

SOLO Taxonomy Approach and the Reading Comprehension of Grade 8 Students

Aivy Mae F. Sanchez¹, Cecilia Q. Velasco, EdD², Reyna B. Angeles, EdD³

¹Faculty of Buenaventura Alandy National High School – Tayabas City, Quezon, Philippines

²Faculty of Laguna State Polytechnic University – San Pablo City Campus, Philippines

³Faculty of Laguna State Polytechnic University – San Pablo City Campus, Philippines

ABSTRACT: This study examined the effectiveness of the SOLO Taxonomy as an approach integrated into lesson planning in improving the reading comprehension of Grade 8 students at Buenaventura Alandy National High School under the Revised K to 12 Curriculum. Forty-eight (48) frustration-level readers were identified through the Philippine Informal Reading Inventory (PHIL-IRI) Pre-Test and served as the respondents of the study. A One-Group Pretest-Posttest Design was used in the study, and the researcher-made comprehension tests were administered to measure comprehension on the Literal level, Inferential and Critical levels before and after the intervention. All the lesson plans were written with their components Objectives, Activities, Guided Questions, and Assessments structured according to the suggestion of the SOLO Taxonomy level using the texts on Afro-Asian literature listed in the Second Quarter of the curriculum. Descriptive statistics and Paired-Sample t-Test was used to test the hypothesis. It was also revealed that before the intervention, most of the students are at the Developing and Beginning levels. After the intervention, marked improvements were observed: 50.0% reached Advanced in literal comprehension; 60.4% reached Proficient in inferential comprehension; and 62.5% attained Proficient in critical comprehension, with the Beginning category eliminated across all dimensions. The paired t-test confirmed significant differences in all three areas—literal, inferential, and critical comprehension—leading to the rejection of the null hypothesis. These findings confirm that integrating the SOLO Taxonomy approach into lesson planning effectively improves reading comprehension and supports the development of higher-order thinking among secondary learners.

KEYWORDS: SOLO Taxonomy, reading comprehension, lesson plans, literal comprehension, inferential comprehension, critical comprehension

I. INTRODUCTION

The revised K to 12 Curriculum, implemented as part of the MATATAG initiative, represents an ongoing overhaul of the Philippine education system through a new set of learning competencies. These competencies are intended to eliminate the overwhelming number of expectations that had been outlined in prior curricula; to allow for greater depth of understanding among students in the skills of literacy and numeracy; and to fill in the gaps in student learning that have increased as a result of the pandemic and the systemic issues of the Philippine education system (DepEd, 2024).

Improving reading comprehension across the Philippine educational system is critical to enhancing students' educational experience. This area* of concern is evidenced by the fact that both national and international assessments, including the Programme for International Student Assessment (PISA), have demonstrated that Filipino students consistently perform below average when compared to students around the globe (OECD, 2019), particularly in relation to events requiring the ability to make judgements or inferences and engage critically, or analytically, with the tasks at hand.

As a means of addressing this concern, the Revised K to 12 Curriculum utilizes a competency based method whereby students must demonstrate proficiency in the acquisition of knowledge not only by being able to remember¹ what they learned, but, also, by being able to draw inference and make judgements about the information they have learned through their interactions with a wide variety of textual materials from many different subject areas (DepEd, 2024). However, several educators continue to teach students using traditional pedagogical methods in the classroom. As a result, many students continue to have difficulty developing the skills required for higher-order comprehension (Magno, 2010). There needs to be a pedagogical framework/strategy that systematically support/help students move from lower levels (understanding) to increasingly higher levels of (their understanding) through the disconnect between instructional practices & what students should be able to do (curriculum).

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One model for addressing this issue is the Structure of Observed Learning Outcomes (SOLO) Taxonomy, developed by Biggs & Collis in 1982. The SOLO Taxonomy contains five levels of learning outcomes (prestructural, unistructural, multistructural, relational, and extended abstract), each representing the quality of students' responses and giving teachers (educators) a framework for developing activities that progressively improve comprehension. Unlike other taxonomies, which define a teacher's plan for teaching students, the SOLO Taxonomy defines the expected learning outcomes of students, making it useful for planning lessons & writing assessments (Biggs & Tang, 2011).

