulary; and
 - 2.3 phonological awareness?
2. Is there a significant difference between the respondents' pre-test and post-test scores in reading comprehension skills after the use of visual schedules?
3. Based on the findings of the study, what enhanced interactive and inclusive pedagogical instructional plan in a self-contained classroom can be proposed?

Statement of the Hypothesis

There is no significant gain between the pre and post-test performance of the respondents as to their reading comprehension.

Significance of the Study

This study aims to explore the effectiveness of visual schedules, aids, and supports in contributing to respondents strong reading comprehension, vocabulary and phonological awareness.

Department of Education (DepEd). This study provides DepEd with insights into how visual schedules as pedagogical approach contribute to the growing body of knowledge on differentiated instruction and multimodal learning strategies for inclusive classrooms.

School Administrators. The implementation of visual schedules will provide a structured and sequential representation which the school administrators can provide to the teachers handling inclusivity during collection of learning activities, which may help improve focus, comprehension, and task engagement among learners with diverse needs—particularly those with autism spectrum disorder, learning disabilities, or attention difficulties.

Education Sector. With the assistance of this pedagogical approach, teachers can be more representational and readier in coming to the class. Tools like Canva, PowerPoint presentations, films and some other relatable platforms can be an access for the education sector to continue the goal of learning despite circumstances.

Teachers. Teachers in the self-contained classroom will be more well-versed in using instructional material specifically in visual representations as schedules, aids, and supports.

Students with learning difficulties. Visual schedules, aids, and supports will give plenty of enjoyable activities that whom teacher may count on whenever students may feel weary of learning the topic.

SPED coordinators or reading specialists. The study holds particular significance for SPED coordinators and reading specialists, as it provides evidence-based insights into instructional strategies that enhance reading comprehension among learners with diverse needs. SPED coordinators are tasked with designing and implementing support systems that accommodate students with disabilities, while reading specialists focus on developing literacy skills across a range of learning abilities. By examining the effectiveness of visual schedules, visual aids, and visual supports, this study offers practical guidance for these professionals in structuring reading lessons that are inclusive, predictable, and cognitively accessible.

Researcher. The study enables the researcher to validate observations on the need to prepare and show something to the class specifically in the self-contained and inclusive education classroom; thus, it will propose an effective intervention plan that will improve the special needs education programs.

Future Researchers. The result of this study is to explore similar instructional innovations that bridge special and general education. By providing empirical evidence on the relationship between visual schedules and reading comprehension outcomes, this research may serve as a foundation for further investigations on multimodal literacy, differentiated pedagogy, and the development of inclusive instructional materials.

RESEARCH METHODOLOGY

This section presented the methodologies used in the study. This included the research design, flow of the study, environment, respondents, instruments, research procedures, the statistical treatment of data, and the scoring procedure.

Design

This study utilized One-Group Pretest-Posttest Design to assess the effectiveness of instructional interventions on three essential components of literacy development: reading comprehension, vocabulary acquisition, and phonological awareness. The design involved assessing a single group of participants before and after the intervention, which enabled the researcher to measure changes in performance attributable to the instructional strategies employed.

In the pre-test phase, participants completed standardized and researcher developed assessments that evaluated their baseline competencies in reading comprehension, vocabulary knowledge, and phonological awareness. These initial measures served as benchmarks against which subsequent progress was compared, ensuring the study captured the extent of learning gains within the same cohort.

The intervention phase consisted of structured literacy instruction tailored to the three focal areas. Reading comprehension was supported through guided reading activities and comprehension strategy instruction; vocabulary development was enhanced through explicit teaching of word meanings, contextual usage, and semantic mapping; and phonological awareness was strengthened through exercises such as phoneme segmentation, blending, and rhyme recognition. The intervention was delivered consistently over a defined period to ensure fidelity of implementation.

Following the intervention, participants completed a post-test using equivalent instruments to those employed during the pre-test. The comparison of pre-test and post-test scores provided direct evidence of learning gains. Statistical analyses, such as paired-sample t-tests and repeated measures ANOVA, were conducted to determine the significance of observed differences. This design enabled the researcher to evaluate the effectiveness of instructional practices within a single group, offering practical insights into literacy development in authentic classroom contexts.

Although the absence of a control group limited the ability to rule out alternative explanations such as maturation, testing effects, or external influences, the One-Group Pretest-Posttest Design proved to be a valuable approach in educational research. It provided a feasible and informative framework for classroom-based studies where random assignments or control groups were not practical.

By applying this design to reading comprehension, vocabulary, and phonological awareness, the study generated empirical evidence on the extent to which targeted instructional practices fostered literacy growth. The findings contributed to the refinement of pedagogical strategies, informed curriculum development and supported evidence-based decision-making in literacy education.

Flow of Study

The flow of the study is presented in Figure 2. This followed the system approach of input-process-output flow.

Input. The research begins with the identification of the problem as to pretest-posttest design, where visual strategies will be employed, extending beyond mere identification to reading comprehension and its elements. It specifically covers the definition and components of the intervention, explicitly specifying the types of visual schedules, visual aids, and visual supports utilized whether in physical or digital formats and their direct alignment with the targeted reading skills of comprehension, vocabulary, and phonological awareness.

The procedure further delineates the step-by-step implementation process, detailing the frequency and duration of intervention sessions and the roles of teacher-respondents in the delivery of the visual pedagogy.

Moreover, the Research Instruments subsection explicitly describes the intervention materials such as flashcards, communication boards, and other visual tools which serve as the core treatment resources of the study. Together, these details ensure that both the intervention and its procedures are transparent, replicable, and methodologically sound, enabling other researchers to reproduce the study with fidelity.

Process. A letter of request will be written by the researcher to request permission to perform the study. The data will be gathered by ocular examination to the respondents as to the need to apply intervention plan for students in an inclusive classroom to the respondents as to the need to apply intervention plan for students in an inclusive classroom.

