

Reading for Understanding: An AI-Enhanced 20-Day VLI Reading Intervention for Grades 6–8

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Abstract. *This action research examined the implementation and preliminary outcomes of a teacher-developed, artificial intelligence (AI)-enhanced 20-day reading intervention organized around three core domains: Vocabulary, Literary Text, and Informational Text (VLI). The intervention was developed in response to identified reading needs among Grades 6–8 learners participating in a summer reading remediation program in Detroit, Michigan, United States. Instruction was delivered for approximately 70 minutes per day and incorporated explicit instruction, teacher modeling, guided and independent practice, collaborative learning activities, formative assessment, differentiation, Universal Design for Learning (UDL) principles, and AI-supported instructional material development. Program-level assessment data demonstrated positive improvement following implementation of the VLI intervention. The overall English Language Arts (ELA) mean increased from 36% on the pre-assessment to 56% on the post-assessment, representing a 20-percentage-point gain. Performance distributions likewise shifted toward higher achievement levels. The proportion of learners performing at the Below Basic level decreased from 38% to 10.8%, while the proportion reaching Proficient increased substantially from 3% to 29.2%. The Basic performance group also increased from 21% to 32.3%. These results indicate a meaningful positive shift in reading performance following the 20-day intervention. Because available assessment reports contained differing numbers of records across administrations, findings are interpreted as descriptive rather than causal. Overall, the findings provide promising preliminary evidence of the effectiveness and instructional potential of the VLI model and support its continued refinement, further evaluation, and possible contextual adaptation for inclusive reading intervention settings.*

Keywords: *Reading intervention, VLI framework, vocabulary, literary text, informational text, artificial intelligence, Universal Design for Learning, special education, action research*

I. Introduction

Reading comprehension is a fundamental component of academic learning because students are expected not merely to decode written words but to construct meaning, connect ideas, make inferences, evaluate information, and communicate their understanding using evidence. As learners progress through the middle grades, reading demands become increasingly complex across English language arts and other content areas. Students are expected to determine central ideas and themes, analyze literary and informational texts, interpret vocabulary in context, make evidence-supported inferences, and cite textual evidence in explaining their understanding. These expectations are reflected in the Common Core State Standards for English Language Arts for Grades 6–8, which progressively require learners to identify central ideas, draw inferences, analyze text, and support interpretations with increasingly strong textual evidence (National Governors Association Center for Best Practices [NGA Center] & Council of Chief State School Officers CCSSO[1]).

For learners who enter the middle grades with unfinished or persistent reading difficulties, these increasing demands can create significant barriers to academic participation and achievement. Reading comprehension is multidimensional; difficulties in vocabulary, word knowledge, inference, background knowledge, and comprehension strategies can interact and affect a learner's ability to understand increasingly complex texts.[2] Research involving adolescents has demonstrated the particularly important relationship between vocabulary and reading comprehension, including among struggling comprehenders[3]. Research with middle-school learners likewise indicates that explicit academic vocabulary instruction can improve word knowledge, lexical access, and morphological awareness, with evidence of gains in comprehension under some conditions[4].

The importance of vocabulary instruction is especially relevant to learners experiencing reading difficulties. A meta-analysis by Elleman[5] found that vocabulary instruction positively affected passage-level comprehension on researcher-developed measures, with particularly strong benefits reported for students with reading difficulties. More recent Grade 6 research has similarly indicated that students with lower initial comprehension may derive substantial comprehension benefits from vocabulary intervention[6]. These findings reinforce the idea underlying the present intervention that understanding words is an important pathway toward understanding increasingly complex texts.

At the same time, vocabulary instruction alone is insufficient for addressing the range of reading demands experienced by adolescent learners. Students also require explicit opportunities to comprehend and analyze both literary and informational texts, ask and answer questions, identify important ideas, make inferences, and use evidence to justify interpretations. The What Works Clearinghouse practice guide for reading intervention in Grades 4–9 recommends routinely employing comprehension-building practices and developing students' world and word knowledge to help them make sense of text [7]. Importantly, these recommendations are intended for general educators, special educators, reading specialists, and other professionals supporting students experiencing reading difficulty. Research involving English learners in the middle grades has also found stronger comprehension effects when reading instruction integrates both vocabulary and comprehension rather than focusing on vocabulary alone[8].

Classroom Context and Rationale for the Intervention

The present action research emerged from an actual instructional need identified during classroom practice, rather than from a hypothetical curriculum-development exercise. During a Summer Discover reading-remediation program in Detroit, Michigan, United States, the teacher-researcher served as the lead teacher for reading remediation involving Grades 6–8 learners. The instructional context included learners with varying levels of reading performance and learning needs, with approximately 40% of the intended intervention population receiving special education services specifically with Specific Learning Disability with goals in reading and writing including the Other Health Impairments with reading difficulties.

The experience demonstrated that providing learners with additional reading passages alone was not sufficient. Students needed a more coherent and systematic intervention in which priority reading skills were explicitly taught, modeled, practiced with teacher support, applied collaboratively, and eventually demonstrated independently. They also required frequent opportunities for formative assessment and feedback so that instruction could respond to observed learner needs. This classroom observation is consistent with evidence-based guidance for students experiencing reading difficulties in Grades 4–9, which emphasizes systematic intervention involving word knowledge and comprehension-building practices rather than simply increasing the quantity of reading assigned.[9]

Based on these identified needs, the teacher-researcher developed Reading for Understanding: An AI-Enhanced 20-Day VLI Reading Intervention for Grades 6–8, a structured curriculum organized around three interrelated reading domains: Vocabulary, Literary Text, and Informational Text (VLI). The framework was developed to provide an understandable instructional progression: learners first strengthen their capacity to understand words, then apply comprehension and analytical strategies to understand texts, and ultimately demonstrate and communicate their understanding using textual evidence.

