

Improving the Reading Comprehension of Grade 11 Learners in Salvador Arollado Sr. Memorial High School using 4R's (Read, Retell, React, Reflect) Strategy

Irish A. Albao

Salvador Arollado Sr. Memorial High School, Masbate, Philippines

Email of Corresponding Author: irish.albao@deped.gov.ph

Publication history:

Received: August 21, 2026

Revised: September 16, 2026

Accepted: September 18, 2026

Published: September 19, 2026

International Journal of Sustainable and Integrated Studies, Vol. 1, No. 2, pp. 435–440, September 2026.

Abstract

This study examined the effectiveness of the 4R's (Read, Retell, React, Reflect) strategy in improving the reading comprehension of Grade 11 learners at Salvador Arollado Sr. Memorial High School, Masbate, Philippines. Anchored on Schema Theory, Constructivist Learning Theory, and Metacognitive Theory, the study employed a quantitative pre-experimental design using the one-group pre-test–posttest method. Total population sampling involved 190 Grade 11 learners, whose reading comprehension levels were assessed using the Philippine Informal Reading Inventory (PHIL-IRI). Data were analyzed using frequency, percentage, mean gain, and paired-samples t-test at the 0.05 significance level. Pre-test results revealed that 37.89% of learners were at the frustration level, 41.58% at the instructional level, and 20.53% at the independent level. Following the intervention, independent readers increased to 52.11%, while learners at the frustration level decreased to 4.21%. The paired-samples t-test established a statistically significant difference between pre-test and posttest scores ($t = -16.939236$, $df = 189$), indicating improved reading comprehension following implementation. The findings support the integration of the 4R's strategy into reading instruction, regular diagnostic assessments, differentiated interventions, and continuous learner progress monitoring. However, the absence of a control group limits causal attribution. The study aligns with Sustainable Development Goal 4 (Quality Education) by supporting literacy development and improved learning outcomes. Its contribution to educational and institutional sustainability lies in providing evidence to strengthen school-based reading programs, enhance instructional practices, and promote independent reading and lifelong learning.

Keywords: 4R's Strategy; Reading; Literacy Development; Metacognitive Learning; Philippine Informal Reading Inventory; Reading Comprehension; Reading Intervention

1. Introduction

Reading comprehension is essential to academic achievement, critical thinking, and lifelong learning. It enables learners to construct meaning, interpret information, and apply knowledge across academic disciplines. However, many senior high school learners experience difficulties in understanding complex texts, particularly when identifying main ideas, making inferences, and evaluating information. Research indicates that structured reading interventions, background knowledge instruction, and appropriate comprehension strategies can improve reading outcomes among struggling readers (Filderman et al., 2022; Peng et al., 2024). This study examines the effectiveness of the 4R's (Read, Retell, React, Reflect) strategy in improving the reading comprehension of Grade 11 learners at Salvador Arollado Sr. Memorial High School. It assesses learners' comprehension levels before and

after the intervention to generate evidence for improving classroom instruction and school-based literacy programs.

Reading comprehension involves integrating textual information with prior knowledge, applying appropriate strategies, and monitoring understanding. Filderman et al. (2022) established that comprehension interventions incorporating background knowledge and strategy instruction produce positive outcomes among struggling readers. Similarly, Peng et al. (2024) found that combinations of comprehension strategies, particularly those involving main ideas, text structure, and retelling, support reading comprehension when integrated with background knowledge instruction. In the Philippine context, reading comprehension remains a significant educational concern. OECD (2023) reported that only 24% of Filipino students assessed in PISA 2022 attained at least Level 2 proficiency in reading, indicating substantial difficulties in understanding and interpreting texts. Bernardo and Mante-Estacio (2023) further identified significant associations between metacognitive reading strategies and the reading proficiency of Filipino high school students. Their findings highlight the importance of improving learners' awareness and application of effective reading strategies. Research also emphasizes the importance of learner engagement and reflective instruction. van der Sande et al. (2023) found that interventions designed to improve reading motivation produced positive effects on reading comprehension. Kan et al. (2024) similarly reported that metacognitive reading strategies can support English reading comprehension by encouraging learners to monitor and regulate their understanding. The 4R's strategy integrates these instructional principles through reading selected texts, retelling essential information, expressing reactions, and reflecting on meaning. At Salvador Arollado Sr. Memorial High School, observed difficulties in identifying main ideas, making inferences, and relating texts to real-life experiences indicate the need for structured reading interventions. The present study therefore examines changes in learners' reading comprehension following the implementation of the 4R's strategy.

