



STOP, THINK, AND RESPOND (STAR): ASSESSMENT OF THE READING COMPREHENSION AND SELF-REGULATION FOR GRADE 9 JUNIOR HIGH SCHOOL STUDENTS

DOI: 10.5281/zenodo.23204524

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Abstract

This research assessed the effectiveness of the developed STOP, THINK, AND RESPOND (STAR) Strategy Framework in improving reading comprehension and academic self-regulation of Grade 9 students at a public secondary school in Northern Cebu during the Academic Year 2025–2026. The study used a quasi-experimental nonequivalent control group pretest-posttest design, involving 106 Grade 9 students who were identified as below-cutoff readers. These students were divided into two groups: the ExperimentalSs Group, which included 76 students, and the Control Group, which had 30 students. Data were gathered using tools adapted from the Philippine Informal Reading Inventory (Phil-IRI; Department of Education, 2018), reading comprehension tests aligned with the Programme for International Student Assessment (PISA) framework (OECD, 2019), and the Academic Self-Regulation Questionnaire (SRQ-A; Ryan & Connell, 1989). The analysis of the data involved calculating weighted means and using Analysis of Covariance (ANCOVA) to assess the impact of the intervention and determine significant differences between groups. Baseline assessments established that 100.00% of participants were at the frustration reading level; however, post-intervention results demonstrated that 85.53% of the experimental cohort advanced to instructional or independent proficiencies. Further, ANCOVA revealed statistically significant advantages in post-intervention reading comprehension ($p < .001$) and self-regulatory behaviors ($p < .05$) for the experimental group controlling for baseline performance. These findings showed that explicit metacognitive scaffolding strengthens cognitive control, fosters student agency, and accelerates reading growth. Consequently, the STAR-Based Instructional Framework is recommended as an intervention to enhance reading comprehension and academic self-regulation among struggling readers.

Keywords: STAR strategy, reading comprehension, academic self-regulation, quasi-experimental design, metacognitive scaffolding, Grade 9 learners, literacy recovery

Introduction

Reading comprehension is an active meaning-making process—an act of intellectual alchemy that transforms static text into actionable, high-order knowledge. Recent international and national assessments (such as PISA and Phil-IRI) highlight the urgent need to innovate reading instruction in Philippine junior high schools. While students possess potential for critical thinking, gaps remain in providing them with self-regulatory tools to navigate complex texts independently. Unlocking deeper meaning across literal, inferential, and evaluative levels requires a shift toward metacognitive awareness, enabling students to monitor and regulate their cognitive processes. The Stop, Think, and Respond (STAR) Strategy emerges as a practical application of metacognitive scaffolding adapted from the Directed Reading Thinking Activity model. Implemented as a Summer Reading Bridge Program under the Academic Recovery and Accessible Learning (ARAL) framework (RA 12028), the STAR strategy empowers Grade 9 students at Carmen National High School to pause, reflect, predict, and regulate their reading. This study addresses literacy challenges by evaluating how explicit cognitive prompts enhance reading comprehension and academic self-regulation, providing a scalable, evidence-based instructional framework aligned with national mandates such as the K to 12 Law (RA 10533) and the MATATAG Agenda (DO 010, s. 2024).

Literature Review



The STAR intervention is anchored in three complementary cognitive frameworks: Cartwright and Duke's (2019) Executive Functioning Model of Reading Comprehension, Afflerbach et al.'s (2020) Metacognitive Model of Strategic Reading, and Zimmerman's (2000) Model of Self-Regulated Learning (SRL). Collectively, these models conceptualize reading growth as a non-linear evolution from teacher-mediated support to autonomous internal regulation.

Cartwright and Duke (2019) demonstrate that reading comprehension relies heavily on executive functions—specifically working memory, inhibitory control, and cognitive flexibility. Rather than viewing comprehension as simple word decoding, executive control allows readers to manage attention, organize text structures, and actively construct meaning. Recent empirical studies affirm that strong executive control provides the cognitive architecture required for higher-order text processing (Hung, 2021; Nouwens et al., 2021; Escobar et al., 2024).