The Vocabulary (V) domain included context clues, academic vocabulary, Greek and Latin roots, prefixes and suffixes, multiple-meaning words, synonyms and antonyms, connotation, and word relationships. The Literary Text (L) domain addressed theme, character analysis and development, inference, textual evidence, point of view, figurative language, author's purpose and tone, and comparison of literary elements. The Informational Text (I) domain addressed central ideas, supporting details, text structures, claims and evidence, author's purpose, multiple sources, topic sentences, textual evidence, and evidence-based responses using strategies such as RACE and CER.

Rather than treating these domains as isolated skills, the VLI framework was designed to promote their integration. A learner encountering an unfamiliar academic word, for example, may need to use morphological knowledge or contextual clues before being able to determine the meaning of a paragraph. Understanding that paragraph may then require identification of a central idea, inference, or interpretation of the author's purpose. Finally, demonstrating comprehension may require the learner to locate evidence and formulate a written response. This integrated approach is consistent with research indicating that vocabulary and comprehension processes are closely interconnected and that multidimensional literacy instruction can support students' ability to make meaning from text.

Inclusive Education and Universal Design for Learning

Learner variability was an important consideration in developing the intervention. The presence of learners receiving special education services required instructional materials that maintained meaningful reading expectations while providing accessible pathways for learners with different levels of readiness and support needs. Consequently, the intervention incorporated visual scaffolds, explicit teacher modeling, sentence starters, graphic organizers, guided practice, differentiated activities, collaborative tasks, repeated opportunities for practice, and multiple ways for students to demonstrate understanding.

These instructional features were informed by Universal Design for Learning (UDL). The CAST UDL Guidelines 3.0 emphasize designing learning experiences around multiple means of engagement, representation, and action and expression [10]. CAST further emphasizes that learner variability is expected and that no single form of representation or expression will be optimal for every learner. The framework therefore encourages educators to provide options that help learners access information, sustain participation, communicate learning, and progressively develop independence.

This perspective is particularly relevant to inclusive and special education contexts. Rather than simplifying all instructional expectations, the VLI intervention sought to reduce unnecessary barriers while preserving the intended reading competencies. For example, graphic organizers were used to organize textual evidence; visual supports clarified concepts; sentence starters scaffolded evidence-based responses; modeling demonstrated the cognitive processes involved in comprehension; and guided practice preceded independent application. CAST specifically identifies graduated support for practice and performance, multiple forms of communication, vocabulary clarification, and multiple ways of representing information as important considerations in accessible instructional design.

AI-Enhanced, Teacher-Directed Instructional Design

A second distinguishing feature of the intervention was the purposeful integration of artificial intelligence into instructional-material development. The teacher-researcher used ChatGPT, together with a teacher-paid TeachShare Premium subscription, to assist in generating and refining lesson ideas, reading questions, vocabulary activities, differentiated tasks, practice materials, and other instructional resources. Google Slides was also used to organize and visually present instructional content.

However, the intervention was intentionally conceptualized as teacher-developed and AI-enhanced rather than AI-generated. AI did not determine the instructional goals, identify the priority standards, decide the sequence of the 20-day intervention, or independently select what learners would be taught. Those decisions remained the responsibility of the teacher-researcher. The teacher selected the competencies, organized the VLI domains, designed the instructional progression, evaluated AI-

supported outputs, revised materials, differentiated activities based on observed learner needs, and made the final instructional decisions.

This teacher-directed approach is consistent with emerging international guidance on generative AI in education. Miao and Holmes[11] advocate a human-centered approach in which human agency, pedagogical appropriateness, ethical considerations, inclusion, and data privacy remain central when generative AI is used for educational purposes. UNESCO also recognizes the potential of generative AI to support curriculum design and teaching activities while emphasizing that such technologies should genuinely benefit learners and educators rather than replace human educational judgment.

Within the present intervention, therefore, AI functioned primarily as an instructional-design support and productivity tool. Professional teacher judgment remained central to determining whether generated materials were accurate, developmentally appropriate, aligned with standards, accessible to learners, and responsive to the classroom context. This human-in-the-loop approach was particularly important because the intervention included students with diverse learning profiles and special education needs.

Standards Alignment and Potential Philippine Contextualization

Because the intervention was developed and implemented in the United States, its original instructional competencies were aligned with the Common Core State Standards for English Language Arts for Grades 6–8. These standards include progressively complex expectations for citing textual evidence, making inferences, determining themes and central ideas, analyzing word meaning and text structure, evaluating point of view, and supporting analysis through evidence. For example, the Grades 6–8 informational-text standards progressively move learners from citing evidence to citing several pieces of evidence and ultimately identifying the evidence that most strongly supports an analysis.