The reviewed literature identifies several interconnected dimensions of reading comprehension, including cognitive processing, prior knowledge, metacognitive awareness, learner engagement, and structured instruction. Reading comprehension requires learners to interpret textual information, construct meaning, and make inferences. Rice et al. (2024) emphasized that inferencing is an important component of reading comprehension and identified the need for greater alignment between inferencing instruction and assessment. Filderman et al. (2022) likewise established that background knowledge and strategy instruction are associated with improved comprehension among struggling readers. Metacognitive awareness is another important component of reading proficiency. Bernardo and Mante-Estacio (2023) found that Filipino high school students' awareness of reading strategies was associated with their English reading proficiency. Their findings also identified discrepancies between the strategies learners perceived as useful and those associated with better reading outcomes. Similarly, Kan et al. (2024) identified the value of metacognitive reading strategies in supporting English reading comprehension. These findings support the reflective component of the 4R's strategy, which encourages learners to evaluate their understanding and recognize comprehension difficulties. Learner engagement also contributes to reading development. van der Sande et al. (2023) found that reading motivation interventions produced positive effects on motivation and comprehension. Merke et al. (2024) reported that additional activities designed to support independent silent reading produced a small positive effect on reading proficiency, particularly among learners at risk of reading failure. These findings highlight the importance of carefully designed reading activities that encourage sustained engagement with texts. Retelling and comprehension strategy instruction are also relevant to reading development. Peng et al. (2024) found that combinations of main idea identification, text structure instruction, and retelling supported comprehension among struggling readers when accompanied by background knowledge instruction. Their findings also indicated that teaching more strategies does not necessarily produce stronger outcomes, emphasizing the importance of selecting complementary instructional activities. Structured reading interventions provide further support for improving comprehension. Sohn et al. (2023) reported positive overall effects of reading interventions among adolescents with reading difficulties. Filderman et al. (2022) likewise found that comprehension interventions improved reading outcomes among struggling readers from Grades 3 to 12. These findings provide an empirical basis for examining an integrated instructional approach among Grade 11 learners. Philippine-based research also supports the importance of strategic reading instruction. Manaoat (2024) examined text annotation as a reading and metacognitive strategy relevant to comprehension development. Bernardo and Mante-Estacio (2023) further emphasized the need to understand how Filipino learners evaluate and apply reading strategies. Together, these studies highlight the relevance of explicit, reflective, and context-responsive reading instruction. Collectively, the literature supports the integration of appropriate comprehension strategies, learner engagement, prior knowledge, and metacognitive monitoring. These principles provide a research basis for examining the 4R's strategy as a structured intervention, although the effectiveness of its specific four-component sequence must be established through the present study.

Reading literacy remains a global educational concern. UNESCO (2024) identified continuing challenges in achieving minimum reading proficiency and emphasized the importance of monitoring learning outcomes under Sustainable Development Goal 4. The World Bank and UNESCO (2024) similarly highlighted learning poverty in the Philippines and the importance of developing foundational reading comprehension skills. At the national

level, OECD (2023) reported that Filipino students performed below the OECD average in reading in PISA 2022. The results indicated that many learners experienced difficulty attaining minimum reading proficiency. Bernardo and Mante-Estacio (2023) also identified associations between metacognitive strategy awareness and Filipino high school students' reading performance. These findings emphasize the importance of interventions that support strategic reading and comprehension development. Locally, the study was conducted at Salvador Arollado Sr. Memorial High School in Pulanduta, Balud, Masbate. The school offers junior and senior high school education, including the General Academic Strand, Science, Technology, Engineering, and Mathematics, and Arts and Design. Despite existing reading programs, teachers observed difficulties among Grade 11 learners in identifying main ideas, making inferences, and connecting textual information with real-life experiences. The Philippine Informal Reading Inventory (PHIL-IRI) was used to assess learners' comprehension levels. The school provides an appropriate setting for examining the implementation of the 4R's strategy and generating localized evidence for improving reading instruction.