Complementing executive control, Afflerbach et al. (2020) and Zimmerman (2000) emphasize that proficient readers continuously monitor, evaluate, and regulate their cognitive processes. Metacognition provides the self-awareness necessary to recognize comprehension breakdowns, while self-regulated learning provides the strategies to repair them. International research consistently confirms that explicit strategy instruction transforms passive readers into active monitors of complex prose (Salim et al., 2025; Suharto, 2025). The STAR protocol operationalizes these cognitive cycles into three explicit phases: STOP (Comprehension Monitoring & Forethought): Prompts the reader to pause strategically, assess current text understanding, and establish awareness of potential comprehension breakdowns before proceeding (Denton et al., 2021; Bernardo & Mante-Estacio, 2023). THINK (Strategic Processing): Drives deep processing through questioning, inference generation, schema activation, and connection-making, shifting the learner from passive decoding to active interpretation (Chen & Li, 2022; Mokhtari et al., 2023). RESPOND (Reflective Self-Correction & Evaluation): Encourages learners to evaluate the accuracy of their interpretations, articulate understanding, and apply self-corrective measures when miscomprehension occurs (Pinto, 2022; Teng, 2022).

From a pedagogical standpoint, the intervention leverages Azevedo's (2005) Metacognitive Scaffolding and Afflerbach et al.'s (2020) concept of Mindful Agency. Mindful agency posits that reading must be an intentional, self-directed act. Metacognitive scaffolding provides the temporary external prompts necessary to guide students through complex texts, gradually transferring cognitive responsibility from the instructional tool to the student as self-regulatory routines become internalized (Lantolf & Poehner, 2022; Puzio et al., 2023). Teacher modeling, such as Think-Aloud protocols and structured mini-lessons, accelerates this transition by demonstrating self-regulation in practice (Fahrni, 2025; Sahebkhair et al., 2016).

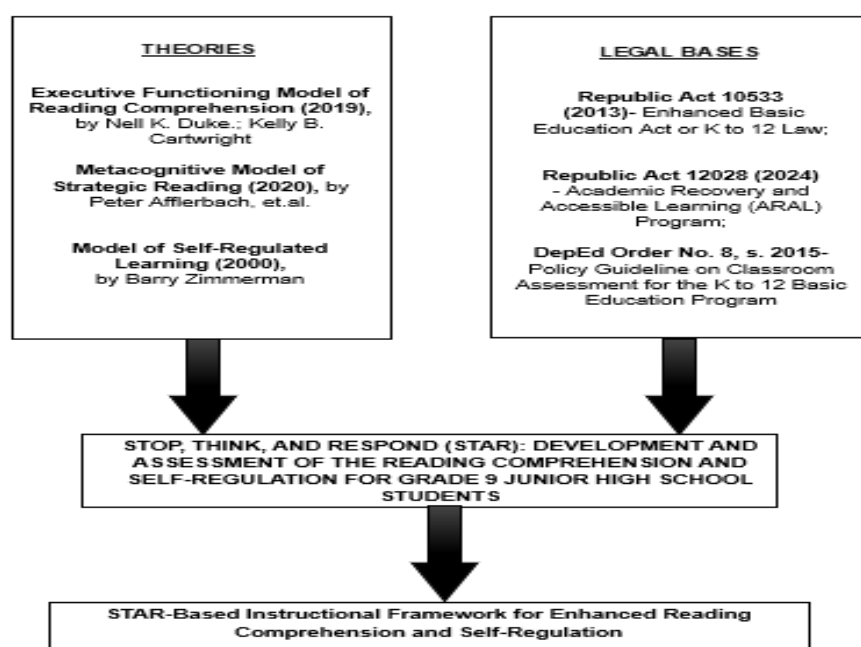


Figure 1.
Theoretical Framework of the Study



Legal, Policy, and Contextual Framework

This instructional framework directly aligns with core Philippine basic education policy mandates. Republic Act No. 10533 (The Enhanced Basic Education Act of 2013) mandates a learner-centered, contextualized curriculum designed to foster critical thinking and lifelong learning autonomy. Furthermore, Republic Act No. 12028 (The Academic Recovery and Accessible Learning [ARAL] Program Act of 2024) establishes a national framework for targeted learning recovery through evidence-based interventions to address learning loss. At the operational level, the STAR strategy supports the MATATAG Agenda (DepEd Order No. 010, s. 2024) by decongesting learning competencies and prioritizing foundational literacy. Additionally, integrating the STAR protocol into routine instruction operationalizes classroom assessment guidelines (DepEd Order No. 8, s. 2015), functioning seamlessly as both assessment for learning (real-time progress tracking) and assessment as learning (student self-reflection and metacognitive monitoring).

