Instructional Intervention Tool and Reading Comprehension Skills

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Abstract - *This study investigated the effectiveness of an Instructional Intervention Tool in enhancing the reading comprehension skills of Senior High School students in Presentacion District, Division of Camarines Sur, for School Year 2023–2024. Specifically, the research examined: (1) the baseline reading comprehension skills of students; (2) the design features of the instructional tool; (3) its curricular validity; (4) the students' post-intervention reading comprehension performance; (5) significant differences in pre- and post-intervention performance; and (6) the overall effectiveness of the tool. Employing a descriptive-comparative research design, the study involved 207 student participants. Data collection was conducted through documentary analysis and analyzed using weighted mean, standard deviation, proficiency levels, t-test, and Cohen's d. Results revealed that students initially demonstrated beginning-level proficiency in vocabulary development, with a proficiency level (PL) of 36.80. The instructional tool, which integrated diagnostic assessments, vocabulary enhancement, fluency development, and comprehension strategies, achieved high curricular validity (mean = 4.87). Following implementation, students' reading comprehension significantly improved, with a post-test PL of 87.85. Statistical analysis showed a highly significant difference between pre- and post-test scores (t = 55.16, p = 0.00), with pre-test means ranging from 1.67 to 1.87 and post-test means between 4.26 and 4.47. The findings indicate that the instructional tool was highly effective in improving reading comprehension, resulting in a large effect size. The study supports the integration of structured, targeted interventions to strengthen students' reading competencies in the senior high school context.*

***Keywords -** Reading Comprehension Skills, Instructional Intervention Tool, Academic Performance*

INTRODUCTION

Reading is a foundational skill that underpins nearly all aspects of life, playing a vital role at home, in school, and in broader society. It is both a cultural cornerstone and an educational necessity, enabling individuals to acquire knowledge, engage with diverse perspectives, and participate meaningfully in the modern world. Reading ignites curiosity, nurtures intellectual growth, and serves as a conduit for lifelong learning. As learners progress through school, reading becomes increasingly critical for academic achievement and personal development.

Reading comprehension, in particular, extends beyond word recognition to include higher-order thinking skills such as identifying main ideas, making inferences, drawing conclusions, and critically evaluating content. As Snow (2022) notes, comprehension is both a cognitive and metacognitive process that must be cultivated through deliberate strategies and engaging activities. When students struggle with comprehension, their ability to perform across disciplines—such as Science, Mathematics, and Social Studies—is significantly impeded.

To support comprehension development, effective instructional strategies are essential. Shea and Ceprano (2017) emphasize the global urgency of improving reading comprehension, citing international benchmarks such as PISA and PIRLS that underscore disparities in student performance. These assessments stress the importance of scenario-based tasks like text sorting, summarizing, and critical questioning—skills that allow students to extract and process meaning effectively.

Aligned with Sustainable Development Goal (SDG) 4: Quality Education, this study responds to international and national calls to enhance literacy. SDG 4 aims to ensure "inclusive and equitable quality education and promote lifelong learning opportunities for all," with specific targets (4.1, 4.2, 4.6, and 4.a) emphasizing the development of foundational literacy and numeracy, particularly among youth. These objectives highlight the necessity of structured and equitable interventions to raise reading proficiency worldwide.

In the Philippines, this mandate is echoed by DepEd Memorandum No. 173, s. 2019, *"Hamon: Bawat Bata Bumabasa (3Bs Initiative),"* which seeks to ensure every child becomes a proficient reader. Despite these efforts, national assessments indicate that many learners in early grades continue to fall short of expected literacy standards, resulting in low achievement across core subject areas. The Every Child a Reader Program (ECARP) was thus revitalized to promote independent reading, build teacher capacity, and foster a culture of reading across all educational levels.

To operationalize these goals, structured reading intervention tools have been introduced. Such tools are designed to target specific areas of difficulty—phonemic awareness, vocabulary, fluency, and comprehension—through data-driven, differentiated, and evidence-based practices. As Fuchs and Fuchs (2017) argue, successful interventions are characterized by clear learning objectives, consistent monitoring, immediate feedback, and instructional flexibility. In this context, the Instructional Intervention Tool was developed as a localized response to persistent reading challenges among Senior High School students, aiming to bridge proficiency gaps and cultivate sustained academic engagement.