Nevertheless, one purpose of developing the VLI framework within the teacher-researcher's doctoral work is to consider its potential usefulness beyond the original U.S. instructional setting. Therefore, a competency crosswalk was considered between the skills addressed in the intervention and relevant Philippine English curriculum competencies. This crosswalk should not be interpreted as claiming that U.S. Common Core standards and Philippine curriculum standards

II. Theoretical Framework

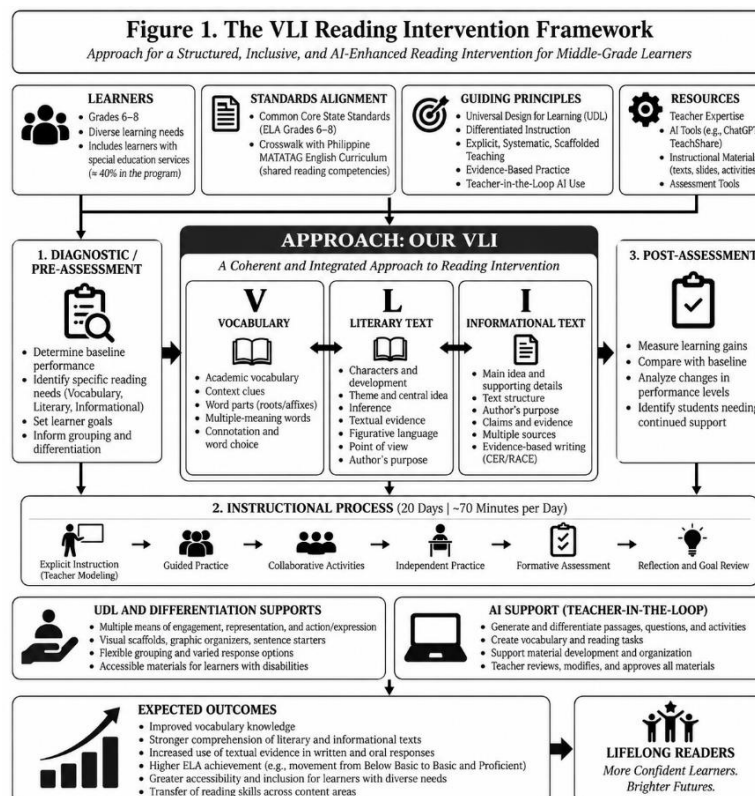


Figure 1. The VLI Reading Intervention Framework

are equivalent. Rather, it recognizes that reading instruction across the two educational contexts may address common underlying competencies, including vocabulary in context, inference, main or central idea, supporting details, literary analysis, informational-text comprehension, textual evidence, and evidence-based responses.

Accordingly, the proposed Philippine application is one of contextual adaptation rather than direct curriculum transfer. Any future implementation would require alignment with the applicable Philippine curriculum, selection of culturally and linguistically appropriate texts, incorporation of Philippine examples and contexts, consideration of inclusive education practices, and responsiveness to local learner needs. In this sense, the VLI framework is best understood as an adaptable instructional structure whose content and implementation should be validated within the educational context in which it is used.

VLI Reading Intervention

Standards Alignment and Potential Philippine Contextualization

Connecting Global Standards. Advancing Local Possibilities.

VLI Domain and Key Competencies (Used in the Intervention)	Aligned U.S. Common Core State Standards (ELA Grades 6–8)	Corresponding Philippine English Competencies (Grades 6–8, MATATAG Curriculum)*
 Vocabulary - Determine word meaning using context clues - Analyze word parts (roots, prefixes, suffixes) - Understand multiple-meaning words - Recognize connotation and word choice - Apply academic vocabulary in reading and writing	- L.6–8.4 Determine meaning of words and phrases using context clues - L.6–8.4 Use common, grade-appropriate Greek or Latin affixes and roots - L.6–8.5 Demonstrate understanding of figurative language, word relationships, and nuances in word meaning	- Use context clues to infer meaning of unfamiliar words (EN6/7/8V-01) - Determine the meaning of words using affixes and roots (EN6/7/8V-02) - Distinguish between denotation and connotation (EN6/7/8V-03) - Use appropriate vocabulary in various text types and purposeful communication (EN6/7/8V-04)
 Literary Text - Identify theme and central idea - Analyze characters and their development - Make inferences and draw conclusions - Identify and analyze figurative language - Determine point of view and author's purpose - Cite and explain textual evidence	- RL.6–8.1 Cite textual evidence to support analysis - RL.6–8.2 Determine theme or central idea - RL.6–8.3 Analyze how particular elements develop - RL.6–8.4 Determine meaning of words and phrases as used in a text - RL.6–8.5 Analyze how an author's choices (e.g., point of view, structure) affect meaning - RL.6–8.9 Compare and contrast texts	- Determine theme or central idea in a literary text (EN6/7/8L-01) - Analyze characters and their development (EN6/7/8L-02) - Infer meaning from details in a literary text (EN6/7/8L-03) - Identify and explain figures of speech (EN6/7/8L-04) - Determine point of view and author's purpose (EN6/7/8L-05) - Cite evidence to support interpretations (EN6/7/8L-06)
 Informational Text - Identify main idea and supporting details - Analyze text structure (e.g., compare and contrast, cause and effect, problem and solution) - Determine author's purpose and evaluate claims - Integrate information from multiple sources - Cite several pieces of evidence to support analysis - Write evidence-based responses (CER/RACE)	- RI.6–8.1 Cite textual evidence to support analysis - RI.6–8.2 Determine central idea(s) and summarize - RI.6–8.3 Analyze how a text develops ideas - RI.6–8.3 Analyze text structure - RI.6–8.6 Determine author's purpose and evaluate claims - RI.6–8.7 Integrate information from multiple sources - W.6–8.1 Write arguments with evidence (aligned with CER/RACE)	- Identify main idea and supporting details (EN6/7/8I-01) - Analyze text structure (EN6/7/8I-02) - Determine author's purpose and evaluate claims (EN6/7/8I-03) - Synthesize information from multiple sources (EN6/7/8I-04) - Cite textual evidence to support analysis (EN6/7/8I-05) - Write evidence-based explanations or arguments (EN6/7/8I-06)

From Global Standards (U.S. Common Core)  <i>Research-Based Competencies</i> for Grades 6–8	VLI Reading Intervention (Vocabulary • Literary Text • Informational Text)  <i>A Structured, Inclusive, and AI-Enhanced Approach</i> to Reading Intervention	To Local Possibilities (Philippine Contextualization)  <i>Adapted, Validated, and Culturally Relevant</i> for Filipino Learners
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Note: U.S. standards are from the Common Core State Standards for English Language Arts (National Governors Association Center for Best Practices & Council of Chief State School Officers [NGA Center & CCSSO], 2010). Philippine competencies are from the MATATAG English Curriculum (Department of Education, 2023). Codes are illustrative.