In local secondary contexts, particularly across public schools in Cebu, empirical studies highlight an urgent need to build resilient self-regulation strategies capable of functioning both within and beyond the classroom (Garcia & Montebon, 2024; Lazaro & Bautista, 2023). Local action research indicates that brief, structured, and consistent strategy modeling yields measurable benefits in student task engagement and reading performance (Santos & Dela Cruz, 2024; Villarta & Capili, 2025). Lightweight, tool-based frameworks like the STAR strategy offer a practical approach for secondary schools seeking to elevate literacy without overburdening standard class periods (Reyes & Lumantas, 2024; Villarta & Capili, 2025).

Research Gap and Study Context

Although legislative policies and international research advocate for metacognitive scaffolding, a notable gap remains in evaluating structured, tool-based metacognitive interventions within public secondary school bridge programs in the Philippines. While existing local literature explores general engagement and basic task completion, limited empirical research systematically tracks how explicit cognitive prompts interact with baseline reading classifications and academic self-regulation over time.

To address this gap, this quasi-experimental study evaluates the quantitative impact of the STAR metacognitive scaffolding intervention on the reading comprehension (literal, inferential, and evaluative levels) and academic self-regulation of Grade 9 students at Carmen National High School in Northern Cebu during the Academic Year 2025–2026. The study evaluates shifts across baseline Phil-IRI classifications, Academic Self-Regulation Questionnaires (SRQ-A), and PISA-aligned performance tasks to serve as the empirical basis for a proposed STAR-Based Instructional Framework.

Materials and Methods:

Research Design

This study employed a quasi-experimental, non-equivalent control group pretest-posttest design to evaluate the causal effect of an educational intervention within a Voluntary Summer Reading Bridge Program under the Academic Recovery and Accessible Learning (ARAL) framework. This design was selected because random individual assignment of students was impractical within intact, pre-existing school sections (Campbell & Stanley, 1963). The design utilized an Experimental Group receiving the Stop, Think, and Respond (STAR) strategy and a Control Group receiving traditional instruction, drawn from intact sections of Grade 9 learners. By administering baseline pre-tests, initial differences in reading ability and self-regulation were controlled statistically using Analysis of Covariance (ANCOVA) on post-test outcomes.

Research Flow



The operational process followed the Input-Process-Output (IPO) framework:

Input: Encompassed the diagnostic screening results from the First Quarter Philippine Informal Reading Inventory (Phil-IRI) 40-item Group Screening Test (GST) identifying students with scores ≤ 27 (Reading Gap demographic). It included administrative transmittals and endorsements, parental consent and participant assent from 106 Grade 9 student-volunteers during the May 2026 summer bridging program, along with baseline measures for reading comprehension (literal, inferential, and evaluative levels) and academic self-regulation (SRQ-A).

Process: Involved executing a five-session summer bridge intervention guided by the ARAL framework and the Gradual Release of Responsibility (GRR) model. Following baseline pre-testing for both cohorts, the Experimental Group ($n = 76$) received explicit metacognitive scaffolding via the STAR strategy (moving from teacher modeling to independent practice across STOP, THINK, and RESPOND phases using PISA-aligned tasks), while the Control Group ($n = 30$) received traditional reading instruction. Post-tests were administered and subjected to parametric statistical processing (ANCOVA, paired t -tests, and McNemar's test).

Output: The formulation of the empirical, research-driven STAR-Based Instructional Framework for Enhanced Reading Comprehension and Self-Regulation.