The study retains its original theoretical foundations: Schema Theory, associated with Frederic C. Bartlett; Constructivist Learning Theory, associated with Jean Piaget; and Metacognitive Theory, associated with John H. Flavell. Their historical origins are retained, while contemporary reading research is used to support their application in the present study. Schema Theory explains how learners connect new information with existing knowledge structures. Filderman et al. (2022) identified background knowledge instruction as an important component of effective reading comprehension interventions. Peng et al. (2024) likewise emphasized the role of background knowledge in supporting the application of comprehension strategies. These findings provide contemporary support for the React and Reflect components, which encourage learners to connect textual information with prior knowledge and personal experiences. Constructivist Learning Theory emphasizes active meaning construction. The 4R's strategy reflects this principle through activities requiring learners to reconstruct information, interpret ideas, and connect learning with experience. Peng et al. (2024) identified retelling and other complementary comprehension strategies as relevant instructional components, providing contemporary empirical support for the meaning-reconstruction processes incorporated into the intervention. Metacognitive Theory emphasizes awareness and regulation of cognitive processes. Bernardo and Mante-Estacio (2023) identified associations between metacognitive strategy awareness and Filipino high school students' reading proficiency. Kan et al. (2024) also highlighted the role of metacognitive reading strategies in improving English reading ability. These findings support the Retell and Reflect components, which encourage learners to monitor and evaluate their comprehension. The study adopts the Input–Process–Output (IPO) model. The input consists of learners' initial comprehension levels measured through the PHIL-IRI pre-test. The process involves implementing the 4R's strategy, administering the posttest, and analyzing the gathered data. The output consists of learners' posttest comprehension levels, changes in reading performance, and the statistical comparison of pre-test and posttest scores. The resulting evidence provides feedback for refining school-based reading instruction.

Previous studies have established the relevance of comprehension strategies, prior knowledge, metacognitive awareness, and structured reading interventions. Filderman et al. (2022) and Sohn et al. (2023) reported positive effects of reading interventions among struggling readers, while Peng et al. (2024) examined the effectiveness of different combinations of comprehension strategies. Bernardo and Mante-Estacio (2023) further identified the importance of metacognitive reading strategies among Filipino high school students. However, these studies do not directly establish the effectiveness of the specific 4R's (Read, Retell, React, Reflect) sequence among Grade 11 learners at Salvador Arollado Sr. Memorial High School. The present study addresses this contextual gap by examining learners' reading comprehension levels before and after implementing the strategy. It also determines whether a statistically significant difference exists between their pre-test and posttest performance. The findings provide localized evidence that may inform instructional improvements and the development of targeted reading interventions. The study is limited to its selected respondents, school setting, and intervention period.

The study aligns primarily with Sustainable Development Goal 4 (Quality Education), which promotes inclusive and equitable quality education and lifelong learning opportunities. UNESCO (2024) emphasized the continuing importance of improving reading proficiency and monitoring educational outcomes under SDG 4. The study contributes to this goal by examining an instructional strategy intended to strengthen reading comprehension and support learners' progression toward independent reading. Its relevance is particularly associated with SDG Target 4.1, which addresses quality primary and secondary education and learning outcomes, and Target 4.6, which emphasizes literacy and numeracy. The study provides school-level evidence that may help teachers and administrators develop appropriate reading interventions and improve learners' comprehension skills.

The study contributes primarily to educational, institutional, and social sustainability through the development of reading comprehension and the improvement of instructional practices. From an educational sustainability perspective, the 4R's strategy promotes active reading, comprehension monitoring, meaning construction, and reflective learning. Research supporting strategy-based interventions and metacognitive reading practices demonstrates the relevance of these processes to reading development (Filderman et al., 2022; Kan et al., 2024).