Same Core Skills. Broader Opportunities.
Global Learning. Local Impact.

This crosswalk indicates conceptual alignment and does not imply that the standards are identical. Contextualization should involve Philippine texts, examples, language realities, and curriculum expectations.

Figure 2. VLI Reading Intervention Standards Alignment and Potential Philippine Contextualization

Finally, constructivist principles support the active and purposeful nature of the intervention. Learners do not merely receive information; they build understanding through questioning, discussion, text analysis, evidence selection, written response, and reflection. AI-assisted material development is positioned within this teacher-directed framework as a design support rather than a substitute for professional judgment. The resulting theoretical structure therefore supports the central VLI progression: understand words, understand texts, and communicate understanding with evidence.

UDL provides the inclusive design foundation of the intervention. CAST emphasizes multiple means of engagement, representation, and action and expression to reduce unnecessary barriers while

maintaining meaningful learning goals. Accordingly, the VLI intervention incorporates visual scaffolds, explicit modeling, graphic organizers, sentence starters, flexible grouping, collaborative tasks, repeated practice, and varied response options. These supports are especially relevant for learners receiving special education services because they increase access without reducing the intended reading competencies.

The framework is also informed by the Simple View of Reading, which conceptualizes successful reading comprehension as dependent on both word-level processes and language comprehension[12]. Although the present intervention is primarily comprehension-focused, its Vocabulary domain strengthens word knowledge and morphological awareness, while the Literary Text and Informational Text domains systematically develop meaning-making, inference, analysis, and evidence use. The integration of these domains reflects the premise that stronger word knowledge supports access to increasingly complex text.

Schema Theory explains comprehension as an active process in which readers connect new information with prior knowledge and existing cognitive structures[13]. Within the VLI framework, vocabulary activation, contextualized examples, literary and informational texts, graphic organizers, and discussion prompts are used to help learners connect new concepts with what they already know. These connections are particularly important when students encounter unfamiliar academic vocabulary or complex ideas.

Vygotsky's Sociocultural Theory emphasizes that learning develops through social interaction and appropriately scaffolded support within the Zone of Proximal Development[14]. This principle is reflected in the intervention's sequence of teacher modeling, guided practice, collaborative learning, feedback, and independent application. The gradual release of responsibility provides temporary instructional support while learners develop greater control over the targeted reading strategies.

The VLI Reading Intervention is grounded in complementary theories that explain how learners develop reading comprehension and how instruction can be designed to support diverse learners, including students with disabilities. The framework is anchored primarily in Vygotsky's Sociocultural Theory, Schema Theory, the Simple View of Reading, Universal Design for Learning (UDL), and constructivist principles. Together, these perspectives support a structured progression from supported learning to increasingly independent comprehension and evidence-based communication.

Research Gap and Significance of the Study

Although extensive literature supports vocabulary instruction, comprehension strategy instruction, differentiated intervention, and UDL, the present action research addresses a practical question arising directly from classroom implementation: Can these components be organized into a short, coherent, teacher-developed and AI-enhanced intervention that responds to the reading needs of diverse Grades 6–8 learners?

The significance of the study lies in the integration of several instructional elements into a single practitioner-developed framework: Vocabulary, Literary Text, Informational Text, explicit instruction, differentiated practice, UDL, formative assessment, evidence-based written responses, and teacher-directed AI support. Moreover, the intervention was not developed solely as a theoretical instructional package. It was implemented in an authentic summer remediation setting and evaluated using available pre-assessment and post-assessment data.

The action-research orientation is therefore both evaluative and developmental. It seeks not only to determine whether learner performance improved following implementation, but also to identify how the VLI model can be refined for future instructional cycles and potentially adapted for other inclusive reading contexts. Given that the available assessment records indicate a substantial positive movement from pre-assessment to post-assessment, examining the intervention systematically provides an opportunity to connect classroom innovation with evidence-informed instructional improvement.

Purpose of the Study

This action research aimed to describe the development and implementation of the teacher-developed, AI-enhanced 20-day VLI Reading Intervention and examine changes in available Grades 6–8 reading performance following its implementation. Specifically, the study examined overall pre-assessment and post-assessment performance, changes in mean achievement, movement across performance categories, and the instructional features through which the VLI framework was delivered.

The study further sought to use the findings as a basis for continuous refinement of the intervention and for examining its potential future contextualization within inclusive reading programs, including possible adaptation to the Philippine educational context.