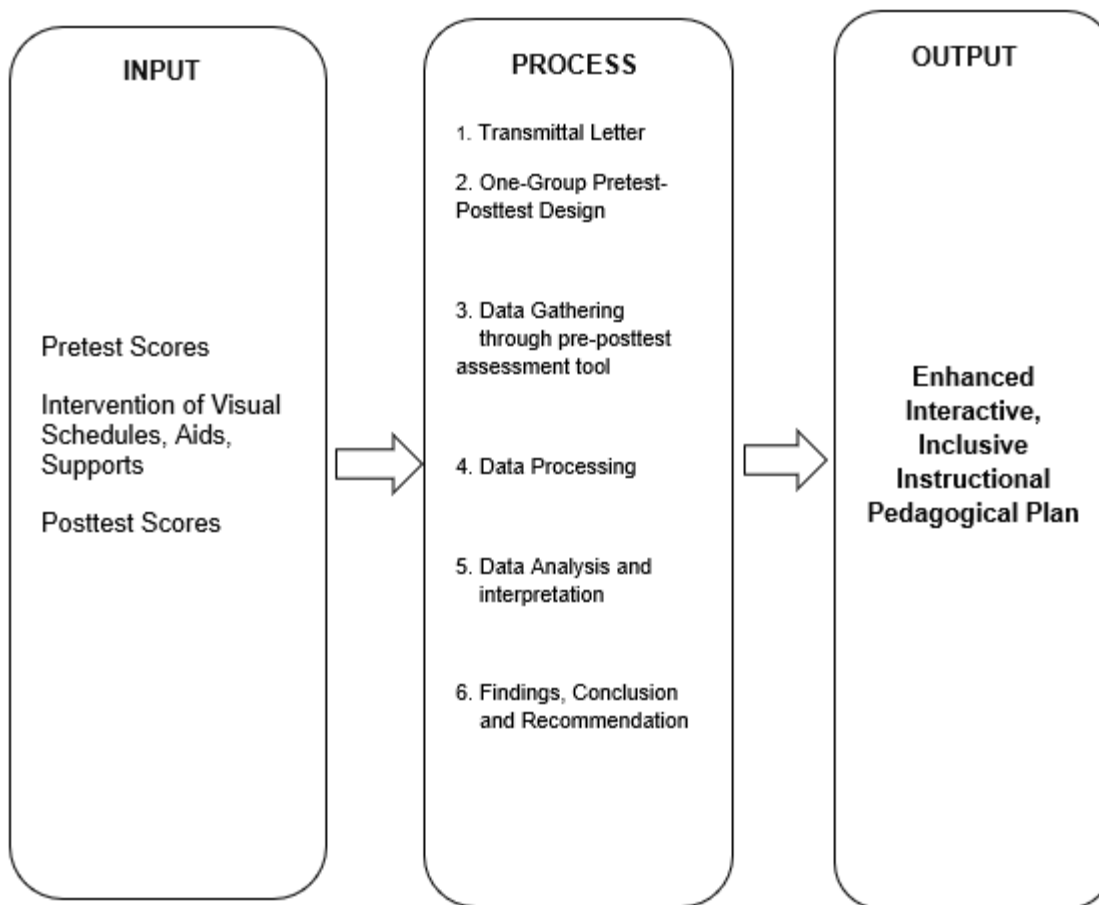


Figure 2: Flow of the Study

Output. The output of the study will be an enhanced pedagogical plan based on the scrutinized findings and recommendations.

Environment

This study was conducted in Corella National High School, Poblacion, Corella, Bohol. This institution was selected to represent diverse learning environments and to provide a comprehensive understanding of how visual impacted the learners with difficulty.

Corella National High School, located in Poblacion, Corella, Bohol, is a secondary public school known for its commitment to inclusive education through individualized instruction and integration of learners with mild disabilities. The school provides a supportive learning environment equipped with resource teachers and reading interventions designed to assist students with reading difficulties. This setting offers an ideal context for evaluating how visual schedules can enhance comprehension among high school learners in inclusive classrooms.

This school represent a range of educational environments from elementary to secondary levels where inclusive education practices are already in place. The commitment to addressing diverse learning needs provides an authentic setting for investigating how visual schedules, visual aids, and other structured supports can improve reading comprehension, vocabulary development, and phonological awareness among inclusive learners.



Figure 3: Location Map of The Research Environment

Respondents

There were 20 student-participants in this study. The study included learners who are considered frustrations or struggling in comprehension or the student can often “decode” or read the words fluently but they cannot process the meaning of what they’ve read or with special learning needs.

Table 1 presented the distribution of student-participants. Moreover, the respondent’s data were gathered based on enrollment records provided by the school administration.

Table 1. Distribution of Participants

Distribution by Gender	f	%
Male	10	50.00
Female	10	50.00
Total	20	100.00

Instrument

The study included a two-phase assessment procedure to gauge the students' phonological awareness, vocabulary growth, and reading comprehension. Pre-test and post-test reading materials, which were carefully chosen from instructional modules that had been formally approved by the Department of Education and the school administration, made up the main research tool.

Part I. The instrument's first part, which included a chosen short narrative and a structured quiz to assess beginning literacy levels, functioned as the baseline pre-test.

Part II was given as a parallel post-test in order to provide a trustworthy comparison of data while eliminating the practice effect, where students might do better just by recalling the first test. In order to gauge academic progress after the intervention, this second phase used a different but comparable story with a corresponding follow-up test.

All of these tools underwent a thorough screening process to guarantee their pedagogical suitability and content authenticity. The principal of the school and the master teacher evaluated and formally approved each narrative and its accompanying quiz. This cooperative validation made sure that the instruments matched the particular evaluation requirements needed for the study's goals in addition to being in line with the learners' present grade level.

Data Gathering Procedures

The data gathering process for this study was carried out in several systematic phases to ensure validity, reliability, and ethical compliance. The procedure followed the stages of preparation, pretesting, implementation of the intervention, post testing, data consolidation, and analysis. The sequence of activities is outlined below.

Preliminary Stage. Prior to data collection, the researcher secured formal approval from the Schools Division Offices of Mandaue City, school head of Mandaue City Comprehensive National High School.

The first stage concentrated on creating a framework for the study that was both accessible and encouraging. A crucial step entailed reviewing each learner's Individualized Education Program (IEP) to make sure the research tools matched their unique cognitive and sensory demands, in addition to getting official approval from the Master Teacher and the School Principal. To determine the required testing accommodations, such as extra time, streamlined instructions, or the use of assistive technology, coordination with the school's Special Education (SPED) department was crucial. A familiarization session was also held in order to establish a relationship between the researcher and the students, lower test anxiety, and make sure the students felt comfortable in the testing setting.

Data Gathering Stage. The pre-test and post-test administration during the data collection phase was marked by adaptability and responsiveness to the particular difficulties faced by the learners. To guarantee that the activities were communicated clearly, instructions were given utilizing a variety of senses, such as visual signals and spoken prompts. The testing environment was carefully controlled to reduce sensory distractions in order to preserve the validity of the results while taking learning difficulties into account. To avoid learner weariness, the researcher offered procedural support, such as frequent breaks or reading questions aloud when necessary. In order to ensure that the results appropriately reflected the students' understanding and phonological awareness rather than their processing speed, the focus remained on capturing the students' genuine involvement with the reading materials throughout the procedure.

Post-Data Gathering Stage. In the final stage, the analysis of results moved beyond simple numerical scoring to a more nuanced interpretation of the data. Scores from the pre-test and post-test were tabulated and compared to identify patterns of growth or persistent areas of difficulty unique to each learner's profile. Qualitative observations recorded during the testing sessions, such as the students' level of engagement and their use of specific coping strategies, were integrated into the findings to provide a holistic view of the intervention's impact.