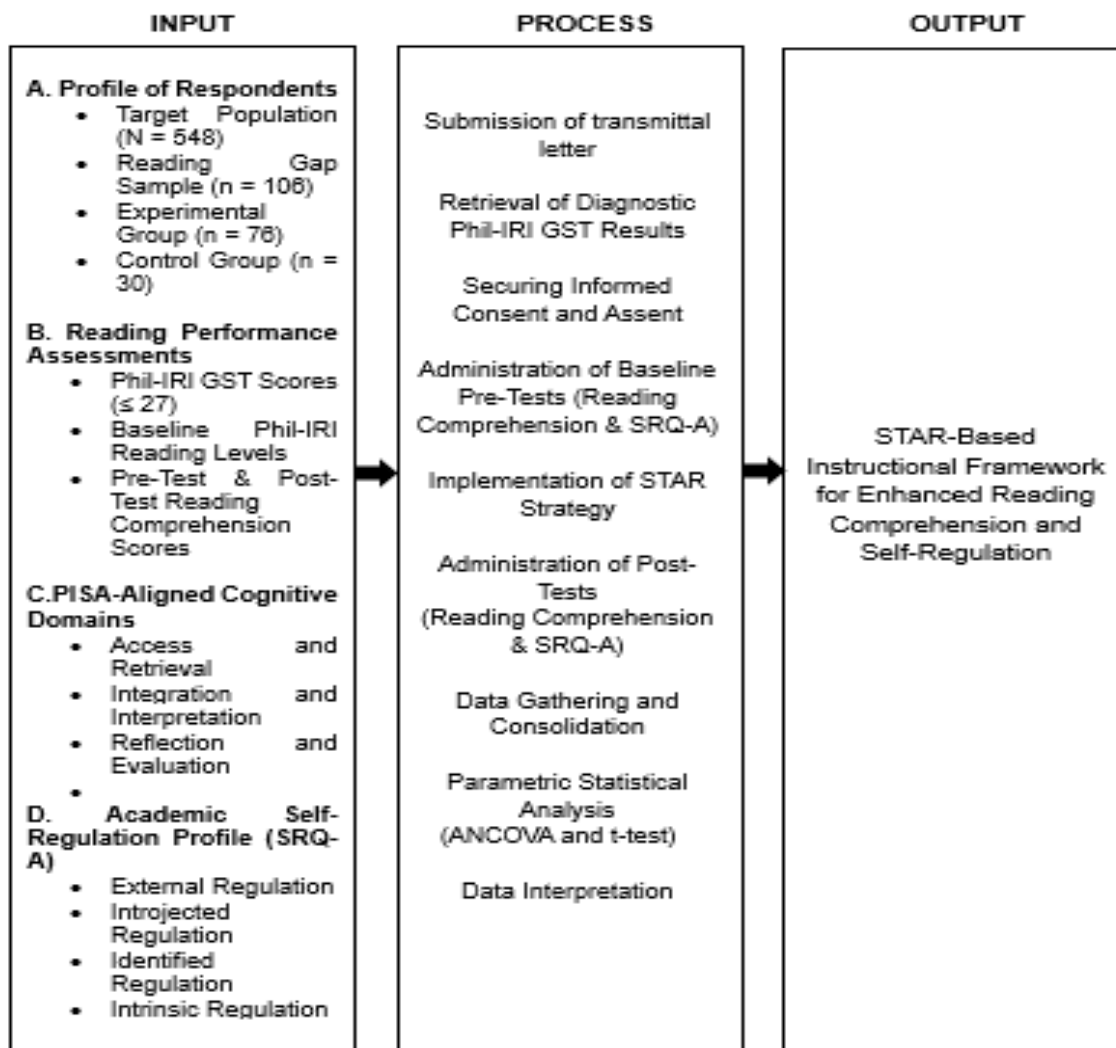


Figure 2

Flow of the study



Environment

The study was conducted at Carmen National High School (CNHS), a large public secondary school located along the national highway in Carmen, Northern Cebu, approximately 45 kilometers from Cebu City. Occupying a 9,450-square-meter campus, the institution serves a student population of 3,910 learners (2,648 Junior High School and 1,262 Senior High School students) supported by 101 JHS teachers, 50 SHS teachers, and one principal. Operating under the Division of Cebu Province, CNHS actively prioritizes literacy recovery, academic intervention, and remedial learning programs. Its multi-section Grade 9 setup and support for national literacy initiatives provided the structural setting to execute the STAR program and evaluate reading comprehension and self-regulation.