III. Research Questions

This action research sought to answer the following questions:

1. What were the learners' performance levels in ELA reading before and after implementation of the 20-day VLI Reading Intervention?
2. What change occurred in the overall mean reading performance from the pre-assessment to the post-assessment?
3. How did the distribution of learners across the Below Basic, Approaching, Basic, and Proficient performance levels change following implementation of the intervention?
4. How was the 20-day VLI intervention implemented through explicit instruction, guided and independent practice, differentiated learning activities, UDL-based supports, formative assessment, and AI-enhanced instructional materials?
5. What do the findings suggest regarding the instructional potential, continued refinement, and future contextual adaptation of the VLI framework for Grades 6–8 learners?

IV. Methodology

Research Design

The study used classroom action research with a one-group pre-assessment/post-assessment orientation and descriptive analysis of available program assessment records. The purpose was improvement of instructional practice and examination of learner performance following a defined reading intervention. Because the currently available reports do not establish a single fully matched pre–post roster across all relevant Grades 6–8 records, inferential paired-sample claims are intentionally withheld in this study.

Participants and Setting

The intervention was implemented during a U.S. summer reading-remediation program serving middle-grade learners. The curriculum itself was designed for Grades 6–8. Program information identified 72 Grades 6–8 learners in the intended intervention population, with approximately 40% receiving special education services. The available assessment exports contain differing numbers of records by grade and administration, and the combined ELA report contains 105 records. Consequently, the unit of analysis in the present draft is the available aggregate assessment evidence rather than an assumed matched sample of 72 or 105 students.

Intervention

The intervention consisted of 20 instructional days at approximately 70 minutes per day. Days 1–2 focused on diagnostic assessment and learner goals. Days 3–8 emphasized foundational skills, including context clues, academic vocabulary, roots and affixes, theme, central idea, supporting details, inference, and textual evidence. Days 9–12 addressed character traits and development, character relationships, comparison and contrast, and integrated review. Days 13–16 focused on connotation, figurative language, word choice, tone, point of view, text structure, and multiple sources. Day 17 emphasized author's purpose, claims and evidence, and evidence-based writing

through CER or RACE. Days 18–19 were devoted to post-assessment components, and Day 20 emphasized reflection, goal review, and analysis of growth.

Instructional Procedures

A typical instructional cycle moved from explicit instruction and teacher modeling to guided practice, collaborative work, independent application, formative assessment, and reflection. Activities included Reading Detective Challenges, Evidence Hunts, Vocabulary Relays, Theme Sorts, Gallery Walks, Character Timelines, Character Hot Seat activities, Venn Diagram challenges, literary and informational review stations, Figurative Language Scavenger Hunts, Source Detective Challenges, and CER/RACE writing workshops.

AI and UDL Supports

AI tools supported development and refinement of materials but did not replace professional judgment. The teacher-researcher reviewed, edited, differentiated, and selected final materials. UDL-oriented supports included visual scaffolds, multimodal presentation, modeling, graphic organizers, sentence starters, graduated practice, collaboration, and varied opportunities for learners to demonstrate understanding.

Data Sources and Analysis

Data sources consisted of grade-level pre-test and post-test reports and an overall ELA pre/post report. Descriptive statistics included reported means and performance-level distributions. The combined report showed an overall mean of 36% on the pre-test and 56% on the post-test. The previously documented overall distribution was approximately 38% Below Basic, 38% Approaching, 21–22% Basic, and 3% Proficient at pre-test, compared with approximately 10.8–11% Below Basic, 27.7–28% Approaching, 32–32.3% Basic, and 29–29.2% Proficient at post-test. Small differences reflect rounding in dashboard displays.

Ethical and Data-Privacy Considerations

The action research reports aggregate performance rather than student names. Student-identifying information visible in original school-system exports should not be reproduced in publication tables, figures, appendices, or presentations. The study should be described as practitioner action research conducted for instructional improvement, and any publication or external dissemination should follow applicable school/district requirements for research, privacy, and use of student records.

V. Results and Discussion

The available assessment evidence showed a clear positive pattern in English Language Arts (ELA) reading performance following implementation of the 20-day VLI Reading Intervention. Across the overall 2026 ELA assessment dataset, the reported mean increased from 36% on the pre-assessment to 56% on the post-assessment, representing a gain of 20 percentage points. The overall dashboard contained 105 student records, which serves as the broader program-level dataset used for the descriptive comparison.

This increase is important because the post-assessment was designed to measure the same major reading competencies targeted across the intervention, including vocabulary, literary-text comprehension, informational-text comprehension, inference, textual evidence, and evidence-based written responses. The 20-day instructional sequence itself progressed from diagnostic assessment and foundational vocabulary work toward increasingly complex comprehension, analysis, evidence use, and written response tasks.

5.1. Overall Pre-Test and Post-Test Performance

Table 1 presents the overall change in mean performance across the available ELA assessment dataset.

Table 1 Overall Pre-Test and Post-Test Performance			
Measure	Pre-Test	Post-Test	Change
Overall ELA Average	36%	56%	+20 percentage points

Note. The overall assessment dashboard represented 105 student records. The values are reported as displayed in the 2026 ELA pre-test and post-test dashboard.

The increase from 36% to 56% represents an absolute gain of 20 percentage points. Relative to the initial mean, the post-assessment average was approximately 55.6% higher than the pre-assessment average. The absolute 20-point gain is the primary indicator used in this study because it directly reflects the difference in mean performance between the two assessment periods.

The upward movement in the mean suggests that the available post-intervention assessment records reflected substantially stronger ELA reading performance than the pre-intervention records. However, because the available assessment records do not constitute a verified one-to-one matched sample for all learners, the difference is interpreted as a descriptive program-level improvement rather than a causal treatment effect.