By including the SOLO Taxonomy in the teacher's lesson plan, the teacher can create activities that help students achieve literal, inferential, & critical understanding. The teacher can thus ensure that the strategies of the SOLO Taxonomy align with the cognitive effort (higher vs. lower levels of complexity) required for success in the classroom. By using a structured scaffolding (step by step) approach to creating learning opportunities, the teacher can create an environment where students will move from surface level recall (ability to repeat what they saw) to create a link between the idea they are learning (to relate facts and figures) to evaluating the arguments of others and forming credible opinions or judgments about those arguments (higher order thinking or comprehension).

The purpose of this study was to examine the implementation of the SOLO Taxonomy approach in the comprehension instruction of grade 8 students developed with a series of lessons aligned with the Revised K-12 Curriculum (previously referred to as MATATAG). The study used Afro-Asian literature selections in the curriculum as texts to implement the SOLO-based approach to support students' comprehension at varying levels of understanding. Using an intervention, this research intended to provide a systematic approach to lesson planning to bridge the stated expectations of the curriculum with the realities of the classroom.

The overall objective of the research study was to determine how effective the SOLO Taxonomy would be as a model for lesson planning and how using the SOLO Taxonomy framework could increase students' ability to comprehend what they read. Additionally, it is hoped that using the SOLO Taxonomy framework in lesson planning would allow for deeper, more meaningful learning experiences, thereby supporting the goals of current curriculum reform efforts to develop critically literate, reflective, and independent learners.

OBJECTIVES OF THE STUDY

The purpose of this study was to investigate the effectiveness of integrating SOLO Taxonomy Approach in lesson planning in enhancing the reading comprehension skills of Grade 8 students at Buenaventura Alandy National High School in relation to the Revised K to 12 Curriculum.

Specifically, it sought to answer the following questions:

1. What is the level of reading comprehension of Grade 8 students before the implementation of SOLO Taxonomy Approach in terms of:
 - a. Literal comprehension
 - b. Inferential comprehension
 - c. Critical comprehension
2. What is the level of reading comprehension of Grade 8 students after the implementation of SOLO Taxonomy Approach in terms of:
 - a. Literal comprehension
 - b. Inferential comprehension
 - c. Critical comprehension
3. Is there a significant difference in the students' reading comprehension levels before and after the use of SOLO Taxonomy Approach?

II. METHODOLOGY

The researcher employed a quantitative experimental research design (One-Group Pretest-Posttest Design) to investigate the effectiveness SOLO Taxonomy Approach in enhancing the students' skills in reading comprehension at literal, inferential and critical levels. Experimental research is known for its capacity to establish properties of cause and effect by systematically manipulating an independent variable (the intervention) and assessing its impact of a dependent variable (Creswell & Creswell, 2018). In this study, the independent variable is the use of a lesson plans using the SOLO Taxonomy Approach whereas the dependent variable was the students' performance in reading comprehension at the three cognitive levels.

The respondents of this study were the forty-eight (48) Grade 8 students of Buenaventura Alandy National High School identified to be reading at the frustration level based on the results of the Philippine Informal Reading Inventory (PHIL-IRI) Pre-Test actual results, administered at the start of the school year. These students came from the four Grade 8 sections handed by the researcher.

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According to the Department of Education (DepEd, 2018), students who fall at the frustration level have an oral reading accuracy of less than 85% and a comprehension score of less than 75%. All 48 students were considered in the selection as the target of the reading intervention.

While the lesson plans using SOLO Taxonomy approach were also administered in the other students of the four Grade 8 sections, data collection, analysis and evaluation of the intervention focused specifically on these 48 identified students. A purposive sampling technique were used to select the participants intentionally based on their assessed reading level, ensuring the study remained focused and relevant to those learners in need, allowing for more detailed analysis and monitoring of these learners' progress over time.

To collect the data for this study, the researcher followed systematic and sequential steps designed to measure the effectiveness of the SOLO Taxonomy Approach in enhancing the Grade 8 students' literal, inferential and critical reading comprehension skills.