To uphold the highest ethical standards, all individual records were anonymized, ensuring that the progress of these learners was documented with full respect for their privacy and dignity within the Philippine educational framework.

Ethical Considerations

Upon approval, the researcher coordinated with the multigrade teachers or teachers who were handling self-contained and inclusive classrooms to discuss the study's objectives, schedule, and data collection procedures. Informed consent was obtained from all teacher-respondents and parents or guardians of the learner-participants in compliance with the Data Privacy Act of 2012 (Republic Act No. 10173) and DepEd Order No. 13, s. 2023 on research ethics and protection of learners' data.

Data Privacy. To ensure the confidentiality of data collected from the teacher and student respondents, formal consent was obtained from the school principal and teachers whose full participation was required. These respondents were guaranteed the confidentiality of the information gathered regarding the overall academic performance of teacher and student respondents when assistive technology was integrated. The researcher also assured that the data collected was used solely for research purposes.

To eliminate risks of data fabrication or falsification, the study upheld ethical standards in the pursuit of accurate information and truth. Respondents received complete details about the study's goals, scope, and methodology, with participation remaining entirely voluntary.

Those who chose not to participate faced no obligations, and any decision to withdraw at any stage was fully respected without adverse consequences. All respondents' rights were protected throughout the process.

Statistical Treatment of Data

The data gathered through the survey questionnaire were tabulated, organized, and analyzed. Additionally, the data were processed and examined using the following statistical tools:

Weighted Mean. To determine the extent of utilization of visual schedules among learner-participants based on the Likert-scale questionnaire.

Standard Deviation (SD). To show the variability of scores in teacher utilization and reading performance.

Cronbach's Alpha. To test the reliability or internal consistency of the questionnaire and reading assessment subtests.

Paired Sample t-test. To determine the significant difference between pretest and posttest scores in comprehension, vocabulary, and phonological awareness.

Scoring Procedure

Data that was collected through the questionnaires was calculated and interpreted according to the following procedures:

Visual Schedules, Aids, Supports to Reading Proficiency of the Learners with Difficulty

Skill/Criteria	4 Advanced (85–100%)	3 Developing (70–84%)	2 Beginning (50–69%)	1 Remedial (0–49%)
Reading Comprehension	Accurately answers all questions; demonstrates deep understanding, makes inferences,	Mostly accurate answers; shows understanding and some inference	Answers are partially correct; limited understanding and minimal inference	Answers mostly incorrect or missing; minimal comprehension

	and summarizes key ideas			
Phonological Awareness	Accurately identifies, segments, blends, and manipulates sounds in words; demonstrates strong auditory discrimination	Identifies or manipulates most sounds correctly; some errors in blending or segmentation	Identifies or manipulates some sounds correctly; frequent errors	Unable to identify or manipulate sounds; shows minimal auditory awareness
Vocabulary	Correctly defines, uses, and recognizes all target words in context; demonstrates rich word knowledge	Correctly defines or uses most target words; some context errors	Correctly defines or uses some words; limited understanding	Unable to define or use target words; minimal vocabulary knowledge

DEFINITION OF TERMS

To ensure clarity and understanding of the key concepts used in the study on assistive technology for students in an inclusive classroom, the following are operationally defined.

Inclusive Learners. This refers to students with diverse learning needs, including those with mild intellectual disabilities, autism spectrum disorder, or developmental delays, who are educated in self-contained or inclusive classroom settings. In this study, inclusive learners are the participants receiving reading instruction supported by visual schedules.

Pedagogy. This denotes the method and practice of teaching that emphasizes how learning activities are organized and delivered. In this study, pedagogy refers to the instructional approach integrating visual schedules, visual aids, and structured visual supports in teaching reading comprehension within self-contained inclusive classrooms.

Pedagogical Instructional Plan. This refers to a proposed structured teaching framework that incorporates visual schedules, aids, and supports for improving inclusive learners' reading skills. In this study, it will be developed based on findings from the intervention and teachers' feedback.

Self-contained Classroom. This refers to a special education classroom where inclusive learners receive individualized instruction from a SPED teacher. Operationally, it serves as the setting of the study, where visual schedules and supports are implemented.

Visual Aids. This refers to supplementary instructional materials such as pictures, charts, and graphic organizers used to reinforce understanding of reading content. In this study, visual aids accompany visual schedules to enhance comprehension during reading instruction.

Visual Schedules. This refers to a structured sequence of visual representations (pictures, symbols, or text) used by teachers to outline the order of classroom tasks and reading activities. In this study, visual schedules are the intervention tool employed to guide learners in following reading tasks, improving engagement, and supporting comprehension. Their extent of utilization is measured through a Likert-scale questionnaire administered to teacher-respondents.

Chapter 2

DATA PRESENTATION, ANALYSIS, AND INTERPRETATION

Chapter 2 presented the data collected, analyzed, and interpreted to determine the effectiveness of using visual support strategies as a pedagogical tool to enhance the reading comprehension skills of inclusive learners. The study focused at Corella National High School in Corella, Bohol. Through systematic data presentation and thorough analysis, this chapter aimed to provide a clear understanding of how visual schedules influence learners' reading comprehension and to inform the development of an improved instructional plan that supports diverse learning needs.

PRE-TEST READING COMPREHENSION SKILL PERFORMANCE

This study utilized pre-test and post-test scores to measure participants' reading comprehension skill performance. The pre-test established baseline data on learners' ability to comprehend texts, identify key ideas, interpret vocabulary in context, and make inferences. Following the implementation of the instructional intervention, a post-test administered to determine any changes or improvements in performance. The comparison of pre-test and post-test results served as the basis for evaluating the effectiveness of the intervention. All data collected treated with confidentiality and be used solely for research purposes.

Comprehension

The pretest results revealed the initial landscape of the learners' reading comprehension, serving as a diagnostic benchmark for their existing cognitive and linguistic processing abilities. At this baseline stage, learners often demonstrated a fragmented grasp of text meaning, characterized by a functional proficiency in literal comprehension (identifying explicit facts) but a significant deficit in higher-order thinking skills. Specifically, the pretest identified the gap between the students' ability to decode words and their capacity to engage in inferential and critical analysis, highlighting where meaning typically breaks down whether due to limited vocabulary, a lack of prior knowledge, or an inability to monitor their own understanding during the reading process.

Table 2. Level of reading comprehension skills of the learners during the pretest as to comprehension

Level	Range of Scores	f	%
Advanced	8-10	2	10.00
Intermediate	5-7	12	60.00
Beginner	0-4	6	30.00
Total		20	100.00
Mean		5.50	
St. Dev.		1.93	

Table 2 presented the pre-test reading comprehension skill levels of 20 learners. The distribution shows that 2 learners (10%) performed at the advanced level, achieving scores between 8–10. A majority, 12 learners (60%), fell within the intermediate range of 5–7, while 6 learners (30%) were categorized as beginners with scores between 0–4. The computed mean score of 5.50 indicates that the overall performance of the group is within the intermediate level, while the standard deviation of 1.93 reflects moderate variability in learners' scores. This suggests that while most learners demonstrated average comprehension, a significant portion still struggled at the beginner level.