Regionally, DepEd Bicol launched the "5Bs" (*Bawat Bikolanong Bata Bihasang Bumasa*) and "6Bs" (*Bawat Bikolanong Bata Bihasang Bumasa at Bumilang*) programs to address reading and numeracy gaps through teacher training, community partnerships, and culturally responsive materials. These initiatives support inclusive learning environments and empower students to overcome socioeconomic barriers.

Nonetheless, results from Presentacion National High School's 2021–2022 reading assessments revealed trends consistent with PISA findings, indicating widespread reading difficulties in both English and Filipino. Using the Phil-IRI scale, students were categorized into independent, instructional, and frustration levels. Many students fell into the frustration category—requiring substantial guidance to access grade-level texts.

Given these findings, this study aims to address persistent gaps in reading comprehension through the implementation of a structured Instructional Intervention Tool. By evaluating its effectiveness in improving reading skills among Senior High School students, the research seeks to contribute to a responsive and sustainable literacy framework that meets the diverse needs of learners at Presentacion National High School. Ultimately, the goal is to support the development of independent readers and lifelong learners equipped for academic success and informed civic participation.

OBJECTIVES OF THE STUDY

This study aimed to determine the effectiveness of the Instructional Intervention Tool on the reading comprehension skills of Senior High School students in the Presentacion District, Division of Camarines Sur, for the School Year 2023–2024. Specifically, it sought to assess the current status of students' reading comprehension skills in terms of vocabulary development, comprehension skills, fluency, background knowledge, phonics, and oral language. It also aimed to describe the design of the Instructional Intervention Tool, focusing on its objectives, strategies, activities, and assessment components. Furthermore, the study examined the curricular validity of the tool in terms of face validity, content validity, and construct validity. Another objective was to evaluate the students' level of reading

comprehension after the implementation of the tool. The study also aimed to determine whether there was a significant difference in students' reading comprehension before and after the use of the Instructional Intervention Tool. Lastly, it sought to assess the overall effectiveness of the intervention in enhancing the students' reading comprehension skills.

METHODS

This study employed a descriptive-comparative method and a research and development (R&D) approach to address its objectives. The descriptive method was used to assess Senior High School students' reading comprehension skills across vocabulary, comprehension, fluency, background knowledge, phonics, and oral language. It also guided the design of the Instructional Intervention Tool, which included objectives, strategies, activities, and assessments, and was used to evaluate the tool's curricular validity in terms of face, content, and construct. The comparative method determined whether significant differences existed between students' reading performance before and after the intervention, thereby measuring the tool's effectiveness. The R&D approach informed the development of the intervention tool, starting with a thorough literature review to identify core elements that influence reading comprehension—cognitive, metacognitive, and linguistic—which shaped the content and structure of the tool.

The respondents included all 207 Senior High School students from Presentacion National High School during the 2023–2024 academic year, using total enumeration. The students were distributed among three strands: Computer System Servicing (40 students), Food and Fish Processing (31 students), and General Academic Strand (136 students), across eight sections. The GAS group accounted for the majority, with Section G having the largest number of students. This composition provided a comprehensive view of the school's learner population.

Data were collected using a standardized LRCP reading assessment tool, administered as both pre-test and post-test to evaluate students' reading comprehension. An evaluation checklist was also employed to validate the instructional tool's content, reviewed by a research adviser and two Master

Teachers to ensure accuracy and relevance. The research process involved conceptualizing the study, securing approval, administering the pre-test, validating instruments, implementing the intervention, and conducting the post-test. Stakeholders were briefed, and respondents were assured of confidentiality and encouraged to provide honest responses. Completed instruments were retrieved and processed for analysis.

Statistical tools used included the mean to determine reading comprehension levels, standard deviation to assess variability, and proficiency level descriptors aligned with DepEd Order No. 8, s. 2015. A dependent samples t-test measured the significance of score differences before and after the intervention. Cohen's D quantified the effect size, indicating the magnitude of change. The consistently high effect sizes demonstrated the strong impact of the Instructional Intervention Tool on improving students' reading comprehension.

RESULTS AND DISCUSSION

Table 1 presents the summary the assessment of students' reading comprehension skills across six domains—vocabulary development, comprehension skills, fluency, background knowledge, phonics, and oral language—revealed uniformly low performance, with all areas rated at the *Beginning* proficiency level. The average overall mean was 1.79, corresponding to a general performance level of 36.80, indicating limited foundational reading skills among the respondents.