Since the PHIL-IRI Pre-Test has already been administered prior to the study, and the 48 frustration-level students have been identified, the researcher proceeded with developing and validating the instruments which were measured through application of SOLO Taxonomy through the lesson plans and use of the pre- and post-test materials aligned with the individual students' targeted levels of comprehension and use of rubrics to assess each individual student's cognitive progression as indicated through the use of the SOLO framework.

The instruments developed for this research were reviewed for content validity – as well as alignment with the Revised K to 12 (MATATAG) Curriculum – with, and the ability of the instruments to facilitate development of High Order Thinking Skills (HOTS) in reading comprehension, by using expert review validators consisting of English teachers and Master English teachers. After the completion of expert validation of the research instruments, pilot testing using pre- and post-tests, by a sample of Grade 8 students not residing in the study sample group, indicated the reliability of the research instruments and thus gave the researcher confidence in the materials used in the study. Item Analysis was performed to evaluate the data collected from a pilot test; each item was either retained or rejected based on its performance as an appropriate and discriminating measure. Once it was confirmed that the two instruments were reliable and valid, a pretest was administered to the 48 respondents in order to establish their baseline level of reading comprehension. The pretest contained comprehension questions developed specifically to measure students' ability to read and comprehend at literal level, make inferences based on that comprehension, and evaluate what they have read, using the structure of the pretest as outlined by the SOLO Taxonomy levels (unistructural, multistructural, relational, and extended abstract).

After administering the pretest, the researcher implemented an instructional intervention using the SOLO Taxonomy approach in lesson plans. All students in all four sections at the 8th grade level received the intervention with regard to the instructional approach; however, the data collected and monitored pertained to 48 frustration-level respondents. The intervention took place over a defined period during the 2nd quarter and included scaffolded activities designed to move students from surface level comprehension to deeper levels of analytical and evaluative reading comprehension, as identified by the SOLO framework.

Throughout the instructional intervention, the researcher collected data from students' written outputs and reflections, as well as their performance tasks; subsequently these outputs were evaluated using SOLO Taxonomy aligned rubrics to track the cognitive growth and progress of the students in their ability to read and comprehend.

At the end of the instructional intervention, posttest was administered to the same 48 respondents for the purpose of measuring how much their ability to read and comprehend had improved based on the results of their pretest.

Once all data were collected and organized for analysis, quantitative data were analyzed numerically using appropriate statistical tests such as paired sample t-test to determine if a significant difference existed between the pretest and posttest scores of the respondents. The outcome of the data analyses provided important information regarding the effectiveness of SOLO Taxonomy Approach and assisted in the development of lesson plan strategies geared to assist in the continued development of reading comprehension skills for the Grade 8 students.

III. RESULTS AND DISCUSSIONS

Table 1. Literal Comprehension Before Implementing SOLO Taxonomy Approach in Lesson Plan

Level of Literal Comprehension	f	%	Verbal Interpretation
81-100	23	47.9	Advanced
61-80	-	-	Proficient
41-60	16	33.3	Developing
21-40	9	18.8	Beginning
0-20	-	-	Needs Improvement
TOTAL	48	100.0	

Legend: 0-20 Needs Improvement (NI); 21-40 Beginning (B); 41-60 Developing (D); 61-80 Proficient (P); 81-100 Advanced (A)

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Table 1 presents the distribution of students' literal comprehension scores before the implementation of the SOLO Taxonomy Approach in lesson plans. Most students were at the Advanced level, with 23 students (47.9%) scoring within the 81–100 range, reflecting good skill at recalling information that is stated, of identifying factual information, and picking out directly stated, surface content from the text. Students' scores at this level may correctly identify stated facts, sequences, and explicit details without difficulty, thereby reflecting a comparatively greater strength in the most basic form of reading comprehension.

A considerable number of students (16, 33.3%) scored in the 41–60 range, classified as the Developing level. This indicates that these students are partially able to retrieve literal information. Still, they find it difficult when asked to carry out a task that draws on multiple surface areas of stated information simultaneously, or when information is less straightforwardly elaborated in the text. The responses reveal a lack of straightforward character in their grasp of textual surface information.