The data implied that prior to the intervention, learners generally possessed moderate comprehension skills, with only a small proportion reaching advanced proficiency. The presence of 30% beginners highlights a pressing need for targeted instructional strategies to bridge comprehension gaps. In the context of the study, this baseline performance underscored the potential effectiveness of visual

schedules as a pedagogical tool in enhancing comprehension among inclusive learners. Given the diverse educational settings Corella National High School the integration of visual schedules may provide structured, accessible, and engaging learning experiences. Such tools can help learners, especially those at the beginner level, to organize information, follow sequences, and improve text understanding, thereby raising the overall comprehension performance in subsequent assessments.

(Lugnasin et al., 2025) demonstrated that the Strategic Use of Visual Illustrations (SUVI) significantly enhanced reading comprehension among Grade 7 learners, showing marked improvement from low to high interpretative levels. Similarly, (Gallardo et al., 2023) found that visual learning-style-based activities improved comprehension skills among English majors, emphasizing the adaptability of visual tools across learner groups. Furthermore, a study on graphic organizers highlighted their effectiveness in structuring textual information, thereby aiding comprehension among diverse learners (Lai & Mukundan, 2023). These findings collectively support the current study's rationale that visual schedules can serve as an effective pedagogical intervention to enhance reading comprehension in inclusive educational contexts.

Vocabulary

The pretest results regarding vocabulary provided a critical baseline for understanding the learners' lexical breadth (the number of words known) and lexical depth (how well those words are understood). At this initial stage, learners typically exhibited a functional command of high-frequency, everyday language but demonstrated significant gaps in academic and domain-specific Tier 2 and Tier 3 vocabulary. This 'vocabulary gap' often manifested as a ceiling effect on comprehension while students may successfully decode individual words, their lack of semantic precision prevents them from forming a cohesive mental model of the text. Consequently, the pretest identified vocabulary as a primary bottleneck, where unfamiliarity with key terms leads to a breakdown in both sentence-level processing and higher-order inferential thinking.

Table 3. Level of reading comprehension skills of the learners during the pretest as to vocabulary

Level	Range of Scores		
Advanced	8-10	13	65.00
Intermediate	5-7	6	30.00
Beginner	0-4	1	5.00
Total		20	100.00
Mean		7.40	
St. Dev.		1.98	

Table 3 presented the level of reading comprehension skills of learners during the pretest as to vocabulary. Out of 20 learners, the majority (65%) fell under the advanced level, scoring between 8–10. Meanwhile, 30% were classified as intermediate, with scores ranging from 5–7, and only 5% were at the beginner level, scoring between 0–4. The computed mean score of 7.40 indicates that, on average, learners performed within the intermediate range, while the standard deviation of 1.98 suggests moderate variability in performance. This distribution highlights that most learners demonstrated strong vocabulary comprehension even before the intervention, though a small proportion still struggled at the beginner level.

The data implied that while a majority of learners already possess advanced vocabulary comprehension skills, there remains a significant portion (35%) who are either intermediate or beginner. This finding underscored the importance of differentiated pedagogical tools such as visual schedules to bridge gaps in comprehension. For inclusive learners of Corella National High School, the integration of visual support strategies can provide structured, accessible, and engaging learning experiences. By offering visual cues and organized routines, these tools can enhance comprehension

for learners who struggle with abstract text processing, thereby promoting inclusivity and equity in reading development. The moderate variability in scores further suggested that interventions like visual schedules could help stabilize performance levels across diverse learners, ensuring that those at the beginner and intermediate levels progress toward advanced comprehension.

Phonological Awareness

The pretest results for phonological awareness provided a baseline of the learners' metalinguistic sensitivity to the sound structure of language, independent of written text. At this initial stage, learners often demonstrated a foundational proficiency in rhyming and syllable segmentation—the ability to hear larger 'chunks' of sound—but frequently display significant gaps in phonemic awareness, which is the more advanced ability to isolate, blend, and manipulate individual sounds (phonemes) within a word. This pretest data identified whether a learner possesses the necessary auditory 'hardware' to transition into phonics; without a solid grasp of these oral sounds, the student is at high risk for struggling with letter-sound correspondences, ultimately hindering their overall fluency and comprehension during the reading process.

Table 4. Level of reading comprehension skills of the learners during the pretest as to phonological awareness

Level	Range of Scores	f	%
Advanced	8-10	18	90.00
Intermediate	5-7	2	10.00
Beginner	0-4	0	0.00
Total		20	100.00
Mean		8.60	
St. Dev.		0.94	

Table 4 presented the level of reading comprehension skills of learners during the pretest as to phonological awareness. The data revealed that a majority of the learners, 90% (f = 18), performed at the Advanced level with scores ranging from 8–10. Meanwhile, 10% (f = 2) of the learners were classified under the Intermediate level with scores between 5–7, and none fell under the Beginner category. The computed mean score of 8.60 and a standard deviation of 0.94 indicate that the learners' performance was not only high but also relatively consistent, with minimal variation among scores. This suggests that most learners demonstrated strong phonological awareness skills even before the intervention.

The results implied that learners already possessed a solid foundation in phonological awareness prior to the implementation of visual schedules. This high baseline performance was significant because it demonstrated that inclusive learners of Corella National High School were capable of decoding and manipulating sounds effectively. The implication for the study was that the use of visual support strategies as a pedagogical tool may further enhance comprehension by providing structured, multimodal support that builds upon learners' existing phonological strengths. Since phonological awareness was a critical precursor to reading comprehension, the integration of visual schedules could reinforce learners' ability to organize, retain, and apply reading strategies, thereby promoting inclusivity and accessibility in diverse classroom settings.

Castor and Buenviaje (2025) found that digitized reading materials significantly enhanced phonemic awareness and comprehension among Grade 7 learners, highlighting the role of interactive tools in literacy development. Similarly, Faunillan (2023) emphasized that a multisensory learning approach, which includes visual aids, strengthens phonological awareness and supports inclusive instruction. multijournals.org/index.php/excellencia-imje. Moreover, Al Otaiba et al. (2020) demonstrated that explicit and systematic teaching of phonemic awareness and word reading skills leads to measurable gains in comprehension, particularly for learners with diverse needs. These findings collectively

support the effectiveness of visual schedules as a structured, multimodal intervention that can enhance reading comprehension skills among inclusive learners.

POST-TEST READING COMPREHENSION SKILL PERFORMANCE

As the final phase of this study, completed post-test was designed to measure reading comprehension skill performance after the implementation of the instructional intervention. This assessment aimed to determine any improvements in your ability to understand texts, identify main ideas and supporting details, interpret vocabulary in context, and draw logical inferences. The results compared with the pre-test scores to evaluate the effectiveness of the intervention. All responses remained confidential and be used solely for research purposes.