Figure 3

Location Map of the Study



Participants and Sampling Technique

The target population comprised the entire Grade 9 student body ($N = 548$) across 14 heterogeneous sections at CNHS. To identify learners needing targeted reading support, diagnostic screening was conducted using the 40-item Phil-IRI Group Screening Test (GST) administered in the First Quarter. Students scoring ≤ 27 , representing the Reading Gap demographic, were invited to participate.

With administrative authorization (including an official third endorsement from the Schools Division Superintendent) and secured parental consent and student assent, a final analytical sample of $n = 106$ student-volunteers was established across nine intact sections during the May 2026 summer bridging program. As detailed in Table 1, the Experimental Group comprised 76 learners (71.70%) across six intact sections (Faith, Justice, Hope, Humility, Kindness, and Tenacity), while the Control Group comprised 30 learners (28.30%) across three intact sections (Courage, Prudence, and Versatility).

Table 1
Distribution of the of the Target Population and Final Analytical Sample of Respondents

Grouping Condition	Grade Nine Sections	Class Population (N)	Final Sample (n)	Percentage (n=106)
Experimental Group (STAR Framework)	Faith	35	10	9.43%
	Justice	35	21	19.81%
	Hope	34	8	7.55%
	Humility	43	19	17.92%
	Kindness	35	9	8.49%
	Tenacity	33	9	8.49%
Subtotal (Experimental)		215	76	71.70%
Control Group (Conventional)	Courage	35	10	9.43%
	Prudence	39	10	9.43%
	Versatility	42	10	9.43%
Subtotal (Control)		116	30	28.30%
Non-Participants	Other 5 Sections	222	0	0.00%
Total	14 Sections	548	106	100.00 %

Instruments and Scoring Procedures

The study utilized standardized and researcher-adapted instruments across three major parts:

1. **Part I: Philippine Informal Reading Inventory (Phil-IRI):** Adapted from DepEd (2018), the 40-item Group Screening Test (GST) screened learners scoring ≤ 27 . Individual graded passages categorized baseline and post-intervention reading profiles into Frustration, Instructional, and Independent levels based on word recognition and comprehension percentages (Table 2).
2. **Part II: Standardized Reading Comprehension Assessment (PISA-Aligned):** Adapted from the Programme for International Student Assessment reading framework (OECD, 2019), tasks evaluated three cognitive domains: Access and Retrieval, Integration and Interpretation, and Reflection and Evaluation under the ARAL framework. Raw scores were converted into percentage scores categorized as High, Average, or Low (Table 3).
3. **Part III: Academic Self-Regulation Questionnaire (SRQ-A):** Adapted from Ryan and Connell (1989), the scale measured four regulatory dimensions: External Regulation, Introjected Regulation, Identified



Regulation, and Intrinsic Regulation. Items were scored using a 4-point Likert scale to track student transitions toward self-directed reading habits (Table 4).

All adapted tools were contextualized for Philippine public secondary education, reviewed by experts in reading instruction and educational administration for content validity, and pilot-tested at the participating school.

Table 2
Phil-IRI Reading Level Criteria

Reading Level	Word Recognition	Comprehension	Descriptive Interpretation
Independent	97% – 100%	80% – 100%	Reads fluently with high accuracy and deep understanding with minimal assistance.
Instructional	90% – 96%	59% – 79%	Demonstrates functional decoding and comprehension; benefits from guided instruction.
Frustration	89% and below	58% and below	Struggles with basic decoding or text comprehension; requires targeted intervention.

Table 3
Standardized Reading Comprehension Proficiency Scale (PISA-Aligned)

Numerical Rating	Descriptive Rating	Verbal Interpretation
80% – 100%	High	Demonstrates deep integration and critical reflection of the text.
60% – 79%	Average	Locates information and forms basic text interpretations.
59% and below	Low	Struggles with basic decoding and literal information retrieval.

Table 4
Academic Self-Regulation Questionnaire (SRQ-A) Scoring Scale

Scale Value	Mean Range	Descriptive Rating	Verbal Interpretation
4	3.26 – 4.00	Very True	Consistently demonstrates high self-regulation and autonomous monitoring in reading.
3	2.51 – 3.25	Sort of True	Frequently exhibits self-regulation but occasionally relies on external prompts.
2	1.76 – 2.50	Not Very True	Rarely demonstrates self-directed strategies; relies predominantly on external guidance.
1	1.00 – 1.75	Not at All True	Does not display autonomous regulation or monitoring during reading activities.

