



Article

Effectiveness of Metacognitive Strategy Instruction on the Reading Comprehension Skills of Grade 10 Students

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Abstract

*This study examined the effectiveness of Metacognitive Strategy Instruction (MSI) in improving the reading comprehension skills of Grade 10 students at Ballesteros National High School during the School Year 2025–2026. The study was conducted in response to the persistent reading comprehension difficulties experienced by secondary learners, particularly in understanding texts, drawing inferences, identifying main ideas, and interpreting information critically. A quasi-experimental research design utilizing the non-equivalent control group pretest–posttest approach was employed in the study. The respondents consisted of 92 Grade 10 students divided into two intact classes. One class served as the experimental group exposed to Metacognitive Strategy Instruction, while the other class served as the control group exposed to conventional reading instruction. A researcher-made Reading Comprehension Diagnostic Test composed of 75 multiple-choice items was utilized to gather data. Statistical tools such as mean, standard deviation, and independent-samples *t*-test were used in the analysis of data. The findings revealed that both groups had comparable reading comprehension levels before the intervention. After the implementation of the intervention, both groups demonstrated improvement in reading comprehension performance. However, statistical analysis showed no significant difference between the posttest scores of the control and experimental groups. The study concludes that both Metacognitive Strategy Instruction and conventional reading instruction effectively improved learners' reading comprehension skills when implemented through structured and meaningful learning experiences. The findings imply that consistent reading exposure, teacher guidance, learner engagement, and quality instruction significantly contribute to comprehension development. The study is significant because it contributes to the growing body of literature on reading instruction and provides valuable insights for English teachers, school administrators, and future researchers regarding the use of metacognitive strategies in improving reading comprehension.*

Keywords: *comprehension skills, Grade 10 learners, metacognitive strategy instruction, quasi-experimental design, reading comprehension, reading instruction, secondary education*



1. Introduction

Reading comprehension plays a vital role in academic achievement because it enables learners to construct meaning from texts, interpret information critically, and apply knowledge across different subject areas. Reading is not merely the recognition of printed words; rather, it is an interactive cognitive process that requires learners to think actively, analyze ideas, and connect information to prior experiences.

In recent years, educational researchers have emphasized the importance of strategic reading instruction to improve learners' comprehension skills. One instructional approach that has gained considerable attention is Metacognitive Strategy Instruction (MSI). Metacognition refers to the awareness and regulation of one's own thinking processes. According to Flavell (1979), metacognition involves planning, monitoring, and evaluating one's comprehension while performing cognitive tasks. Learners who employ metacognitive strategies are better able to identify comprehension difficulties and apply corrective measures such as rereading, questioning, predicting, and summarizing.

Several studies have highlighted the positive impact of metacognitive instruction on reading performance. Pressley and Afflerbach (1995) explained that proficient readers actively monitor their understanding while reading and strategically adjust their reading behaviors whenever confusion occurs. Teng (2020) further emphasized that metacognitive instruction strengthens learners' self-regulation, strategic awareness, and comprehension performance.

Globally, reading comprehension remains a major educational concern. Results from the Programme for International Student Assessment (PISA) 2018 revealed that many learners continue to struggle in higher-order reading comprehension skills such as inferencing, evaluating arguments, and synthesizing information. In the Philippines, Filipino learners ranked among the lowest-performing countries in reading literacy, highlighting the urgent need for effective reading interventions and instructional innovations.

At Ballesteros National High School, many Grade 10 students encounter difficulties in understanding passages, identifying themes, interpreting implicit meanings, and synthesizing textual information. Although teachers employ various reading activities, the systematic integration of metacognitive strategies in classroom instruction remains limited. This situation prompted the researcher to investigate the effectiveness of Metacognitive Strategy Instruction in improving learners' reading comprehension.

Specifically, this study aimed to answer the following questions:

1. What is the level of reading comprehension of the control and experimental groups before the implementation of Metacognitive Strategy Instruction?
1. Is there a significant difference between the pretest scores of the control and experimental groups?
2. What is the level of reading comprehension of the control and experimental groups after the implementation of Metacognitive Strategy Instruction?

3. Is there a significant difference between the posttest scores of the control and experimental groups?

The study hypothesized that there is no significant difference between the reading comprehension performance of the control and experimental groups.

2. Methodology

2.1 Research Design

The study employed a quasi-experimental research design utilizing the non-equivalent control group pretest–posttest approach. This design was considered appropriate because intact classes were used in the study, making random assignment impractical. The design allowed the researcher to compare the reading comprehension performance of learners exposed to Metacognitive Strategy Instruction and those exposed to conventional instruction.

2.2 Participants of the Study

The respondents of the study consisted of 92 Grade 10 students enrolled at Ballesteros National High School during the School Year 2025–2026. Two intact classes participated in the study. Grade 10–HERA served as the experimental group, while Grade 10–IRIS served as the control group. Each group consisted of 46 students.

2.3 Research Instrument

The primary instrument used in the study was a researcher-made Reading Comprehension Diagnostic Test composed of 75 multiple-choice items divided into three components: Word Recognition Accuracy Test, Vocabulary Understanding Test, and Reading Comprehension Test.

The instrument underwent expert validation by specialists in English education and educational measurement to ensure content validity, clarity, and alignment with Grade 10 English competencies. Reliability testing using KR-20 produced an acceptable reliability coefficient, indicating that the instrument was suitable for data gathering.

2.4 Data Gathering Procedure

The researcher secured approval from the school administration before conducting the study. A pretest was first administered to both the control and experimental groups to determine their initial reading comprehension levels.