Comprehension

The post-test results offered a comprehensive evaluation of the learners' evolved reading comprehension skills following the implementation of targeted instructional strategies. Unlike the initial baseline, the post-test data reflected the transition from passive reading to active meaning-construction. At this stage, learners demonstrated an enhanced ability to move beyond literal recall, showing increased proficiency in synthesizing information and drawing sophisticated logical inferences. The results provided evidence of the learners' improved capacity to monitor their own understanding and apply 'fix-up' strategies when encountering complex text, effectively narrowing the previously identified gap between decoding fluency and deep thematic analysis.

Table 5. Level of reading comprehension skills of the learners during the posttest as to comprehension

Level	Range of Scores	f	%
Advanced	8-10	10	50.00
Intermediate	5-7	10	50.00
Beginner	0-4	0	0.00
Total		20	100.00
Mean		7.35	
St. Dev.		1.27	

Table 5 presented the post-test reading comprehension skill levels of the learners. Out of 20 participants, 50% (10 learners) reached the advanced level with scores ranging from 8–10, while the remaining 50% (10 learners) were at the intermediate level with scores between 5–7. Notably, no learner fell under the beginner category (0–4). The computed mean score of 7.35 and standard deviation of 1.27 indicate that the overall performance of the learners clustered around the intermediate-to-advanced range, with relatively low variability. This suggests a consistent improvement in comprehension skills across the group, with most learners demonstrating above-average proficiency.

The results implied that the use of visual support strategies as a pedagogical tool significantly enhanced the reading comprehension skills of inclusive learners at Corella National High School. The absence of learners in the beginner category highlighted the effectiveness of structured visual aids in scaffolding comprehension, particularly for diverse learners in inclusive settings. The balanced distribution between intermediate and advanced levels suggested that while all learners benefited, half achieved mastery, underscoring the potential of visual schedules to bridge comprehension gaps and promote equitable learning outcomes. This finding supported the integration of visual-based strategies in inclusive classrooms, as they provide clarity, reduce cognitive load, and foster engagement among learners with varying needs.

Vocabulary

The post-test results for vocabulary reflected the learners' expanded lexical repertoire and their increased precision in word usage following the instructional period. At this stage, the data indicated a transition from a superficial familiarity with words to a deeper semantic mastery, where learners can not only define target terms but also apply them accurately within varied contexts. The post-test highlighted a significant reduction in 'lexical interference'—the confusion caused by unfamiliar academic terms—thereby allowing for smoother cognitive processing during reading. Ultimately, these results demonstrated the learners' improved ability to utilize contextual clues and morphological analysis to bridge meaning gaps, signaling a shift toward independent vocabulary acquisition and enhanced overall text comprehension.

Table 6. Level of reading comprehension skills of the learners during the post-test as to vocabulary

Level	Range of Scores	f	%
Advanced	8-10	17	85.00
Intermediate	5-7	3	15.00
Beginner	0-4	0	0.00
Total		20	100.00
Mean		8.60	
St. Dev.		1.14	

Table 6 presented the level of reading comprehension skills of learners during the posttest as to vocabulary. The results revealed that a majority of the learners, 85% ($f = 17$), reached the advanced level with scores ranging from 8–10. Meanwhile, 15% ($f = 3$) attained the intermediate level with scores between 5–7, and none fell under the beginner category. The computed mean score of 8.60 and a standard deviation of 1.14 indicated that learners generally performed at a high level with minimal variability in their scores. This suggested that most learners consistently demonstrated strong vocabulary comprehension skills after the intervention.

The data implied that the use of visual support strategies as a pedagogical tool was effective in enhancing the vocabulary comprehension of inclusive learners at Corella National High School. The high concentration of learners in the advanced category demonstrates that visual schedules provided structured, accessible, and engaging learning experiences that supported comprehension. The minimal spread of scores further suggested that learners, regardless of their diverse needs, benefited from the intervention. This finding underscored the potential of visual support strategies to foster inclusivity and improve literacy outcomes, aligning with institutional goals of professionalization and learner achievement.

The effectiveness of visual-based strategies in improving reading comprehension is supported by recent studies. Collectively, these studies validated the present findings and reinforce the pedagogical value of visual schedules in inclusive education.

Phonological Awareness

The post-test results for phonological awareness demonstrated the learners' transition from basic sound recognition to advanced phonemic manipulation. Following the instructional intervention, the data reflected a heightened phonological sensitivity, where learners can now move beyond simple rhyming to the more complex tasks of segmenting, blending, and deleting individual phonemes within spoken words. This shift signified that the 'auditory gap' identified in the pretest has been bridged, providing the learners with the foundational cognitive tools required for phonics acquisition. Ultimately, the post-test confirmed that the students have moved from a state of sound-letter

confusion to a level of phonetic readiness, allowing them to map sounds to print with greater accuracy and less cognitive effort.

Table 7. Level of reading comprehension skills of the learners during the posttest as to phonological awareness

Level	Range of Scores	f	%
Advanced	8-10	20	100.00
Intermediate	5-7	0	0.00
Beginner	0-4	0	0.00
Total		20	100.00
Mean		9.40	
St. Dev.		0.60	

Table 7 presented the level of reading comprehension skills of learners during the post-test as to phonological awareness. The results revealed that all 20 learners (100%) attained the advanced level with scores ranging from 8–10. No learner fell under the intermediate (5–7) or beginner (0–4) categories. The computed mean score of 9.40 and a standard deviation of 0.60 indicated a high level of consistency in performance, suggesting that learners not only achieved mastery but also demonstrated uniformity in their phonological awareness skills. This outcome underscored the effectiveness of the intervention, as the distribution was heavily skewed toward the advanced category, with no variability toward lower levels.

The data strongly implied that the use of visual support strategies as a pedagogical tool contributed significantly to enhancing the reading comprehension skills of inclusive learners at Corella National High. The uniform attainment of advanced scores suggested that visual support strategies provided structured, predictable, and accessible learning pathways that supported learners with diverse needs. This finding highlighted the potential of visual support strategies to bridge comprehension gaps, foster inclusivity, and promote mastery of phonological awareness. For administrators and teachers, the implication was clear: integrating visual support strategies into classroom practice can be a sustainable strategy to improve literacy outcomes, particularly in inclusive settings where learners benefit from multimodal and scaffolded instruction.