Data Gathering Procedure

Data collection was executed systematically across four distinct phases:

Phase 1: Preliminary Phase. Formal administrative endorsements were obtained, including an official approval from the Schools Division Superintendent of Cebu Province and the Principal of Carmen National High School-Day. Coordination was established with Grade 9 advisers, and written parent consent and student assent forms were secured. Diagnostic First Quarter Phil-IRI GST results were retrieved to screen eligible learners scoring ≤ 27 .

Phase 2: Pre-Intervention Phase. Orientation was conducted for eligible participants regarding expectations and schedules. Baseline pre-tests were administered to both Experimental and Control groups during the May 2026



summer bridging program using standardized Phil-IRI graded passages, Part II PISA-aligned reading tasks, and Part III SRQ-A.

Phase 3: Intervention Phase. Executed during the May 2026 summer program under the ARAL framework. Guided by the Gradual Release of Responsibility (GRR) model (I Do, We Do, You Do), the Experimental Group underwent explicit metacognitive scaffolding using the STAR strategy across structured sessions: mastering STOP (Session 2: metacognitive pause) and THINK (Session 3: deep text evaluation), followed by integrated application on PISA-aligned tasks (Session 4). The Control Group received conventional, non-scaffolded reading instruction.

Phase 4: Post-Intervention and Data Organization Phase. Post-tests (Parts II and III) were administered to both groups upon program completion. Response sheets were audited for completeness, anonymized using unique respondent identification codes to guarantee privacy, and encoded into statistical software for parametric processing.

Ethical Considerations

The study strictly adhered to established ethical principles. Written informed consent was obtained from parents/guardians detailing voluntary participation and withdrawal rights without penalty, accompanied by student assent. Confidentiality and anonymity were safeguarded by replacing personal identifiers with unique codes and reporting data strictly in aggregate form. Principles of beneficence and non-maleficence were maintained by conducting non-intrusive sessions in a safe classroom environment, aiming to produce an evidence-based STAR-Based Instructional Guide for public secondary literacy programs.

Statistical Treatment of Data

Quantitative data was subjected to descriptive and inferential parametric processing mapped directly to the

Statement of the Problem:

1. **Frequency Counts and Percentages:** Classified baseline and post-intervention Phil-IRI literacy profiles (Independent, Instructional, Frustration).
2. **Weighted Mean and Standard Deviation (SD):** Evaluated average achievement levels and score dispersion for standardized reading comprehension across PISA cognitive domains and SRQ-A self-regulation dimensions.
3. **Paired-Samples t-test:** Calculated pre-test to post-test score gains within both the Experimental and Control groups.
4. **Analysis of Covariance (ANCOVA):** Served as the primary inferential tool to test between-group post-test differences while controlling for baseline pre-test scores as covariates, testing null hypotheses H_{01} and H_{02} at $\alpha = .05$.
5. **McNemar's Test:** Applied to determine the statistical significance of categorical transitions in student Phil-IRI reading profiles before and after the intervention.

Results

This section presents empirical findings and statistical analyses addressing the study's specific Statement of the Problem (SOP) sub-questions regarding reading comprehension levels, self-regulation scores, within-group growth, and between-group treatment effects.

1. Baseline Reading Profile and Diagnostic Equivalence. The initial 40-item Philippine Informal Reading Inventory (Phil-IRI) Group Screening Test (GST) established a uniform diagnostic starting point across all study participants. As summarized in Table 4, 100.00% ($N = 106$) of the combined analytical sample scored within the 0--27 range, placing every student in the "Fail / Below Cutoff" bracket prior to the implementation of the summer bridging program. Group-specific baseline frequencies for both cohorts demonstrated absolute diagnostic homogeneity, with zero participants (0.00%) meeting or exceeding expected grade-level reading competencies (28--40 score range) (see Appendix E and Appendix F for complete group-specific baseline breakdowns).