From an institutional sustainability perspective, the findings may assist teachers and school administrators in refining reading programs, monitoring comprehension outcomes, and developing targeted interventions. These contributions support continued instructional improvement and evidence-informed decision-making. From a social sustainability perspective, improved reading comprehension may strengthen learners' ability to understand information, communicate ideas, and participate meaningfully in educational and community activities. Overall, the study connects literacy development, instructional improvement, and institutional support as complementary components of sustainable quality education.

2. Material and methods

2.1 Research Design

The study employed a quantitative pre-experimental research design using the one-group pre-test–posttest method. The PHIL-IRI was administered before and after implementing the 4R's strategy to measure changes in learners' reading comprehension. According to Creswell and Creswell (2018), this design measures changes within a single group following an intervention. Similarly, Ary, Jacobs, and Sorensen (2019) explained that it compares participants' performance over time without random assignment or a control group. This design enabled the researcher to evaluate changes in learners' reading comprehension through numerical data and statistical comparisons.

2.2 Locale of the Study

The study was conducted at Salvador Arollado Sr. Memorial High School, a public secondary school located in Pulanduta, Balud, Masbate, Philippines. The school offers junior and senior high school programs under the K to 12 Basic Education Curriculum, including the General Academic Strand (GAS), Arts and Design (A&D), and Science, Technology, Engineering, and Mathematics (STEM). The school was selected because of the observed reading comprehension difficulties among its Grade 11 learners, providing an appropriate setting for evaluating the 4R's strategy.

2.3 Respondents of the Study

The respondents were 190 Grade 11 learners enrolled at Salvador Arollado Sr. Memorial High School during School Year 2023–2024. They belonged to the General Academic Strand (GAS), Arts and Design (A&D), and Science, Technology, Engineering, and Mathematics (STEM). All respondents participated in both the pre-test and posttest assessments to measure changes in their reading comprehension following the intervention.

2.4 Sample and Sampling Procedure

The study employed total population sampling or complete enumeration, involving all 190 Grade 11 learners in the accessible population. According to Etikan and Bala (2017), total population sampling allows researchers to include all members of a small and accessible population without selecting a separate sample. This approach ensured that all learners exposed to the 4R's strategy were included in the assessment, providing comprehensive data on their reading comprehension performance.

2.5 Research Instrument

The Philippine Informal Reading Inventory (PHIL-IRI), a standardized assessment tool developed by the Department of Education (DepEd), served as the primary research instrument. It assessed learners' reading comprehension through silent reading tests and classified their performance into three levels: Independent, indicating comprehension without assistance; Instructional, indicating comprehension with minimal guidance; and Frustration, indicating difficulty understanding texts even with assistance. The PHIL-IRI was administered as a pre-test to establish baseline comprehension levels and as a posttest to measure changes following the intervention. The researcher also prepared and reviewed reading materials and activities aligned with the 4R's strategy, making necessary revisions to ensure their suitability for the study.

2.6 Data Gathering Procedure

The research began with the approval of the research proposal and preparation of the PHIL-IRI and intervention materials. Permission was secured from the Schools Division Superintendent of Masbate Province and the school principal. The researcher then administered the PHIL-IRI pre-test to 190 Grade 11 learners, followed by several weeks of guided reading sessions using the 4R's (Read, Retell, React, Reflect) strategy. After the intervention, the PHIL-IRI posttest was administered to assess changes in reading comprehension. The collected data were recorded, encoded, tabulated, and analyzed with the assistance of an expert statistician. The manuscript was subsequently reviewed and revised before the oral defense.

2.7 Data Analysis Techniques

The collected data were analyzed using descriptive and inferential statistics. Frequency counts and percentages were used to describe the distribution of learners across the Independent, Instructional, and Frustration reading levels before and after the intervention. Percentages were computed by dividing the frequency for each category

by the total number of respondents and multiplying the result by 100. Mean scores and mean gain were used to describe learners' reading comprehension performance and changes between the two assessments. A paired-samples t-test was employed to determine whether a statistically significant difference existed between the pre-test and posttest mean scores of the same respondents. All statistical analyses were conducted at the 0.05 level of significance.