Castor and Buenviaje (2025) demonstrated that digitized reading materials designed to strengthen phonemic awareness significantly improved learners' comprehension outcomes, aligning with the advanced scores observed in this study. Similarly, Jamaludin et al. (2022) emphasized that phonological knowledge, when systematically developed through structured interventions, is a critical predictor of reading success across diverse contextsfiles.eric.ed.gov. Moreover, a study published in *Frontiers in Education* (2021) highlighted the importance of phonological awareness activities in early literacy, noting that consistent engagement with structured tools enhances both fluency and comprehension. Collectively, these studies affirm that structured, visually guided, and phonologically oriented interventions are effective in elevating reading comprehension skills among inclusive learners.

TEST OF DIFFERENCE BETWEEN THE PRETEST AND POST-TEST SCORES ON THE READING COMPREHENSION SKILLS OF THE LEARNERS

This study included a statistical test of difference to determine whether there is a significant change between the pretest and post-test scores of the learners in reading comprehension skills. The analysis aimed to evaluate the effectiveness of the instructional intervention by comparing learners' performance before and after its implementation. The results of this test provided empirical evidence on whether the observed improvements in reading comprehension are statistically significant. All data gathered were treated with strict confidentiality and used solely for research purposes.

Comprehension

To evaluate the effectiveness of the instructional intervention, a test of difference was conducted to compare the pretest and post-test mean scores of the learners. This statistical analysis served to determine if there was a statistically significant improvement in reading comprehension skills—specifically in literal, inferential, and evaluative domains—following the implementation of the reading program. By calculating the t-value and its corresponding p-value, the study established whether the observed growth represents a genuine shift in the learners' cognitive processing or if the results fall within the range of expected variation. Furthermore, this comparison provided an empirical basis for validating the instructional strategy, identifying the extent to which the pedagogical shift successfully bridged the initial performance gaps recorded during the pretest.

Table 8. Test of difference between the pretest and post-test scores on the reading comprehension skills of the learners as to comprehension

Source of Difference	Mean	Standard Deviation	Mean Difference	Computed t- value	p- value	Decision	Result
Pretest	5.50	1.93	1.85	6.749*	0.000	Reject Ho	Significant
Posttest	7.35	1.27					

*significant at $p < 0.05$ (two-tailed); $df=19$

Table 8 presented the test of difference between the pretest and post-test scores on the reading comprehension skills of the learners. The pretest mean score of 5.50 with a standard deviation of 1.93 increased to a post-test mean score of 7.35 with a standard deviation of 1.27. The mean difference of 1.85 yielded a computed t-value of 6.749 and a p-value of 0.000, which was below the 0.05 significance threshold. This resulted led to the rejection of the null hypothesis, indicating that there was a statistically significant improvement in the learners' reading comprehension skills after the intervention.

The significant improvement in scores suggested that the use of visual support strategies as a pedagogical tool effectively enhanced the reading comprehension skills of inclusive learners. The structured and visually guided approach provided clarity, reduced cognitive load, and supported learners with diverse needs in organizing information. This finding as particularly relevant of Corella National High School, where inclusive education was emphasized. The implication was that visual support strategies can serve as a sustainable instructional strategy to scaffold comprehension, foster learner independence, and promote equitable learning outcomes in varied classroom contexts.

Table 9. Test of difference between the pretest and posttest scores on the reading comprehension skills of the learners as to vocabulary

Source of Difference	Mean	Standard Deviation	Mean Difference	Computed t- value	p- value	Decision	Result
Pretest	7.40	1.98	1.20	4.660*	0.000	Reject Ho	Significant
Posttest	8.60	1.14					

*significant at $p < 0.05$ (two-tailed); $df=19$

Vocabulary

To determine the impact of the instructional intervention on the learners' lexical growth, a test of difference was performed between the pretest and post-test vocabulary scores. This statistical comparison shifted the focus from simple observation to empirical validation, assessing whether the transition from a restricted baseline to an expanded vocabulary was statistically significant. By analyzing the variance between the two testing periods, the study evaluated the effectiveness of the teaching strategies in moving learners from a 'recognition' level of word knowledge to a functional 'application' level. Furthermore, the results of this test provided a quantitative basis for concluding

that the improvement in reading comprehension was directly linked to a significant reduction in vocabulary-related barriers, thereby confirming the intervention's success in enhancing the learners' linguistic foundation.

Table 9 presented the test of difference between the pretest and post-test scores of learners in reading comprehension skills specifically in vocabulary. The pretest mean score was 7.40 with a standard deviation of 1.98, while the post-test mean score increased to 8.60 with a lower standard deviation of 1.14. The computed mean difference of 1.20 yielded a t-value of 4.660 with a p-value of 0.000, which is below the 0.05 significance threshold. This resulted led to the rejection of the null hypothesis, indicating that there was a statistically significant improvement in learners' vocabulary comprehension after the intervention. The data clearly showed that learners demonstrated enhanced performance in vocabulary skills following the pedagogical treatment.

The significant improvement in vocabulary comprehension implied that the use of visual support strategies as a pedagogical tool contributed positively to the learners' reading comprehension development. The reduction in the standard deviation from pretest to post-test suggested that learners not only improved but also became more consistent in their performance. This finding underscored the effectiveness of visual support strategies in supporting inclusive learners across diverse school contexts, Corella National High School. By providing structured visual cues, learners were able to better organize information, anticipate learning tasks, and strengthen their vocabulary acquisition. The implication was that visual support strategies can serve as a scalable instructional strategy to enhance reading comprehension skills in inclusive classrooms, fostering equity and accessibility in literacy development.

Table 10. Test of difference between the pretest and post-test scores on the reading comprehension skills of the learners as to phonological awareness

Source of Difference	Mean	Standard Deviation	Mean Difference	Computed t- value	p- value	Decision	Result
Pretest	8.60	0.94	0.80	4.000*	0.001	Reject Ho	Significant
Posttest	9.40	0.60					

*significant at $p < 0.05$ (two-tailed); $df=19$

Phonological Awareness

To ascertain the statistical significance of the gains made in the learners' auditory processing skills, a test of difference was conducted comparing the pretest and post-test scores in phonological awareness. This analysis served to empirically validate the transition from the learners' initial sound-processing deficits to their post-intervention mastery of phonemic manipulation. By examining the variance between these two assessment points, the study determined whether the instructional strategies—such as segmenting, blending, and sound substitution—produced a statistically significant shift in the learners' metalinguistic sensitivity. Ultimately, the results of this test provided the quantitative proof necessary to conclude that the intervention effectively reinforced the foundational 'auditory bridge' required for decoding and subsequent reading comprehension.

The results presented in Table 10 revealed a significant difference between the pretest and post-test scores of learners in reading comprehension skills as to phonological awareness. The pretest mean score of 8.60 with a standard deviation of 0.94 increased to a post-test mean score of 9.40 with a standard deviation of 0.60, yielding a mean difference of 0.80. The computed t-value of 4.000 at a p-value of 0.001 indicates statistical significance at the 0.05 level, leading to the rejection of the null hypothesis. This suggestd that learners demonstrated measurable improvement in phonological awareness after the intervention.