Vocabulary Development scored the lowest with a mean of 1.67 (PL = 33.40), suggesting a serious deficiency in word recognition and usage, which are critical for understanding text. *Comprehension Skills* and *Phonics* followed with means of 1.79 and 1.76, respectively, reflecting students' struggles in extracting meaning from texts and applying decoding strategies. *Fluency* (M = 1.82), *Oral Language* (M = 1.83), and *Background Knowledge* (M = 1.87) also remained within the *Beginning* level, indicating difficulties in reading smoothly, expressing ideas verbally, and connecting prior knowledge to reading content.

Table 1. Summary of the Reading Comprehension Skills

Skills	i	Overall Mean	PL	Interpretation

Vocabulary Development	5	1.67	33.40	Beginning
Comprehension Skills	5	1.79	35.80	Beginning
Fluency	5	1.82	36.40	Beginning
Background Knowledge	5	1.87	37.40	Beginning
Phonics	5	1.76	35.20	Beginning
Oral Language	5	1.83	36.60	Beginning
Average Overall Mean		.79	36.80	Beginning

These findings highlight the urgent need for targeted interventions, as students lack the essential competencies required for effective reading and academic engagement. The consistently low scores across all domains suggest systemic gaps in early literacy instruction that must be addressed to support students' learning progression.

The Instructional Intervention Tool was purposefully developed to enhance the reading comprehension and academic performance of Senior High School students. It is structured around four core components: objectives, strategies, activities, and assessments, each aligned to address the specific literacy deficits identified in the pre-assessment phase.

Objectives. The primary goal of the tool is to improve students' reading comprehension through targeted, systematic interventions. Its objectives are grounded in addressing common reading challenges—specifically, difficulties in vocabulary, comprehension, fluency, background knowledge, phonics, and oral language. These objectives are not only data-driven but also strategically aligned with the Department of Education's Most Essential Learning Competencies (MELCs) to ensure curricular relevance and pedagogical appropriateness.

The tool aims to foster confident and proficient readers by equipping students with foundational and higher-order reading skills. It is designed to systematically build competence across cognitive and linguistic domains of reading, empowering learners to decode, analyze, interpret, and engage meaningfully with texts. Beyond skill acquisition, it seeks to cultivate a deeper appreciation for reading as a tool for lifelong learning and personal development.

Strategies. The tool employs differentiated instructional strategies tailored to diverse learner profiles. These include direct instruction, scaffolded reading tasks, interactive discussions, peer-assisted learning, and formative feedback loops. Integration of multimodal texts and contextualized materials ensures that reading experiences are both accessible and relevant to learners' real-life contexts. Strategy selection was informed by best practices in reading pedagogy and grounded in research that supports metacognitive engagement and learner autonomy.

Activities. Each component of the tool features structured, progressive learning activities that correspond to the targeted reading skill areas. Vocabulary is enhanced through semantic mapping and contextual analysis; comprehension is strengthened through guided reading, summarization, and inferencing tasks; fluency is developed through repeated reading and oral recitation; background knowledge is built through schema-activation tasks; phonics instruction focuses on decoding patterns; and oral language is cultivated through speaking and listening exercises. All activities are designed to be interactive and learner-centered, promoting engagement and retention.

Assessment. Formative and summative assessments are integrated into the tool to track student progress and inform instruction. Diagnostic pre-tests and post-tests based on the Learning Recovery Continuity Plan (LRCP) serve as quantitative measures of improvement. In addition, performance tasks and teacher-made rubrics are used to qualitatively assess skill mastery. Evaluation data is continuously used to adjust instruction and reinforce areas requiring further development.

The Instructional Intervention Tool underwent curricular validation to assess its quality and alignment with educational standards. The evaluation focused on three aspects: face, content, and construct validity, all rated on a five-point Likert scale.

As shown in Table 2, Face Validity received an average weighted mean (AWM) of 4.90, interpreted as Excellent and tied for the highest rank (1.5). This suggests that the tool is well-organized, visually engaging, and appropriate for Senior High School learners.

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Content Validity also scored an AWM of 4.90 (Excellent, Rank 1.5), indicating that the instructional materials are accurate, relevant, and aligned with curriculum standards such as the Most Essential Learning Competencies (MELCs).