Nine students (18.8%) scored between 21 and 40, placing them at the Beginning level, indicating very little ability to identify and recall explicitly stated information. They find it very difficult to accurately process even the most directly stated parts of the text. Idek (2020) observed that students need to accurately process surface-level material before they can work at higher levels of comprehension (such as inferential and critical). None fell within the 0–20 Needs Improvement range, indicating that the class performance, pre-SOLO Taxonomy Approach in lesson plans, spanned 3 levels; no student was mid- to upper-level, nor was any in the lowest category.

Reading comprehension implies the active process of constructing or understanding a particular concept from the text the reader has in their hands, explains Snow (2002). Those at the Developing and Beginning levels are stumbling at the surface content of the current text. As Snow says, it is a requirement for anyone trying to get up and over the building blocks of reading sitting on the open page. Idek (2020) observed a need for students in a Malaysian EFL study to understand that SOLO-based questioning may guide students through the first steps of answering this way, from vocabulary use and simple facts (the unistructural level) to more connected ways of understanding. The pre-test results confirm that the SOLO taxonomy needs to reside in lesson plans to build, in students, surface comprehension reading skills before moving to the other levels.

Table 2. Inferential Comprehension Before Implementing SOLO Taxonomy Approach in Lesson Plan

Level of Inferential Comprehension	f	%	Verbal Interpretation
81-100	5	10.4	Advanced
61-80	12	25.0	Proficient
41-60	19	39.6	Developing
21-40	12	25.0	Beginning
0-20	-	-	Needs Improvement
TOTAL	48	100.0	

Legend: 0-20 Needs Improvement (NI); 21-40 Beginning (B); 41-60 Developing (D); 61-80 Proficient (P); 81-100 Advanced (A)

Table 2 shows the students' scores in inferential comprehension before applying the SOLO Taxonomy Approach in lesson plans. The majority were on the Developing level. Nineteen (39.6%) scored in the 41–60 range. Those within this range have a limited and inconsistent ability to conclude, make predictions, and use contextual rewards to go beyond what is stated in the text when reading it. Students at this level may also call upon clues from the content of a specific passage to arrive at some limited understanding of an implied meaning. However, they do not seem to work well at tasks that require synthesizing information from various parts of the text or drawing on knowledge acquired outside the text to help construct and clarify what the text implies.

A fair number of students are distributed at the Proficient Level and at the beginning level, with 12 students (25.0%) at each level. Students at the Proficient Level (61–80) make inferences at the satisfactory level when involved with familiar and somewhat easy reading situations, but have attempts that are fairly weak when working with those inferentially demanding tasks that require a close integration of text material in more than one reading, or coming to a clear decision on the meaning of the matter read. Those at the beginning level (21–40) have very poor inferential ability, making only feeble attempts to get beyond the surface content of the text, making little or no attempt to find a relationship that is not made explicit across these passages, or find even those literally stated relationships that are so evident.

There are only five students (10.4%) in the Advanced Level (81–100), or strong in reading between and among the lines, in inferring meaning not explicitly stated, and in relating meanings developed across various parts of the text in a well-integrated, logical manner. No one is in the Needs Improvement Range (0–20).

These results mirror much of what Cain, Oakhill, and Bryant (2004) established in their longitudinal study, which showed that inferential comprehension strongly predicts overall reading comprehension success and that students who struggle with inference also tend to have broader comprehension difficulties.

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This is clearly evident in this class, with students distributed across the Developing and Beginning levels. It indicates that a significant proportion of students have not yet acquired cognitive strategies to process the material more deeply. Basaraba, Yovanoff, Alonzo, and Tindal (2013) said, “students struggle more with inferential questions than literal questions because they are more challenging (they require interpretation) and require the synthesis of items from different parts (which none of us did well on), but it also lends itself very well to text-dependent questions”.

In the Philippines, De Guzman (2024) noted that many secondary students do not use critical reading techniques to go beyond mere comprehension, and Ramos and Panganiban (2022) emphasized the need for more Filipino learners to develop analysis and synthesis skills. This is further supported by the OECD (2023), which found that Filipino students continue to perform poorly on reading tasks that require inference and evaluation. Furthermore, down the line, the SOLO Taxonomy Approach in lesson plans is another progressive way to properly equip students with the tools they need to tackle inferential comprehension tasks they haven’t yet used.