The analysis of these findings underscored the effectiveness of using visual support strategies as a pedagogical tool in enhancing reading comprehension skills among inclusive learners. The

improvement in scores reflected that structured visual aids provided learners with clearer guidance, reduced cognitive load, and strengthened their ability to decode and comprehend text. Implemented at Corella National High School, the intervention proved beneficial in inclusive settings where learners with varied needs require differentiated support. The significant results affirmed that visual support strategies fostered consistency, predictability, and engagement, thereby contributing to improved phonological awareness and overall literacy development.

Chapter 3

SUMMARY, FINDINGS, CONCLUSION, AND RECOMMENDATIONS

This chapter presented a comprehensive summary of findings derived from the study that determine the effectiveness of using visual support strategies as a pedagogical tool in enhancing the reading comprehension skills of inclusive learners at Corella National High School, Poblacion, Corella, Bohol.

SUMMARY

In terms of comprehension, the pre-test results revealed that learners generally demonstrated moderate skills, with only a small proportion reaching advanced proficiency and 30% remaining at the beginner level. This baseline highlighted the need for targeted instructional strategies to address comprehension gaps. Following the intervention, the post-test results showed significant improvement, with no learners remaining in the beginner category and a balanced distribution between intermediate and advanced levels. This shift underscored the effectiveness of visual support strategies in scaffolding comprehension, reducing cognitive load, and fostering engagement among inclusive learners across the participating schools, thereby promoting equitable learning outcomes.

With respect to vocabulary, the pre-test data indicated that while a majority of learners already possessed advanced comprehension skills, 35% were either intermediate or beginner, pointing to the need for differentiated pedagogical tools. The integration of visual support strategies provided structured and accessible learning experiences that supported learners struggling with abstract text processing. Post-test results revealed a high concentration of learners in the advanced category and minimal variability in scores, suggesting that the intervention stabilized performance levels and ensured that learners across diverse needs benefited. This finding highlighted the potential of visual schedules to foster inclusivity and improve literacy outcomes, aligning with institutional goals of professionalization and learner achievement.

Regarding phonological awareness, learners already exhibited a strong foundation prior to the intervention, demonstrating the ability to decode and manipulate sounds effectively. This high baseline performance was further enhanced through the use of visual schedules, which provided multimodal support that reinforced existing phonological strengths. Post-test results showed uniform attainment of advanced scores, indicating that visual schedules offered structured and predictable learning pathways that promoted mastery. As phonological awareness is a critical precursor to reading comprehension, the integration of visual schedules not only strengthened learners' ability to organize and apply reading strategies but also emphasized their role as a sustainable pedagogical tool for promoting inclusivity and accessibility in diverse classroom settings.

FINDINGS

The findings revealed that there was a significant difference between the participants' pre-test and post-test scores in reading comprehension skills after the use of visual schedules, demonstrating the effectiveness of this pedagogical tool in inclusive classrooms. The structured and visually guided approach provided clarity, reduced cognitive load, and enabled learners to better organize information, anticipate tasks, and strengthen vocabulary acquisition, resulting in improved and more consistent performance. Implemented at Corella National High School, the intervention fostered learner independence, equity, and accessibility, while also enhancing phonological awareness and

overall literacy development. These results affirmed that visual support strategies served as a sustainable and scalable instructional strategy that supports diverse learners and promotes equitable learning outcomes in varied educational contexts.

CONCLUSION

The integration of visual support strategies significantly enhanced learners' reading comprehension, vocabulary, and phonological awareness across diverse inclusive classrooms. Pre-test results revealed notable gaps, particularly in comprehension and vocabulary, with a considerable proportion of learners at beginner and intermediate levels. However, post-test outcomes demonstrated marked improvement, with no learners remaining at the beginner stage, stabilized performance in vocabulary, and uniform attainment of advanced scores in phonological awareness. By reducing cognitive load, scaffolding comprehension, and providing structured, multimodal learning pathways, visual schedules fostered learner independence, equity, and accessibility. Implemented across diverse learners, the intervention proved to be a sustainable and scalable pedagogical tool that promotes inclusivity, strengthens literacy outcomes, and aligns with institutional goals of professionalization and learner achievement.

RECOMMENDATIONS

Based on the findings and conclusion regarding the effectiveness of visual support strategies in enhancing reading comprehension skills of inclusive learners at Corella National High School, the crafted output is hereby recommended.

Chapter 4

THE OUTPUT OF THE STUDY

This chapter presented the final outputs of the study, including detailed data, supporting materials, and supplementary documents that informed the research on the effectiveness of using visual schedules as a pedagogical tool in enhancing the reading comprehension skills of inclusive learners at Corella National High School, Poblacion, Corella, Bohol.

Rationale

Inclusive learners in an inclusion classroom faced persistent challenges in literacy development, particularly in comprehension, vocabulary acquisition, and phonological awareness. These difficulties often stemmed from attention deficits, learning disabilities, and neurodevelopmental conditions that hinder focus, task organization, and text processing. Without targeted interventions, learners may struggle to meet literacy benchmarks essential for academic success and lifelong learning.

Visual schedules and visual aids as visual support strategies have emerged as effective scaffolding tools that simplify complex tasks, reduce cognitive load, and foster self-regulation. By breaking down reading activities into manageable steps and providing concrete cues, these supports make abstract concepts more accessible. Research and classroom practices demonstrated that visual scaffolding enhances comprehension, strengthens vocabulary recognition, and improves phonological processing, while also cultivating learner independence and confidence.

This instructional plan was designed for inclusion classrooms in Corella National High. It systematically integrates visual support strategies into daily literacy instruction, ensuring lessons were structured, engaging, and inclusive. The plan aligned with national mandates on inclusive education and institutional priorities for professionalization, equity, and learner achievement.

Objectives

1. To improve reading comprehension skills of inclusive learners through structured use of visual schedules.

- To train teachers in designing and implementing differentiated visual schedules tailored to learner needs.
- To foster collaboration among teachers, parents, and administrators in sustaining literacy strategies.
- To align classroom practices with institutional policies on equity, inclusivity, and learner achievement.

Scheme of Implementation

In Weeks 1 and 2, the project starts with the Preparatory Phase. In order to obtain the required approvals and parental consent, the adviser, school head, and researcher work together throughout this phase. Along with validating the reading comprehension test, important tasks include creating visual aids like graphic organizers, picture cues, and flashcards. An authorized research plan and a collection of well validated teaching resources are anticipated outcomes of this stage.

The project enters the Pre-Implementation Phase in Week 3. In order to familiarize inclusive learners with the study and give them the reading comprehension pre-test, the researcher works closely with them. This phase's main objective is to record and tabulate results in order to provide a reliable baseline of information regarding the pupils' present reading proficiency.