Table 4
Summary of Baseline Phil-IRI GST Screening Results

Learning Outcome	Score Range	Frequency	Percentage
Pass / At or Above Expected Grade Level	28-40	0	0.00%
Fail / Below Cutoff	0-27	106	100.00%
Total		106	100.00%

2. Pre-Test vs. Post-Test Reading Comprehension Distributions. Following the intervention period, participant distribution across reading comprehension levels shifted markedly. As detailed in Table 6, the Experimental group demonstrated a substantial transition out of the Frustration level. Prior to the intervention, 77.63% ($f=59$) of Experimental participants performed at the Frustration level, 22.37% ($f=17$) at the Instructional level, and 0.00% ($f=0$) at the Independent level. Post-intervention, 43.42% ($f=33$) reached the Independent level, 42.11% ($f=32$) achieved the Instructional level, and only 14.47% ($f=11$) remained at the Frustration level.

In contrast, the Control group remained predominantly unchanged. At pre-test, 93.33% ($f=28$) of Control participants were at the Frustration level, 3.33% ($f=1$) at the Instructional level, and 3.33% ($f=1$) at the Independent level. At post-test, 90.00% ($f=27$) remained at the Frustration level, 10.00% ($f=3$) were at the Instructional level, and 0.00% ($f=0$) achieved the Independent level.

Table 6
Pre-Test vs. Post-Test Reading Level Distributions across Groups

Group	Level	Pre-Test Frequency (f)	Pre-Test %	Post-Test Frequency (f)	Post-Test %
Experimental (n=76)	Frustration	59	77.63%	11	14.47%
	Instructional	17	22.37%	32	42.11%
	Independent	0	0.00%	33	43.42%
Control (n=30)	Frustration	28	93.33%	27	90.00%
	Instructional	1	3.33%	3	10.00%
	Independent	1	3.33%	0	0.00%

Within-Group Performance Progressions (Paired-Samples *t*-Test)

Paired-samples *t*-tests evaluated within-group progression from pre-test to post-test across reading comprehension scores and Academic Self-Regulation (SRQ-A) scores.

As shown in Table 8, the Experimental group achieved a statistically significant improvement in reading comprehension, advancing from a pre-test mean of 4.33 to a post-test mean of 7.14 ($MD = +2.82$, $t(75) = 17.28$, $p < .001$). The Control group showed a small mean increase from 3.00 to 3.80 ($MD = +0.80$, $t(29) = 2.53$, $p = .017$), which was statistically significant but reflected minimal absolute growth.

Table 8
*Paired-Samples *t*-Test Results for Pre- and Post-Test Reading Comprehension Scores*

Group	Measurement	Mean	Mean Diff.	<i>t</i>	df	<i>p</i> -value
Experimental (n=76)	Pre-Test	4.33				
	Post-Test	7.14				
Control (n=30)	Pre-Test	3.00				
	Post-Test	3.80				

Regarding Academic Self-Regulation (Table 9), the Experimental group demonstrated a statistically significant increase in SRQ-A scores, rising from a pre-test mean of 3.53 ($SD = 0.37$) to a post-test mean of 3.63 ($SD = 0.33$) ($MD = +0.11$, $t(75) = 3.42$, $p = .001$). Conversely, the Control group experienced a non-significant decrease from



3.54 ($SD = 0.20$) to 3.37 ($SD = 0.41$) ($MD = -0.16$, $t(29) = -2.02$, $p = .053$). (Itemized Likert item response tables are provided in Appendix G).

Table 9
Paired-Samples t-Test Results for Pre- and Post-Test SRQ-A Scores

Group	Measurement	Mean	SD	Mean Diff.	t	df	p-value
Experimental ($n = 76$)	Pre-Test	3.53	0.37	+0.11	3.42	75	.001
	Post-Test	3.63	0.33				
Control ($n = 30$)	Pre-Test	3.54	0.20	-0.16	-2.02	29	.053
	Post-Test	3.37	0.41				

Between-Group Treatment Effects and Hypotheses Testing (ANCOVA)

To evaluate the research hypotheses, two one-way Analyses of Covariance (ANCOVA) were performed to examine post-test differences between groups while controlling for baseline pre-test covariates.