Table 3. Critical Comprehension Before Implementing SOLO Taxonomy Approach in Lesson Plan

Level of Critical Comprehension	F	%	Verbal Interpretation
81-100	2	4.2	Advanced
61-80	12	25.0	Proficient
41-60	21	43.8	Developing
21-40	13	27.1	Beginning
0-20	-	-	Needs Improvement
TOTAL	48	100.0	

Legend: 0-20 Needs Improvement (NI); 21-40 Beginning (B); 41-60 Developing (D); 61-80 Proficient (P); 81-100 Advanced (A).

Table 3 shows the distribution of students’ scores in critical comprehension before using a lesson plan that incorporates the SOLO Taxonomy Approach. Most students are in the Developing level, with 21 students (43.8%) in the 41-60 range, indicating a limited and inconsistent ability to evaluate, analyze, and critique text. Students at this point may see the author’s purpose or recognize patently biased in simple narratives, but are very likely to flounder at critical tasks requiring them to assess whether the reasoning used is sound, whether the author’s assumptions are warranted, or whether they can render judgments about the credibility and soundness of the logic of material presented.

Some 13 (27.1%) students are flexible enough to respond with at least an ability to score in the 21-40 range, beginning level. These students show very little ability to read critically and seem unable to transcend merely accepting 'what is said', as well as basic biases, poor logical reasoning, and the author's position. Responses indicate that the critical thinking required to evaluate and critique texts has not been markedly developed.

Twelve students, or 25.0%, are at the Proficient level (61-80) and may begin to read with greater critical consistency. They are capable of evaluating claims in text and sensing author intent in a moderately familiar context, but still find difficulty when “critical work” demands more holistic logic, ethics, or factual coherence across sophisticated texts. As might be expected, only 2 students, or 4.2%, are in the advanced level (81-100). No student in this group scored in the needs improvement range (0-20).

These findings align with Barrett’s (1976, as cited in Pearson and Johnson, 1978) characterization of critical comprehension as a complex cognitive activity requiring readers to evaluate textual content against external criteria such as logic, ethics, and factual accuracy — skills that the majority of students in this study have evidently not yet consolidated before intervention. Supporting this, McLaughlin and DeVogd (2004) observed that many secondary students have limited exposure to explicit critical literacy instruction, which restricts their ability to move beyond surface-level interpretations and engage meaningfully with higher-order reading tasks. This is particularly evident in the clustering of students at the Developing and Beginning levels, where critical engagement with text remains fragmented and inconsistent.

In the Philippine context, the OECD (2023) PISA 2022 results confirmed that Filipino students continue to face considerable challenges in tasks requiring critical analysis and evaluation, a pattern that is clearly mirrored in the pre-test data of the present study. Magno (2010) further argued that the absence of metacognitive strategy instruction in many Philippine classrooms contributes significantly to students’ struggles with higher-order comprehension tasks, underscoring the necessity of pedagogical frameworks that explicitly target critical thinking in reading. Taken together, these findings establish that critical comprehension is the most cognitively demanding of the three assessed dimensions and affirm the urgent need for a SOLO Taxonomy Approach in lesson plans that systematically guide students toward higher levels of critical literacy.

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Table 4. Literal Comprehension After Implementing SOLO Taxonomy Approach in Lesson Plan

Level of Literal Comprehension	F	%	VI
81-100	24	50.0	Advanced
61-80	18	37.5	Proficient
41-60	6	12.5	Developing
21-40	-	-	Beginning
0-20	-	-	Needs Improvement
TOTAL	48	100.0	

Legend: 0-20 Needs Improvement (NI); 21-40 Beginning (B); 41-60 Developing (D); 61-80 Proficient (P); 81-100 Advanced (A).

Table 4 shows the distribution of students' test scores on literal comprehension after being taught each lesson using the SOLO Taxonomy Approach. In the post-test, the majority of the students were on the Advanced level, 24 students (50.0%) scored in the 81-100 range of test scores. This indicates that they have developed a systematically consistent ability to recall information stated in the text, recognize facts grounded in the text, and accurately receive and process material that is on the surface of the text. The facts stated can be produced by the students, sequences can be detected and locating details extracted straight from the text can be done with greater ease and accuracy when compared to their scores from the pretest.