5.2. Distribution of Learners Across Performance Levels

The improvement in the overall mean was accompanied by a substantial shift in the distribution of learners across the four reported achievement categories: Below Basic, Approaching, Basic, and Proficient. Table 2 summarizes the change in each performance level.

Table 2 Overall Distribution by Performance Level

Performance Level	Pre-Test	Post-Test	Change
Below Basic	38.0%	10.8%	–27.2 percentage points
Approaching	38.0%	27.7%	–10.3 percentage points
Basic	21.0%	32.3%	+11.3 percentage points
Proficient	3.0%	29.2%	+26.2 percentage points
Total	100%	100%	—

Note. Percentages are based on the overall 2026 ELA pre-test and post-test performance distributions documented in the program results.

The largest change occurred in the Below Basic category. Before the intervention, 38.0% of learners were represented in the lowest performance level. Following the intervention, this proportion decreased to 10.8%, a reduction of 27.2 percentage points. This represents a substantial movement away from the lowest achievement category.

At the opposite end of the distribution, the Proficient category increased from only 3.0% at pre-test to 29.2% at post-test, producing a 26.2-percentage-point increase. The Basic group also increased from 21.0% to 32.3%, while the Approaching group declined from 38.0% to 27.7%. Taken together, these changes indicate that the post-test distribution shifted toward higher achievement levels.

5.3. Movement from Lower to Higher Performance Bands

To make the distributional shift easier to interpret, the four categories were also examined as two broader groupings:

- Lower performance bands: Below Basic + Approaching
- Higher performance bands: Basic + Proficient

Table 3 Movement across Broader Performance Bands

Performance Band	Pre-Test	Post-Test	Change
Below Basic + Approaching	76.0%	38.5%	–37.5 percentage points
Basic + Proficient	24.0%	61.5%	+37.5 percentage points

The combined proportion of learners represented in the two lower performance categories decreased from 76.0% at pre-test to 38.5% at post-test. Conversely, the combined proportion in the two higher categories increased from 24.0% to 61.5%.

This 37.5-percentage-point shift provides a strong descriptive summary of the overall movement in achievement. Rather than showing improvement only in the mean score, the data indicate that a substantially larger proportion of the available post-test records fell within the Basic and Proficient levels.

This pattern is particularly relevant to the purpose of the intervention as a reading-remediation program because movement away from Below Basic and toward Basic and Proficient reflects improvement in the direction intended by the instructional design. The program documentation similarly notes that the movement from lower performance categories toward Basic and Proficient was one of the most important outcomes observed during implementation.

5.4. Grade-Level Pre-Test and Post-Test Performance

The grade-level summaries also indicated improvement across Grades 6, 7, and 8. The program-level instructional report documented the following averages.

Table 4 Grade-Level Pre-Test and Post-Test Performance

Grade Level	Pre-Test Average	Post-Test Average	Average Gain
Grade 6	39%	60%	+21 percentage points
Grade 7	35%	50%	+15 percentage points
Grade 8	35%	64%	+29 percentage points

Note. Results are presented as reported in the grade-level ELA assessment dashboards summarized in the instructional-program documentation.

All three target grade levels demonstrated higher average post-test performance than pre-test performance. Grade 6 increased from 39% to 60%, representing a 21-percentage-point gain. Grade 7 increased from 35% to 50%, representing a 15-percentage-point gain. Grade 8 demonstrated the largest reported improvement, increasing from 35% to 64%, a 29-percentage-point gain.

The Grade 8 increase was the largest among the three grade levels, followed by Grade 6 and then Grade 7. Although the magnitude of improvement differed across grades, the direction of change was consistently positive.

These grade-level summaries are useful for describing broad patterns of improvement. However, they should not be interpreted as verified paired-sample estimates unless the same individual learners are confirmed in both the pre-test and post-test rosters. This caution is especially important because the raw grade-level exports available for the action research contain differing record counts across administrations.

5.5. Summary of Key Outcome Indicators

To provide a concise overview of the most important findings, Table 5 presents the major outcome indicators observed following implementation.

Table 5 Key Outcome Indicators Following the 20-Day VLI Intervention

Outcome Indicator	Result
Overall pre-test mean	36%
Overall post-test mean	56%
Overall mean gain	+20 percentage points
Below Basic reduction	−27.2 percentage points
Basic increase	+11.3 percentage points
Proficient increase	+26.2 percentage points
Lower-band decrease	−37.5 percentage points
Higher-band increase	+37.5 percentage points
Largest grade-level gain	Grade 8: +29 percentage points

The overall findings show three consistent patterns. First, mean performance increased substantially from pre-assessment to post-assessment. Second, the proportion of learners represented in the lowest

performance level decreased sharply. Third, the proportion represented in the higher achievement categories increased considerably.

These patterns are consistent with the broader program documentation, which characterized the assessment results as encouraging preliminary evidence of improvement following the intervention. The same documentation also notes that all three target grade levels demonstrated higher average performance after implementation and that Grade 8 showed the largest observed grade-level gain.

5.6. Results in Relation to the VLI Instructional Sequence

Although the available assessment data do not isolate separate scores for Vocabulary, Literary Text, and Informational Text, the observed overall improvement occurred after learners participated in a structured instructional sequence specifically designed around these three domains.

The 20-day intervention progressed through five instructional phases: diagnosing and building foundations, developing core comprehension, analyzing texts, deepening text analysis, and applying and demonstrating learning. The progression moved from vocabulary, context clues, inference, and textual evidence toward main idea, theme, character analysis, figurative language, point of view, text structure, multiple sources, and CER/RACE evidence-based writing.