Table 2. Summary of the Curricular Validity of the Instructional Intervention Tool

Aspects	AWM	Int	Rank
Face	4.90	Excellent	1.5
Content	4.90	Excellent	1.5
Construct	4.80	Excellent	3
Overall Weighted Mean	4.87	Excellent	

Construct Validity, with an AWM of 4.80 (Excellent, Rank 3), affirms that the components effectively target and measure reading comprehension skills, grounded in sound pedagogical principles.

The overall average weighted mean of 4.87, rated Excellent, confirms the tool's strong curricular validity. It demonstrates that the intervention is clear, relevant, and instructionally sound, making it a suitable resource for improving reading comprehension among Senior High School students.

The post-test results reveal a marked improvement in the reading comprehension skills of Senior High School students following the use of the Instructional Intervention Tool. All assessed skills reached a proficient level, with an overall average weighted mean of 4.39 and a percentage level of 87.85%, indicating substantial progress.

Specifically, Vocabulary Development attained a mean score of 4.47 (89.40%), reflecting

Test	Mean	df	Mean Diff.	t-value	p-value	Int
Pre-Test	11.39	218	15.32	55.16	0.00	Significant
Post-Test	26.71					

proficient mastery of word knowledge. Comprehension Skills followed closely with a 4.41 mean (88.20%), demonstrating students' enhanced ability to understand and interpret texts. Fluency and Background Knowledge were also proficient, with means of 4.36 (87.20%) and 4.35 (87.00%),

respectively, indicating smooth reading and effective use of prior knowledge.

Notably, Phonics scored the highest with a mean of 4.47 (89.90%), achieving an advanced proficiency level, which underscores the strong development of foundational decoding skills. Oral Language skills likewise improved, reaching a proficient level with a mean of 4.26 (85.20%).

Table 3. Summary of the Reading Comprehension Skills in the Post-Test

Skills	i	Overall Mean	PL	Interpretation
Vocabulary Development	5	4.47	89.40	Proficient
Comprehension Skills	5	4.41	88.20	Proficient
Fluency	5	4.36	87.20	Proficient
Background Knowledge	5	4.35	87.00	Proficient
Phonics	5	4.47	89.90	Advanced
Oral Language	5	4.26	85.20	Proficient
Average Overall Mean	4.39		7.85	Proficient

The post-test data clearly indicate that the intervention was effective in elevating students' reading comprehension abilities across multiple domains, fostering greater academic confidence and competence.

The comparative analysis of reading comprehension scores before and after the implementation of the Instructional Intervention Tool clearly demonstrates the tool's significant impact on students' reading abilities. As shown in Table 6, the mean score increased from 11.39 in the pre-test to 26.71 in the post-test, reflecting a substantial mean difference of 15.32. This improvement is statistically significant, as indicated by a t-value of 55.16 and a p-value of 0.00, which is well below the conventional threshold of 0.05.

Table 4. Differences of Reading Comprehension Before and After the Use of Instructional Intervention Tool

Significant p-value: <0.05

These results provide strong evidence that the Instructional Intervention Tool effectively enhances the reading comprehension skills of Senior

High School students. The marked increase in scores signifies not only improved mastery of key reading components but also the success of the intervention's design and implementation strategies. This finding supports the use of targeted, well-structured instructional tools to address reading challenges and suggests that continued refinement and application of such interventions can yield even greater gains in student literacy development.

Table 5 clearly illustrates the substantial impact of the Instructional Intervention Tool on enhancing students' reading comprehension skills. The data reveal significant gains across all assessed domains: Vocabulary Development, Comprehension Skills, Fluency, Background Knowledge, Phonics, and Oral Language. Mean scores increased markedly from a pre-test range of 1.67 to 1.87 to post-test scores between 4.26 and 4.47, demonstrating a strong positive effect of the intervention.