The representation of 18 students (37.5%) in the 61-80 range proves to be in the Proficient, a category that had no representation in the pretest. These students are able to identify and recall literal information reliably across a variety of text types, indicating that they made good strides as a result of the intervention consolidating their literal comprehension ability.

The 6 students (12.5%) who scored in the 41-60 range are classified as Developing. These students are clearly continuing to demonstrate some mixed ability in retrieving explicit information from the text, but this represents a significant drop from the pretest where 16 students 33.3% were in that level. None of the low student remained in the Beginning or ranked in the Needs Improvement as after being measured by the SOLO Taxonomy Approach in lesson plans, signifying that the SOLO Taxonomy Approach in lesson plans effectively elevated even the lowest-performing students to a higher level of literal comprehension.

These results can be attributed to the systematic scaffolding embedded in the SOLO Taxonomy Approach in lesson plans, which progressively guided students from simple identification tasks at the unistructural level toward broader factual integration at the multistructural level. As Biggs and Tang (2011) explained, SOLO Taxonomy enables teachers to design tasks that explicitly target observable learning outcomes at each level of complexity, ensuring that students are guided step-by-step through increasingly demanding comprehension activities. For literal comprehension specifically, tasks requiring students to recall facts, identify sequences, and locate explicit information directly addressed the foundational skills that Snow (2002) identified as essential prerequisites for progressing to deeper forms of comprehension.

The post-test results therefore reflect not only an overall upward shift in performance but also the effectiveness of structured, level-appropriate instruction in consolidating even the most basic reading competencies. This is further supported by Villanueva and Cruz (2022), who reported heightened engagement and improved comprehension outcomes when SOLO-based reading lessons were implemented in Philippine secondary classrooms, and by Roy, Morgan, and Sullivan (2022), who emphasized that SOLO-based feedback advances learning by directing students toward specific challenges aligned with their current level of understanding.

Table 5. Inferential Comprehension After Implementing SOLO Taxonomy Approach in Lesson Plan

Level of Inferential Comprehension	f	%	VI
81-100	9	18.8	Advanced
61-80	29	60.4	Proficient
41-60	10	20.8	Developing
21-40	-	-	Beginning
0-20	-	-	Needs Improvement
TOTAL	48	100.0	

Legend: 0-20 Needs Improvement (NI); 21-40 Beginning (B); 41-60 Developing (D); 61-80 Proficient (P); 81-100 Advanced (A)

Table 5 shows students' scores in inferential comprehension after the implementation of the SOLO Taxonomy Approach in Reading Comprehension. Most students fell into the Proficient target 29 (60.4%) of the students scored in the 61–80 range who display a steady and dependable proven ability to draw inferred conclusions and make predictions, and inference from context to

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arrive at meaning not directly stated in the text, can identify implied relationship, follow cause-and-effect patterns of thought and integrate information from different parts of the text more accurately and confidently than on the pre-test.

A fairly good number of them, 9 (18.8%), scored within the 81-100 range, attaining the Advanced level. Those students display a strong, dependable ability to handle very challenging inferential tasks, understanding and communicating implied meaning accurately, synthesizing and evaluating textual evidence across several parts of the text, and forming sound conclusions in demanding reading with little ambiguity or confusion.

Another 10 who fall into the Developing level (41-60) show some lack of consistency in the inferential skills being assessed, despite growth from the pre-test, with 39.6% of the class falling into this category. No student remained at the beginning or at the needs improvement level. Lesson plans using the SOLO Taxonomy Approach have ratcheted every student up to a minimum level of inferential competence.

These gains can be attributed to the scaffolded tasks embedded in the lesson plans using the SOLO Taxonomy Approach, which systematically required students to make predictions, identify implied meanings, draw conclusions, and connect ideas across different sections of the text — activities aligned with the multistructural and relational levels of the SOLO Taxonomy. As Kispal (2008) emphasized, inference-making must be explicitly taught and practiced in multilingual settings because it involves bridging gaps that rely on implicit cultural references and figurative language, skills that do not develop naturally without structured instructional support. The SOLO framework provided the progressive scaffolding students needed to consolidate these abilities gradually. These findings are further consistent with Idek (2020), who reported significant gains in critical reading performance in a Malaysian EFL context following SOLO-based guided questioning, with students advancing from identifying simple vocabulary at the unistructural level toward examining textual relationships at the relational level.