After the pretest, the experimental group received Metacognitive Strategy Instruction integrated into reading lessons. Learners were taught strategies such as predicting, questioning, monitoring comprehension, rereading, clarifying ideas, and summarizing texts. The control group, on the other hand, received conventional reading instruction without explicit metacognitive strategy integration.

The intervention lasted for several weeks. After the intervention period, a posttest using the same diagnostic instrument was administered to both groups.

2.5 Statistical Treatment of Data

The data gathered were analyzed using the following statistical tools:

- Mean and standard deviation were used to determine the learners' reading comprehension levels.
- Independent-samples t-test was used to determine significant differences between the control and experimental groups.
- A 0.05 level of significance was used in testing the hypotheses.

3. Results

Level of Reading Comprehension Before the Implementation of MSI

The pretest results revealed that both groups had nearly identical levels of reading comprehension before the implementation of the intervention.

Table 1

Level of Reading Comprehension Before the Implementation of Metacognitive Strategy Instruction (MSI)

Group	Mean	Standard Deviation
Control	35.37	4.48
Experimental	35.49	5.78

The control group obtained a mean score of 35.37 with a standard deviation of 4.48, while the experimental group obtained a mean score of 35.49 with a standard deviation of 5.78. The minimal difference between the two groups indicates that the learners had comparable reading comprehension levels prior to the intervention.

Significant Difference on the Pretest Scores

The independent-samples t-test was conducted to determine whether a significant difference existed between the pretest scores of the two groups.

Table 2

Test for Difference on the Pretest Scores Using t-test

Group	Mean	SD	t-computed	t-tabular	Interpretation
Control	35.37	4.48	0.11	1.99	Not Significant
Experimental	35.49	5.78			

The computed t-value of 0.11 was lower than the tabular value of 1.99, leading to the acceptance of the null hypothesis. The findings indicate that there was no statistically significant difference between the pretest scores of the two groups.

Level of Reading Comprehension After the Implementation of MSI

The posttest results showed that both groups improved in their reading comprehension performance after the intervention.

Table 3

Level of Reading Comprehension After the Implementation of Metacognitive Strategy Instruction (MSI)

Group	Mean	Standard Deviation
Control	48.54	8.81
Experimental	48.96	8.70

The control group obtained a mean score of 48.54, while the experimental group obtained a slightly higher mean score of 48.96. The results suggest that learning occurred during the intervention period, as both groups demonstrated increased comprehension performance.

Significant Difference on the Posttest Scores

A t-test was also conducted to determine whether a significant difference existed between the posttest scores of the control and experimental groups.

Table 4

Test for Difference on the Posttest Scores Using t-test

Group	Mean	SD	t-computed	t-tabular	Interpretation
Control	48.54	8.80	0.22	1.99	Not Significant
Experimental	48.96	8.70			

The computed t-value of 0.22 was lower than the tabular value of 1.99, indicating that there was no statistically significant difference between the posttest scores of the two groups.

4. Discussion

The findings of the study revealed that both the control and experimental groups had comparable reading comprehension levels before the implementation of Metacognitive Strategy Instruction. This finding strengthens the internal validity of the study because it confirms that the two groups started at relatively similar levels of comprehension ability.

The absence of significant difference between the pretest scores supports the observations of Creswell and Creswell (2018), who explained that establishing baseline equivalence minimizes selection bias and strengthens the validity of quasi-experimental research.

After the intervention, both groups demonstrated improvement in reading comprehension performance. Although the experimental group obtained a slightly higher mean score, statistical analysis revealed no significant difference between the posttest scores of the two groups.

This finding suggests that both Metacognitive Strategy Instruction and conventional reading instruction can effectively improve learners' comprehension performance when implemented with meaningful learning activities and consistent teacher guidance. The improvement observed in both groups may be attributed to factors such as structured reading exposure, learner engagement, classroom interaction, and teacher support.

The findings support the study of Afflerbach et al. (2017), who emphasized that reading comprehension development is influenced not only by strategies but also by meaningful reading experiences and active learner participation. Similarly, Grabe and Stoller (2020) stressed that continuous engagement in reading activities contributes significantly to comprehension growth regardless of the instructional method employed.

Furthermore, Hattie (2017) highlighted that teacher effectiveness and instructional quality are among the strongest influences on student achievement. This may explain why both groups improved despite differences in instructional strategies.

Although MSI did not produce significantly higher outcomes compared to conventional instruction, it remains a valuable approach because it develops learners' awareness of their own thinking processes. Learners exposed to metacognitive instruction become more reflective readers who can monitor comprehension difficulties and apply strategies to improve understanding.

5. Conclusion

Based on the findings of the study, the following conclusions were drawn:

1. The control and experimental groups demonstrated comparable levels of reading comprehension before the implementation of Metacognitive Strategy Instruction.
2. Both groups improved in reading comprehension performance after the intervention.
3. There was no statistically significant difference between the pretest scores of the two groups.
4. There was no statistically significant difference between the posttest scores of the control and experimental groups.
5. Both Metacognitive Strategy Instruction and conventional instruction were effective in improving learners' reading comprehension.
6. Improvement in reading comprehension may be attributed to consistent reading exposure, structured instruction, teacher guidance, and learner engagement.

The study therefore concludes that Metacognitive Strategy Instruction is a useful instructional approach that promotes reflective reading and learner awareness, although it was not found to be significantly more effective than conventional instruction in this study.

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