Table 5. Effect of the Instructional Intervention Tool in Enhancing the Reading Comprehension Skills of the Students

Reading Comprehension Skills	x̄		S D		S	Cohen's D
	Pretest	Posttest	Pretest	Posttest		
Vocabulary Development	1.67	4.47	0.70	0.53	4.51	Large
Comprehension Skills	1.79	4.41	0.65	0.52	4.45	Large
Fluency	1.82	4.36	0.72	0.56	3.94	Large
Background Knowledge	1.87	4.35	0.60	0.51	4.45	Large
Phonics	1.76	4.47	0.70	0.54	4.34	Large
Oral Language	.83	.26	.70	.62	.68	arge

Moreover, the reduction in standard deviations from pre-test to post-test indicates improved consistency among students' reading abilities, suggesting that the intervention not only raised overall performance but also helped level the playing field, bringing more learners to a higher and more uniform proficiency.

Cohen's d values, all exceeding 3.6 and classified as large effect sizes, provide robust statistical confirmation of the intervention's effectiveness. These large effect sizes underscore the instructional tool's power to produce meaningful and educationally significant improvements in various

facets of reading comprehension. Collectively, these findings validate the Instructional Intervention Tool as an effective approach to addressing reading challenges and enhancing academic achievement in Senior High School students.

CONCLUSIONS AND RECOMMENDATIONS

The results of the study revealed several critical insights into the reading comprehension skills of Senior High School students and the impact of the Instructional Intervention Tool. First, the pre-test results indicated that students' reading comprehension skills were at a beginning proficiency level across all domains—vocabulary development, comprehension skills, fluency, background knowledge, phonics, and oral language. This suggests that the students struggled with fundamental literacy components, highlighting a pressing need for a structured and targeted intervention to improve reading performance.

The design of the Instructional Intervention Tool was found to be well-structured and pedagogically sound. It integrated diagnostic assessments, vocabulary enrichment, fluency exercises, and comprehension strategies, all aligned with specific objectives and assessments. This deliberate and cohesive design ensured that the intervention addressed multiple dimensions of reading, promoting both skill development and metacognitive awareness in learners.

Further, the curricular validity of the Instructional Intervention Tool was rated as excellent based on expert evaluations, particularly in terms of face, content, and construct validity. The high average weighted mean of 4.87 affirms that the instructional materials and strategies employed were appropriate, relevant, and aligned with curricular goals, thus ensuring the tool's suitability for classroom use.

Post-test results showed substantial improvement in students' reading comprehension skills. Most skill domains reached a proficient level, with phonics achieving an advanced proficiency level. This marked enhancement from pre-test scores clearly indicates the effectiveness of the intervention in elevating students' literacy competencies. The data suggest that the instructional tool not only improved performance but also fostered consistency, as indicated by reduced standard deviations.

Statistical analysis also confirmed a significant difference in students' reading comprehension before and after the intervention, as evidenced by a highly significant p-value ($p = 0.00$) and a large t-value. This affirms the positive and substantial impact of the intervention on learners' reading performance. Lastly, effect size computations using Cohen's d across all reading domains revealed large effects, underscoring the robustness and transformative capacity of the Instructional Intervention Tool in enhancing students' reading comprehension.

In light of the findings, several actionable recommendations are proposed. To address the initially low reading proficiency, schools should implement intensive reading interventions focusing on vocabulary development, phonics reinforcement, fluency training, and comprehension strategies. These should be complemented by oral language development and background knowledge enrichment to support holistic literacy growth.

The design of the Instructional Intervention Tool should be sustained and continuously refined. Educational institutions are encouraged to adopt the tool more widely across grade levels, with particular attention to contextual adaptation. Teachers should be equipped with the necessary training and professional development to ensure effective implementation. Incorporating feedback mechanisms will help improve the tool based on practical classroom experiences.

Given the tool's strong curricular validity, it is recommended for full integration into the reading programs of schools. Continuous validation and review should be conducted to maintain its relevance and effectiveness. Pilot testing in varied educational contexts is also encouraged to assess adaptability and scalability.

To maintain the improved post-test outcomes, schools should continue applying targeted interventions and provide learners with diverse, engaging reading materials. Technology integration can further enhance the accessibility and appeal of reading instruction. Regular monitoring and formative assessments should be employed to track progress and adjust instruction as needed.

Finally, to maximize the impact of the intervention, broader implementation is advised. This includes expanding the reach to other grade levels and student groups. Teachers must receive ongoing support and training, and collaboration among educators should be fostered through professional learning communities. Additionally, involving parents by providing resources to support reading at home can amplify the benefits of the intervention, ensuring sustained and meaningful improvements in students' reading comprehension.

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