Similarly, Nguyen and Tran (2021) found that SOLO-aligned instructional design in Vietnamese EFL classrooms improved reading comprehension and critical reflection, while Hidayat and Sari (2023) reported comparable outcomes in Indonesian settings — collectively reinforcing the effectiveness of the SOLO Taxonomy as a framework for developing inferential comprehension across diverse multilingual educational contexts.

Table 6. Critical Comprehension After Implementing SOLO Taxonomy Approach in Lesson Plan

Level of Critical Comprehension	f	%	VI
81-100	6	12.5	Advanced
61-80	30	62.5	Proficient
41-60	12	25.0	Developing
21-40	-	-	Beginning
0-20	-	-	Needs Improvement
TOTAL	48	100.0	

Legend: 0-20 Needs Improvement (NI); 21-40 Beginning (B); 41-60 Developing (D); 61-80 Proficient (P); 81-100 Advanced (A)

Table 6 shows the distribution of scores on the critical comprehension post-test after adopting lesson plans based on the client's own SOLO Taxonomy Approach. Most students are now at the Proficient level; 30 students (60.0%) have scores of 61-80, indicating a reliable and consistent ability to judge authorial intent, evaluate the logical strength of arguments, and assess the content and logic of texts. Students at this level critically read in familiar and somewhat novel contexts.

Compared to the pre-test, where only 25.0% or 12 out of 48 students scored in this category. Some students (12, 25.0%) remain at the Developing level, scoring in the 41-60 range, indicating some inconsistency in judging texts across genres and types of close-reading tasks. Their remaining in this category represents a significant decrease from 43.8% of students, and their post-test scores reveal meaningful growth; however, they continue to demonstrate some inconsistency in sustaining critical engagement.

Six students (12.5%) scored in the Advanced level (81-100), indicating a strong and consistent ability to analyze depth, evaluate arguments against criteria for logic and factual errors, and form critical judgments with depth. 4.2% were in this category in the pre-tests, indicating that figure has tripled at the post-test; the raw number increased from 2 to 6, demonstrating the strongest proportional gain of any academic category. No student was retained at the Beginning or Needs Improvement level in this administration, indicating that the lesson plans using the SOLO Taxonomy Approach elevate all students to at least a developing level of critical comprehension.

These gains can be attributed to the higher-order tasks embedded in the lesson plans, which specifically targeted relational and extended abstract thinking by requiring students to evaluate authorial intent, examine underlying assumptions, and construct evidence-based judgments about the texts they engaged with. As Barrett (1976, as cited in Pearson and Johnson, 1978) defined, these are precisely the cognitive activities that characterize critical comprehension at its most developed form. The hierarchical scaffolding of the SOLO framework ensured that students were adequately prepared at the literal and inferential levels before

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being challenged to engage in critical evaluation, providing a coherent and cumulative pathway toward higher-order reading competence.

This outcome is consistent with Brown (2019), who demonstrated that the SOLO Taxonomy Approach enhanced students' abilities in critical analysis and synthesis within reading assignments, and with Sexton, Vine, and Upton (2018), who reported significant gains in analytical and evaluative skills among students taught using the SOLO-based approach. Lee and Leung (2021) similarly observed that integrating SOLO into language instruction led to improved cognitive outcomes in Asian educational contexts. In the Philippine setting, Villanueva and Cruz (2022) documented enhanced comprehension results when SOLO was applied to organize reading lessons, while Ignacio (2023) and Bautista (2022), in local action research studies, confirmed SOLO's adaptability and positive impact on learner outcomes in Filipino language classrooms — collectively affirming the transformative potential of the SOLO Taxonomy-based approach in developing critical comprehension among Grade 8 students.