3. Results and Discussion

3.1 Reading Comprehension Performance of Grade 11 Learners

3.1.1 Reading Comprehension Levels Before the Implementation of the 4R's Strategy

The pre-test results revealed that 72 learners (37.89%) were classified at the Frustration Level, indicating substantial difficulty comprehending texts. Meanwhile, 79 learners (41.58%) were at the Instructional Level, requiring teacher assistance, while only 39 learners (20.53%) achieved the Independent Level. Overall, 79.47% of the respondents required instructional support or experienced serious comprehension difficulties before the intervention. These findings indicate that most learners had not attained independent reading proficiency, highlighting the need for targeted comprehension instruction. The results are consistent with the broader literacy concerns reported by OECD (2023), which identified substantial reading proficiency gaps among Filipino 15-year-old learners, although that population differs from the respondents in the present study. Furthermore, Filderman et al. (2022) found that background knowledge instruction and reading strategy instruction support comprehension among struggling readers. These findings reinforce the instructional rationale for implementing structured reading interventions.

3.1.2 Reading Comprehension Levels After the Implementation of the 4R's Strategy

The posttest results showed that 99 learners (52.11%) achieved the Independent Level, 83 learners (43.68%) remained at the Instructional Level, and only eight learners (4.21%) were classified at the Frustration Level. Compared with the pre-test, the number of independent readers increased from 39 to 99, while learners at the frustration level decreased from 72 to eight. These findings demonstrate a substantial improvement in reading comprehension following the intervention, although some learners continued to require instructional support. The improvement suggests that the structured reading, retelling, reacting, and reflecting activities may have supported learners' ability to process, organize, and understand textual information. Filderman et al. (2022) reported positive effects of reading comprehension interventions, particularly those incorporating strategy instruction and background knowledge development. Similarly, Peng et al. (2024) found that combinations of comprehension strategies, including retelling, can improve reading outcomes among struggling readers, particularly when supported by background knowledge instruction. These findings are consistent with the observed improvement, although neither study establishes the independent effectiveness of the specific 4R's intervention examined here.

3.1.3 Significant Difference Between Pre-Test and Posttest Reading Comprehension Scores

The paired-samples t-test revealed a computed t-value of -16.939236 , with an absolute value of 16.939236 exceeding the critical value of 1.9726 at the 0.05 level of significance, using 189 degrees of freedom. Consequently, the null hypothesis was rejected, indicating a statistically significant difference between learners' pre-test and posttest reading comprehension scores after implementing the 4R's strategy. The statistically significant difference indicates that learners' reading comprehension performance changed following the intervention. This finding is consistent with Filderman et al. (2022), whose meta-analysis identified significant positive effects of reading comprehension interventions among struggling readers. Similarly, Sohn et al. (2023) reported positive effects of reading interventions among adolescents with reading difficulties. These studies support the relevance of structured reading instruction to comprehension development. However, because the present study employed a one-group pre-test–posttest design without a control group, the observed improvement cannot be attributed exclusively to the 4R's strategy.

4. Conclusion & Recommendations

The study revealed that the 4R's (Read, Retell, React, Reflect) strategy improved the reading comprehension of Grade 11 learners at Salvador Arollado Sr. Memorial High School. Before the intervention, most learners were classified at the instructional and frustration levels. Following implementation, independent readers increased from 20.53% to 52.11%, while those at the frustration level decreased from 37.89% to 4.21%. A statistically significant difference between pre-test and posttest scores was established at the 0.05 level of significance. These findings indicate that the 4R's strategy is a useful instructional approach for enhancing reading comprehension and supporting learners' progression toward independent reading.

Teachers are encouraged to conduct regular diagnostic reading assessments, integrate the 4R's strategy into reading and language classes, and provide differentiated activities and remediation for learners with comprehension difficulties. School administrators should strengthen reading programs, provide supplementary learning materials, and organize teacher training on the strategy's implementation. Learners' progress should be

monitored through pre-tests and posttests to guide instructional adjustments. Future researchers are encouraged to conduct similar studies involving larger samples, longer intervention periods, and comparison groups to further validate the effectiveness of the strategy across different educational settings.