Lastly, Weeks 4 through 7 are dedicated to the Implementation Phase. During this time, the researcher takes on the role of instructor, incorporating visual aids into routine reading instruction. During guided reading sessions, this include the active use of graphic organizers, visual clues, and story maps. The project's goal is to provide documented intervention sessions and a discernible increase in student involvement by the end of this phase.

Output of the Study

Areas of Concern	Objectives	Strategies	Persons Involved	Budget	Source of Budget	Time Frame	Expected Outcomes	Actual Accomplishments	Remarks
Learner Reading Proficiency	To improve reading comprehension skills through structured use of visual schedules.	Integrate "Story Sequence" visual strips into every reading session. Use "Check-off" literacy stations for independent task completion.	SPED Teachers, Learners, Teacher Aides	₱1,200	MOOE	Quarter 1-4	85% of inclusive learners demonstrate a 20% increase in identifying main story elements.		
Teacher Professional Development	To train teachers in designing and implementing differentiated visual schedules.	Conduct a "Lakas-Gawa" (Workshop) on creating high-contrast and tactile schedules. Implement peer-mentoring and "Learning Action Cell" (LAC) sessions.	Master Teachers SPED Faculty ICT Coordinator	₱3,500	School Training Fund	Quarter 1-2	100% of SPED teachers produce at least three types of differentiated visual schedules for their classes.		
Stakeholder Collaboration	To foster collaboration among teachers, parents, and administrators in literacy strategies.	Launch a "Visual Literacy at Home" orientation for parents. Create a shared digital repository of visual symbols for consistent school-home use	Parents, School Head, Teachers, PTA	₱1,000	PTA Fund	Quarter 2-4	At least 70% of parents report using simplified visual schedules for reading homework at home.		
Policy Alignment & Equity	To align classroom practices with institutional policies on equity and inclusivity.	Conduct a policy audit to map classroom visual aids against RA 11650 standards. Develop an Inclusive Literacy Achievement Report for the Division Office.	School Head, Quality Assurance Team	₱500	Admin Fund	Quarter 3-4	Documentation of classroom practices officially recognized as compliant with national inclusive education mandates.		

SURVEY QUESTIONNAIRE

Part I. Student-Respondent Profile

(Please check or write the appropriate response.)

- Name (optional): _____
- Gender: Male Female Prefer not to say
- Age: _____ years old

4. Grade Level: _____
5. Have you received training in the use of visual supports or schedules?
 Yes No
6. Type of Class:
 Self-contained Inclusive General Education

READING COMPREHENSION SKILL PERFORMANCE TEST

PRETEST

A. Comprehension

Read the story carefully. Then answer the questions that follow.

The Paper Boat

When the rain poured, Elias made a paper boat and let it sail along the gutter. He watched it float and smiled as the tiny boat moved past leaves and twigs. The water grew deeper, and soon the paper boat disappeared into a drain. Elias wished he could make another one, so he ran back home, folded a new paper, and smiled again as it began another small journey in the rain.

Answer the questions.

1. Who made the paper boat?
2. What did Elias do when it rained?
3. Where did the paper boat go?
4. What happened to the first paper boat?
5. What did Elias do after the first boat disappeared?
6. What did the paper boat sail past?
7. What did Elias feel as he watched the boat float?
8. What is the story mostly about?
9. What do you think Elias learned from this experience?
10. What could the paper boat symbolize?

Total Score / 10

B. Vocabulary

Directions: Choose the correct meaning or synonym of the underlined Word. Encircle the letter of the correct answer.

1. The rain poured all afternoon.
a. stopped b. fell heavily c. disappeared d. whispered
2. Elias folded a paper to make a boat.
a. tore b. cut c. bent d. threw
3. The boat floated on the water.
a. sank b. swam c. stayed on top d. rolled away
4. He smiled as he watched the boat.
a. frowned b. grinned c. cried d. shouted

5. The boat went into the drain.
a. tunnel b. pipe c. bridge d. fence
6. Elias ran home to make another one.
a. school b. playground c. house d. store
7. The tiny boat moved past the leaves.
a. big b. small c. strong d. colorful
8. The boat's journey began in the rain.
a. rest b. travel c. ending d. stop
9. The boat disappeared into the drain.
a. was seen b. vanished c. returned d. floated
10. Elias wished he could make another one.
a. hoped b. forgot c. stopped d. refused

Total Score / 10

C. Phonological Awareness

Directions: Encircle the word that rhymes with the given word or identify the initial/final sound as directed.

1. boat – coat / ball / bag
2. rain – train / road / red
3. leaf – chief / line / long
4. smile – mile / small / man
5. float – goat / gift / gate
6. home – comb / come / calm
7. paper – taper / tiger / towel
8. fold – told / fall / ten
9. deep – keep / cup / cap
10. drain – grain / green / grass

Total Score / 10

Appendix E

POSTTEST

A. Comprehension

Read the story carefully. Then answer the questions that follow.

The Lost Letter

Lia found a small envelope under a tree near her school. It had no name, but it looked new and clean. She opened it and saw a note that said, "Thank you for being kind." Lia smiled and placed the letter in her notebook. The next day, she decided to write her own note and left it on another bench: "You are loved." soon, she saw others leaving kind letters, too.

Answer the questions.

1. What did Lia find under the tree?
2. Where did she find the letter?
3. What was written inside the letter?
4. How did Lia feel after reading the letter?
5. What did she do the next day?
6. What message did she write in her own letter?
7. What happened after Lia left her letter?
8. What is the main idea of the story?
9. What do you think Lia learned from this?
10. How did kindness spread in the story?

Total Score / 10

B. Vocabulary

Directions: Choose the correct meaning or synonym of the underlined word.

1. Lia found an envelope under the tree.
a. letter b. cover for letters c. gift d. box
2. The note looked clean and new.
a. dirty b. bright c. neat d. torn
3. The word “kind” means someone who is —
a. selfish b. helpful c. angry d. tired
4. She opened the envelope.
a. tore b. closed c. unsealed d. covered
5. She smiled after reading the message.
a. frowned b. grinned c. shouted d. ran
6. She decided to write her own letter.
a. thought b. chose c. forgot d. avoided
7. She placed the note in her notebook.
a. kept b. threw c. dropped d. hid
8. She wrote “You are loved.”
a. hated b. cared for c. -tired d. forgotten
9. Others started leaving kind letters, too.
a. keeping b. placing c. hiding d. burning
10. The story teaches about kindness.
a. caring b. sleeping c. cleaning d. playing

Total Score / 10

C. Phonological Awareness

Directions: Encircle the word that rhymes with the given word or identify the initial/final sound as directed.

1. tree – see / tall / time
2. note – coat / night / neat
3. clean – mean / map / mouse
4. letter – better / later / later
5. love – dove / leaf / low
6. kind – mind / kite / kiss
7. bench – wrench / branch / beach
8. day – play / dog / doll
9. write – light / rain / rope
10. smile – while / shop / shell

Total Score / 10

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