Table 7. Test of Difference in the Pretest and Post-test Scores of Reading Comprehension

Reading Comprehension	Mean	Std Deviation	t	df	Sig (2-tailed)
Literal	21.88	21.03	7.207	47	0.000
Inferential	17.06	10.06	11.755	47	0.000
Critical	17.04	7.98	14.798	47	0.000

Legend: $p \leq 0.05$ significant

Table 7 presents the results of the paired-samples t-test comparing the pretest and posttest scores across the three dimensions of reading comprehension. For literal comprehension, a mean difference of 21.88 (SD = 21.03) was recorded, with a t-value of 7.207 (df = 47) and a significance level of $p = .000$, indicating that students demonstrated a substantial and statistically significant improvement in their ability to recall explicitly stated information and process surface-level textual content following the intervention. For inferential comprehension, the mean difference was 17.06 (SD = 10.06), with a t-value of 11.755 (df = 47) and $p = .000$, reflecting consistent and meaningful gains in students' capacity to conclude, make predictions, and construct meaning beyond what is directly stated in the text. For critical comprehension, the mean difference was 17.04 (SD = 7.98), with a t-value of 14.798 (df = 47) and $p = .000$, confirming that the most cognitively demanding dimension of reading comprehension also yielded significant and uniformly distributed improvements across the sample.

Since all three p-values fall below the 0.05 level of significance, the null hypothesis — that there is no significant difference in students' reading comprehension levels before and after the implementation of the SOLO Taxonomy Approach in lesson plans — is rejected across all three dimensions. The results firmly establish that the intervention produced statistically significant improvements in literal, inferential, and critical comprehension.

Notably, while the largest mean difference was observed in literal comprehension ($M = 21.88$), the highest t-value was recorded for critical comprehension ($t = 14.798$), indicating that the gains in the highest-order dimension were the most statistically consistent and uniform across the entire sample. This suggests that the SOLO Taxonomy-based lesson plans were particularly effective in producing reliable and coherent improvements in critical comprehension — the dimension that demands the most complex cognitive engagement — likely because the hierarchical scaffolding of the framework ensured that students were adequately prepared at the literal and inferential levels before being guided toward evaluative and analytical reading tasks.

These findings are strongly consistent with the international literature on SOLO-based instruction. Sexton, Vine, and Upton (2018) reported significant gains in analytical and evaluative skills among students taught using SOLO-based strategies, while Larkin and Jamieson-Proctor (2015) similarly found that SOLO Taxonomy enhanced learners' conceptual understanding across subject areas. In EFL contexts, Nguyen and Tran (2021) and Hidayat and Sari (2023) documented that SOLO-aligned instructional designs produced measurable improvements in both reading comprehension and critical reflection, outcomes that closely mirror the significant gains observed across all three comprehension dimensions in the present study. In the Philippine context, Villanueva and Cruz (2022) documented improved results when SOLO was used to structure reading instruction, while Ignacio (2023) verified the framework's positive impact on learner outcomes in local secondary classrooms, further reinforcing the relevance and applicability of these findings within the national educational landscape.

The theoretical grounding of these results is equally compelling. The hierarchical scaffolding of the SOLO Taxonomy, as described by Biggs and Collis (1982) and Biggs and Tang (2011), guides students progressively from surface-level understanding to deep, critical engagement with texts. This process aligns with Vygotsky's (1978) Zone of Proximal Development, wherein structured teacher-facilitated scaffolding enables students to perform increasingly complex tasks until independent mastery is achieved. Schema Theory, as proposed by Anderson (1977), further accounts for the observed gains, as pre-reading strategies embedded in the lesson plans helped students activate and connect new information to existing knowledge structures, equipping them to comprehend texts more effectively across all three levels.

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IV. CONCLUSIONS

Based on the findings of the study, the hypothesis stating that there is no significant difference between the literal, inferential, or critical comprehension levels of Grade 8 students before and after using the SOLO Taxonomy Approach is not accepted since there is a significant difference found in Grade 8 students' level of reading comprehension before and after employing the lesson plans based on the SOLO Taxonomy. The t-values and mean differences for the literal, inferential, and critical comprehension of the students, as significant in all phases, demonstrate the effectiveness of the lesson plans based on the SOLO Taxonomy, as found by the researcher in this study.

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