Accordingly, the post-test improvement reflects performance following exposure to an integrated rather than single-skill intervention. The assessment evidence therefore supports the conclusion that learners demonstrated stronger overall reading performance after completing the VLI instructional sequence. However, the available data do not permit determination of which individual VLI domain contributed most strongly to the observed improvement.

5.7. Overall Interpretation of the Results

The descriptive findings indicate a substantial positive shift in learner performance following the 20-day VLI reading intervention. The overall mean increased by 20 percentage points, the Below Basic category declined markedly, and both Basic and Proficient performance increased. The shift was also visible across the three target grade levels, with positive average gains reported for Grades 6, 7, and 8.

Importantly, the results should be interpreted within the design of the action research. The evaluation used a pre-test/post-test structure without a separate comparison group, and the available grade-level rosters are not fully verified as matched samples. Therefore, the findings demonstrate improvement following participation in the intervention, but they do not establish that the VLI curriculum alone caused the observed gains. The existing program documentation reaches the same conclusion, describing the findings as strong preliminary evidence of improvement and potential effectiveness while recommending further formal evaluation.

The available assessment evidence demonstrated substantial positive improvement in ELA reading performance following implementation of the 20-day VLI Reading Intervention. The overall mean increased from 36% to 56%, while the proportion of learners performing Below Basic decreased from 38.0% to 10.8% and the Proficient group increased from 3.0% to 29.2%. Grade-level averages likewise increased across Grades 6–8, with the largest reported gain observed in Grade 8. Collectively, these findings provide strong descriptive evidence of improved learner performance following implementation, while the absence of a matched comparison design requires that the results be interpreted as preliminary rather than causal.

These findings indicate meaningful improvement following implementation of the VLI intervention. They should nevertheless be interpreted as preliminary and descriptive because the available records do not establish a fully verified matched pre-test/post-test sample and the study did not include a comparison group. Accordingly, the findings support the instructional promise of the VLI model without establishing a causal effect.

The descriptive analysis yielded five principal findings. First, overall ELA performance increased from 36% on the pre-assessment to 56% on the post-assessment, an absolute gain of 20 percentage points. Second, the proportion of records classified as Below Basic declined from 38.0% to 10.8%,

while the Proficient category increased from 3.0% to 29.2%. Third, the combined Basic and Proficient performance bands increased from 24.0% to 61.5%, indicating a 37.5-percentage-point movement toward the two higher performance levels. Fourth, all three reported grade-level averages were higher after implementation: Grade 6 increased by 21 percentage points, Grade 7 by 15 points, and Grade 8 by 29 points. Fifth, the positive pattern occurred following a structured 20-day sequence integrating Vocabulary, Literary Text, and Informational Text with explicit instruction, guided and independent practice, UDL-based supports, formative assessment, and teacher-directed AI assistance.

VII. Findings

VI. Discussion

The findings indicate a substantial positive shift in ELA reading performance following implementation of the 20-day VLI Reading Intervention. The overall mean increased from 36% to 56%, while the proportion of records in the Below Basic category declined from 38.0% to 10.8% and the Proficient category increased from 3.0% to 29.2%. The broader distribution also moved from 76.0% of records in the two lower performance bands at pre-test to 38.5% at post-test. These changes are educationally meaningful because the intervention targeted multiple, interdependent components of reading comprehension rather than treating reading as a single skill.

One plausible explanation for the observed improvement is the deliberate integration of vocabulary, literary-text comprehension, and informational-text comprehension. Vocabulary knowledge is closely related to reading comprehension, and explicit vocabulary instruction can be particularly beneficial for students who experience reading difficulty. The VLI model therefore positioned vocabulary as an access point to comprehension while requiring learners to apply word knowledge within increasingly complex literary and informational texts. This design is also consistent with evidence that integrated vocabulary and comprehension instruction can support stronger comprehension outcomes than vocabulary instruction in isolation.

The Literary Text and Informational Text domains extended this foundation by requiring learners to identify themes and central ideas, analyze characters and text structures, make inferences, determine author's purpose and point of view, and locate textual evidence. These competencies correspond with evidence-based recommendations for students in Grades 4–9 that emphasize building world and word knowledge and routinely engaging students in comprehension-building practices. The use of CER and RACE routines further required learners to move beyond answer selection and communicate understanding through evidence-based written responses.[15]

A second instructional feature that may have supported the positive pattern was the gradual release embedded throughout the 20-day sequence. Learners moved from explicit instruction and teacher modeling to guided practice, collaborative application, independent work, formative assessment, and reflection. This progression is consistent with the sociocultural emphasis on scaffolded learning within the learner's Zone of Proximal Development. In a mixed-ability setting, including learners receiving special education services, repeated modeling and supported practice provided multiple opportunities to engage with the same competencies before independent demonstration.

UDL strengthened the accessibility of the intervention. CAST emphasizes designing for learner variability through multiple means of engagement, representation, and action and expression. In the VLI curriculum, these principles were operationalized through visual scaffolds, graphic organizers, sentence starters, multimodal presentation, flexible grouping, modeling, collaborative tasks, and varied response opportunities. These supports were intended to reduce barriers rather than lower the reading goal, allowing students with different levels of readiness to work toward common comprehension outcomes.

The AI-enhanced component should likewise be interpreted as a support to instructional design rather than as an independent intervention. ChatGPT and TeachShare Premium were used to assist with drafting and refining lesson ideas, questions, differentiated tasks, and instructional materials, while the teacher-researcher retained responsibility for standards alignment, sequencing, accuracy, appropriateness, differentiation, and final instructional decisions. This teacher-in-the-loop approach

is consistent with UNESCO's human-centered guidance for generative AI in education, which emphasizes human agency, pedagogical appropriateness, inclusion, ethical use, and professional oversight.

