

Metacognitive Literacy Scaffolding: Strategic Reading Activity Sheets for Textual Analysis and Meaning-Making

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Abstract

Background: Elementary learners may demonstrate adequate literal retrieval while experiencing difficulty with inferential reasoning, textual analysis, and deeper meaning-making. This study examined the use of metacognitive literacy scaffolding through strategic reading comprehension activity sheets among intermediate elementary students in Talugtug District, Division of Nueva Ecija.

Objective: The study determined learners' baseline textual-analysis performance, examined changes in reading comprehension after the intervention, assessed the extent of improvement in meaning-making, and estimated the effect size of the scaffolding approach.

Methods: A quasi-experimental one-group pre-test/post-test design was used with 50 purposively selected students. Researcher-made reading comprehension and textual analysis assessments, activity-sheet responses, descriptive statistics, a paired-samples t-test, and Cohen's d were used.

Results: The overall pre-test mean was 6.03 (60.27%), interpreted as moderate performance, while the post-test mean increased to 8.45 (84.50%). The mean gain was 2.42 points or 24.23 percentage points. The paired-samples t-test yielded $t = 12.85$ and $p = .000$ as reported in the thesis, indicating a statistically significant improvement. The reported effect size for reading comprehension was very large ($d = 2.55$), with large effects also reported for inferential skills ($d = 1.60$) and vocabulary understanding ($d = 1.46$). **Conclusion:** Strategic activity sheets that embed planning, monitoring, and evaluation prompts may support learners' transition from literal retrieval to deeper meaning-making. The findings support the development of localized, context-responsive literacy materials, while recognizing the limitations of the one-group design.

Keywords: *metacognitive scaffolding; reading comprehension; textual analysis; meaning-making; strategic activity sheets*

1. Introduction

Reading comprehension requires more than identifying explicitly stated information. Learners must also infer, predict, connect ideas with prior knowledge, evaluate textual evidence, and monitor whether their interpretation is reasonable. The completed thesis identified a recurring gap between learners' literal retrieval and their higher-order textual analysis, particularly in inferential tasks such as making inferences and predictive reasoning.

The study was anchored in Flavell's Metacognition Theory, which emphasizes awareness of one's cognitive processes and the regulation of learning through planning, monitoring, and evaluation. In the intervention, these processes were embedded in strategic reading comprehension activity sheets. The activity sheets were intended to provide structured prompts and checkpoints that could gradually support learners in becoming more independent readers.

Related literature cited in the thesis indicates that effective scaffolding should be responsive to learners' proficiency, the cognitive demands of the text, and learners' linguistic and cultural experiences. Studies discussed in the thesis also emphasize student-generated questioning, multimodal comprehension, metalinguistic awareness, culturally responsive materials, and explicit support for inferential reasoning. Within the Talugtug District context, the study sought to contribute a practical and resource-conscious approach that could be used in regular classroom instruction.

Statement of the Problem and Objectives

The study addressed the following questions: (1) What is the pre-test performance level of students in textual analysis? (2) Is there a significant difference in reading comprehension scores after the use of the activity sheets? (3) To what extent do the activity sheets improve students' meaning-making skills? (4) What activity sheets can be proposed based on the results? and (5) What is the effect size of metacognitive scaffolding on students' overall literacy?

The null hypothesis stated that there is no significant difference in students' reading comprehension scores before and after implementation of the metacognitive literacy scaffolding activity sheets.

2. Materials and Methods

Research Design

The study employed a quasi-experimental one-group pre-test/post-test design. A baseline assessment was administered before the intervention, followed by the use of strategic reading comprehension activity sheets integrated into regular learning activities. A parallel post-test was then administered to determine changes in performance.

Participants and Sampling

Fifty (50) intermediate elementary students from schools in Talugtug District, Division of Nueva Ecija, were selected through purposive sampling. The selection considered learners' varied

reading-comprehension levels and their ability to participate consistently during the implementation period.

Instruments and Procedure

The main instrument was a researcher-made Reading Comprehension and Textual Analysis Assessment. The activity sheets included prompts for planning, monitoring, checking comprehension, making inferences, predicting outcomes, connecting text with experience, and evaluating one's understanding. Data sources included pre-test scores, post-test scores, and students' responses to the activity sheets. The thesis also described the use of item analysis to identify areas of difficulty and to inform the proposed instructional materials.