Controlling for baseline reading comprehension scores, ANCOVA revealed a statistically significant main effect for group assignment on post-test reading performance, $F(1,103) = 79.59$, $p < .001$, $\eta_p^2 = 0.436$ (Table 10). The adjusted post-test mean score for the Experimental group (6.96) was significantly higher than that of the Control group (4.26), yielding an adjusted mean difference of 2.71 points. The partial eta squared ($\eta_p^2 = 0.436$) reflects a large effect size. Consequently, H_{01} was rejected.

Table 10
ANCOVA Summary Matrix for Post-Test Reading Comprehension Scores

Source	Type III SS	df	Mean Square	F	p-value	Partial η^2
Pre-Test (Covariate)	12.45	1	12.45	6.12	.015	0.056
Group (Treatment)	161.88	1	161.88	79.59	< .001	0.436
Error	209.48	103	2.03			
Total (N-1)	383.81	105				

Controlling for pre-test self-regulation scores, ANCOVA confirmed a statistically significant difference between groups on post-test SRQ-A performance, $F(1,103) = 16.60$, $p < .001$, $\eta_p^2 = 0.139$ (Table 12). The Experimental group achieved significantly higher adjusted post-test self-regulation scores relative to the Control group, leading to the rejection of H_{02} (see Appendix H for complete adjusted means tables).

Table 12
ANCOVA Summary Matrix for Post-Test SRQ-A Scores

Source	Type III SS	df	Mean Square	F	p-value	Partial η^2
Pre-Test (Covariate)	1.82	1	1.82	15.31	< .001	0.129
Group (Treatment)	1.97	1	1.97	16.60	< .001	0.139
Error	12.24	103	0.12			
Total (N-1)	16.03	105				

Discussion

The empirical findings provide compelling evidence supporting the effectiveness of the STAR intervention program in enhancing reading comprehension and academic self-regulation among Grade 7 learners. The baseline diagnostic profile (100.00% in the Below Cutoff bracket) underscores the acute necessity of structured bridging programs for transition-grade secondary students. The absolute diagnostic homogeneity established at pre-test ensures that post-intervention divergence between cohorts is directly attributable to the instructional treatment rather than initial baseline inequalities.



The substantial shift of Experimental participants from the Frustration level (77.63% pre-test down to 14.47% post-test) into the Instructional (42.11%) and Independent (43.42%) levels validates the core tenets of cognitive strategy theory. Standard remedial methods, as reflected in the Control group's persistent 90.00% Frustration rate, often fail to provide the explicit executive scaffolding needed to decode complex passages. By training students to systematically apply text mapping, summarization, and self-questioning, the STAR program successfully reduced cognitive load during reading tasks.

The statistically significant ANCOVA results ($p < .001$) for both reading scores ($\eta_p^2 = 0.436$) and self-regulation ($\eta_p^2 = 0.139$) demonstrate the added value of integrating metacognitive training with skill instruction. The concurrent improvement in SRQ-A scores within the Experimental group highlights that reading growth is closely coupled with self-regulated learning attributes. When learners acquire concrete cognitive tools, their perceived competence increases, driving a shift from externally controlled compliance toward autonomous academic self-regulation. Conversely, the non-significant decline in Control group self-regulation suggests that unassisted academic struggle without strategic scaffolding can diminish learner motivation and self-efficacy over time.

Conclusion

This study established that the STAR intervention program significantly improves reading comprehension performance and academic self-regulation among Grade 7 learners who demonstrate critical baseline reading deficits. By combining explicit reading strategy instruction with metacognitive monitoring scaffolding, the STAR program enabled over 85% of experimental participants to advance out of the Frustration level, outperforming conventional instructional approaches. The statistical rejection of both null hypotheses confirms that structured, strategy-based bridging interventions exert a strong positive impact on both cognitive reading skills and affective self-regulatory behaviors.

Based on these contributions, the following recommendations are offered:

1. **Curricular Integration:** Educational administrators and curriculum planners should formally incorporate metacognitive strategy frameworks into secondary English bridging and remedial programs.
2. **Teacher Professional Development:** In-service teacher training should emphasize explicit strategy modeling and self-regulation scaffolding techniques rather than relying exclusively on traditional reading practice.
3. **Future Research:** Longitudinal studies should be conducted to determine the long-term retention of strategy use across content areas (e.g., science and social studies) and to evaluate the intervention across diverse grade levels and school contexts.

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