The grade-level results also warrant attention. All three reported grade-level averages increased, with Grade 6 improving by 21 percentage points, Grade 7 by 15 points, and Grade 8 by 29 points. Although these grade-level figures cannot be treated as matched-sample effects because the available rosters differ across administrations, the consistently positive direction strengthens the descriptive evidence that post-intervention performance was higher across the target grade span. The larger Grade 8 gain may reflect differences in baseline needs, attendance, instructional response, or roster composition; the present dataset does not permit these possibilities to be separated.

The study also has potential relevance to Philippine practice, but contextual adaptation is essential. The VLI domains address transferable reading processes such as vocabulary in context, inference, main or central idea, literary analysis, informational-text comprehension, and evidence-based response. Future Philippine use should therefore involve curriculum mapping, local content validation, culturally and linguistically appropriate texts, and alignment with current Philippine English competencies rather than direct transplantation of U.S.-developed materials. In this way, the VLI model may serve as an adaptable instructional framework rather than a fixed curriculum package.

Limitations

Several limitations require explicit acknowledgment. First, the available data do not yet provide a clean, verified matched pre-post dataset for the same Grades 6–8 learners. Second, the combined report contains 105 records, which should not be equated with the stated 72-learner intervention population without verification. Third, there was no comparison or control group. Fourth, attendance, dosage, special education status, English-learner status, and other learner characteristics have not yet been linked to individual outcomes in the analysis. Fifth, the assessment reports provide performance evidence but do not isolate the contribution of each VLI domain or the independent contribution of AI-enhanced material design. These limitations mean that the findings should be interpreted as descriptive and preliminary rather than causal.

Implications for Practice and Future Research

The next evaluation cycle should create a de-identified matched dataset containing a unique study code, grade level, pre-test score, post-test score, attendance or intervention dosage, and other ethically permissible variables relevant to the intervention. Once matching is verified, the study can report paired change scores, confidence intervals, an appropriate paired significance test, and an effect size. Domain-level measures would also allow examination of whether vocabulary, literary text, or informational text skills respond differently to the intervention.

VIII. Conclusion and Recommendations

The findings support the instructional potential of an integrated approach that combines Vocabulary, Literary Text, and Informational Text with explicit instruction, gradual release, formative assessment, UDL, differentiation, and teacher-directed AI support. At the same time, the absence of a verified matched pre-post sample and comparison group requires cautious interpretation. The study therefore concludes that the VLI framework is a promising, practice-based intervention model that merits continued refinement, more rigorous matched-sample evaluation, and contextual validation in other inclusive reading settings, including possible adaptation for Philippine learners.

This action research provides promising descriptive evidence that the teacher-developed, AI-enhanced 20-day VLI Reading Intervention was followed by meaningful improvement in Grades 6–8 ELA reading performance. The overall mean increased by 20 percentage points, the Below Basic proportion declined substantially, and the Basic and Proficient proportions increased. Across the reported grade-level summaries, post-test averages were also higher than pre-test averages.

In conclusion, the VLI framework demonstrates practical value as a structured, inclusive, and teacher-directed reading intervention. Its strongest contribution is the coherent integration of vocabulary

development, literary and informational comprehension, evidence-based response, differentiation, and AI-supported material design within a short intervention cycle. The positive post-assessment pattern justifies continued use and refinement, while future implementation should strengthen matched-sample data collection, domain-level measurement, intervention dosage tracking, and contextual validation for special education and other learners requiring intensive reading support.

Based on the findings of the study, the following are recommended for future implementation of the VLI Reading Intervention: Continue and refine the VLI framework as a structured reading intervention focusing on Vocabulary, Literary Text, and Informational Text. Use diagnostic assessment before intervention to identify learners' specific reading needs and determine appropriate instructional targets. Provide more intensive support for special education students through smaller groups, explicit instruction, repeated practice, visual supports, graphic organizers, sentence starters, and additional instructional time when needed. Monitor learner progress regularly using short skill-based assessments, exit tickets, reading tasks, and formative assessments rather than relying only on pre- and post-tests. Use flexible grouping so reading interventionists can provide targeted instruction according to students' specific skill deficits and progress. Maintain UDL and differentiated instruction to make grade-level reading competencies accessible to learners with diverse abilities without lowering learning expectations. Continue using AI as a teacher-support tool for developing and differentiating instructional materials while ensuring that teachers review, modify, and make all final instructional decisions. Align reading intervention with students' IEP goals and strengthen collaboration among reading interventionists, special education teachers, general education teachers, and families. Extend intervention beyond 20 days when necessary, particularly for students with persistent reading difficulties who require additional instructional intensity. Use matched and de-identified pre-test/post-test data in future studies to accurately measure individual learner growth and allow stronger statistical analysis. Assess the three VLI domains separately in future implementation to determine whether learners demonstrate greater improvement in Vocabulary, Literary Text, or Informational Text. Pilot and validate the VLI framework in the Philippine context using Philippine curriculum competencies, locally appropriate texts, inclusive practices, and the needs of Filipino Grades 6–8 learners. Overall, the VLI framework is recommended as a flexible, data-driven intervention rather than a fixed 20-day program. Reading interventionists and special education teachers should adjust the duration, intensity, scaffolds, and instructional activities according to each learner's assessed needs and response to intervention.

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