Data Analysis

Descriptive statistics, including mean scores and standard deviations, were used to summarize performance. A paired-samples t-test was used to examine the difference between pre-test and post-test scores at the 0.05 level of significance. Cohen's d was used to estimate practical effect size. The thesis also reported the use of assumption checks, including the Shapiro–Wilk test and inspection for outliers.

Ethical Considerations

Approval was obtained from the Schools Division Office of Nueva Ecija and participating school heads. Parent or guardian consent and learner assent were secured. Participation was voluntary, and learners were informed of their right to withdraw without academic penalty. Data were coded, stored securely, and handled in accordance with data-privacy principles.

3. Results

The pre-test results showed that learners performed better on literal tasks than on inferential tasks. The overall mean was 0.61, equivalent to 60.27% mastery, and was interpreted as moderate pre-test performance.

Skill indicator	Mastery	Interpretation
Identifying key detail	70.00%	Moderate
Locating information	66.67%	Moderate
Sequencing events	63.33%	Moderate
Identifying frequency	61.67%	Moderate
Recognizing outcome	65.00%	Moderate
Identifying final result	60.00%	Low–Moderate
Main idea identification	58.33%	Low–Moderate
Making inference	53.33%	Low
Understanding purpose	56.67%	Low–Moderate
Predictive reasoning	51.67%	Low
Overall	60.27%	Moderate pre-test performance

The comparison of pre-test and post-test performance is presented below.

Measure	Mean	SD	Mean (%)	Mean gain	t	p	Interpretation
Pre-test	6.03	1.45	60.27%	—	—	—	Moderate
Post-test	8.45	1.20	84.50%	2.42	12.85	0.000	Significant improvement
Difference	2.42	0.95	24.23%	2.42	12.85	0.000	Highly significant

The thesis reported a very large effect size for reading comprehension (Cohen's $d = 2.55$). Large effects were also reported for inferential skills ($d = 1.60$) and vocabulary understanding ($d = 1.46$). These values indicate substantial practical change within the participating group, although the one-group design does not establish that all observed gains were caused exclusively by the intervention.

4. Discussion

The baseline results indicate a distinction between learners' ability to retrieve explicit information and their ability to construct meaning beyond what is directly stated. The highest mastery levels were recorded in literal indicators, while predictive reasoning and making inferences had the lowest mastery levels. This pattern supports the rationale for using prompts that make higher-order reading processes visible and teachable.

The increase from 60.27% to 84.50% after the intervention suggests that the strategic activity sheets were associated with improved reading comprehension performance. The reduction in the standard deviation from 1.45 to 1.20 also suggests more consistent post-test performance among participants. The reported t-value and p-value indicate a statistically significant pre-test/post-test difference.

The findings are consistent with the literature reviewed in the thesis, which emphasizes structured scaffolding, explicit metacognitive guidance, student questioning, contextualization, and culturally responsive literacy instruction. The activity sheets may have helped learners connect textual information with prior knowledge and use checkpoints to examine their interpretations. However, the findings should be interpreted cautiously because the study used purposive sampling and a one-group design without a comparison group. Learner maturation, regular classroom instruction, testing familiarity, and other contextual factors may also have contributed to the observed gains.

For practice, schools may use the results to strengthen explicit instruction in inference, prediction, purpose, and evidence-based explanation. Teachers may also localize texts and prompts so that learners can connect reading tasks with familiar experiences and cultural schemata. School leaders and curriculum planners may consider supporting collaborative development, classroom monitoring, and periodic refinement of metacognitive activity sheets.

5. Conclusion

The study found that the participating learners began with moderate overall reading-comprehension performance and comparatively weaker inferential skills. After the

implementation of strategic reading comprehension activity sheets, mean performance increased from 6.03 (60.27%) to 8.45 (84.50%), with a reported statistically significant difference and very large effect size. The findings suggest that metacognitive scaffolding can serve as a practical instructional support for helping learners move from surface-level retrieval toward deeper textual analysis and meaning-making.

The study recommends the continued development and use of localized meaning-centered activity sheets; explicit classroom instruction in inference and predictive reasoning; integration of metacognitive prompts in regular and remedial reading programs; and longitudinal monitoring to determine whether gains are retained over time. Further studies should use larger samples, comparison groups, and mixed-method or longitudinal designs to strengthen causal interpretation and examine transfer across text types and learning areas.

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