The study was limited to 190 Grade 11 learners from a single public secondary school and focused exclusively on reading comprehension before and after implementing the 4R's strategy. The one-group pre-test–posttest design did not include a control group, while other potential influences, including teacher competence, additional instructional materials, learners' cognitive abilities, and socioeconomic background, were not examined. Consequently, the findings may not be fully generalizable to schools with different learner populations, instructional conditions, and resources.

5. Compliance with ethical standards

The researcher declares no conflicts of interest in relation to this study. The research involved Grade 11 learners and employed non-invasive reading assessments and instructional activities using the Philippine Informal Reading Inventory (PHIL-IRI) and the 4R's (Read, Retell, React, Reflect) strategy. Necessary permissions were secured from the Schools Division Superintendent and the school principal before data collection. Learners' assessment results were recorded and analyzed for research purposes. Individual results should be handled confidentially and reported in aggregate to protect participants' privacy and welfare.

REFERENCES

- Bernardo, A. B. I., & Mante-Estacio, M. J. (2023). Metacognitive reading strategies and its relationship with Filipino high school students' reading proficiency: Insights from the PISA 2018 data. *Humanities and Social Sciences Communications*, 10, Article 400. <https://doi.org/10.1057/s41599-023-01886-6>
- Filderman, M. J., Austin, C. R., Boucher, A. N., O'Donnell, K., & Swanson, E. A. (2022). A meta-analysis of the effects of reading comprehension interventions on the reading comprehension outcomes of struggling readers in third through 12th grades. *Exceptional Children*, 88(2), 163–184. <https://doi.org/10.1177/00144029211050860>
- Kan, T., Noordin, N., & Ismail, L. (2024). Implementation of metacognitive reading strategies to improve English reading ability: A systematic review. *International Journal of Learning, Teaching and Educational Research*, 23(7), 368–389. <https://doi.org/10.26803/ijlter.23.7.19>
- Manaoat, H. G. D. (2024). Text annotation as a reading and metacognitive strategy: A systematic review of literature. *International Journal of Research and Innovation in Social Science*, 8(2), 2348–2355. <https://doi.org/10.47772/IJRISS.2024.802168>
- Merke, S., Ganushchak, L., & van Steensel, R. (2024). Effects of additions to independent silent reading on students' reading proficiency, motivation, and behavior: Results of a meta-analysis. *Educational Research Review*, 42, Article 100572. <https://doi.org/10.1016/j.edurev.2023.100572>
- OECD. (2023). PISA 2022 results (Volume I and II) – Country notes: Philippines. https://www.oecd.org/en/publications/pisa-2022-results-volume-i-and-ii-country-notes_ed6fbcc5-en/philippines_a0882a2d-en.html
- Peng, P., Wang, W., Filderman, M. J., Zhang, W., & Lin, L. (2024). The active ingredient in reading comprehension strategy intervention for struggling readers: A Bayesian network meta-analysis. *Review of Educational Research*, 94(2), 228–267. <https://doi.org/10.3102/00346543231171345>
- Rice, M., Wijekumar, K., Lambright, K., & Bristow, A. (2024). Inferencing in reading comprehension: Examining variations in definition, instruction, and assessment. *Technology, Knowledge and Learning*, 29, 1169–1190. <https://doi.org/10.1007/s10758-023-09660-y>
- Sohn, H., Acosta, K., Brownell, M. T., Gage, N. A., Tompson, E., & Pudvah, C. (2023). A meta-analysis of interventions to improve reading comprehension outcomes for adolescents with reading difficulties. *Learning Disabilities Research & Practice*, 38(2), 85–103. <https://doi.org/10.1111/ldrp.12307>
- UNESCO. (2024). Monitoring SDG 4. Global Education Monitoring Report. <https://www.unesco.org/reports/gem-report/en/2024-monitoringsdg4>
- van der Sande, L., van Steensel, R., Fikrat-Wevers, S., & Arends, L. (2023). Effectiveness of interventions that foster reading motivation: A meta-analysis. *Educational Psychology Review*, 35(1), Article 21. <https://doi.org/10.1007/s10648-023-09719-3>
- World Bank, & UNESCO. (2024). Philippines: Learning poverty brief 2024. World Bank. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099090524085540633>