LINGUISTIC INTERVENTIONS FOR METACOGNITIVE GROWTH: ENHANCING SEMANTIC AND SYNTACTIC PROFICIENCY IN STRUGGLING READERS

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ABSTRACT:
Struggling readers are often faced with challenges in both semantic and syntactic aspects of language. This holds them back from not only comprehending the reading text but further struggling with the ability to regulate their reading strategies like summarizing, clarifying, questioning, evaluating etc. This study focuses on the benefit of engaging in syntactic activities that will support them for their challenges in clause structure. Activities like clauses scavenger hunts, sentence building focussed on clause combination, and arranging story fragments in appropriate sequence are fun to do and support metacognitive engagement. Similarly, semantic activities that target antonymy, synonymy, hyponymy, and inferential relationships make reading and comprehension an easy process. These activities are paired with metacognitive prompts such as checking for keywords, reading sentences aloud, and associating words with ideas in the self check prompt format to foster metacognitive awareness and efficacy. Results from this intervention show improved semantic and syntactic skills in reading and comprehending with metacognitive awareness. The combined use of self-awareness prompts and structured linguistic activities, hold significant potential for supporting struggling readers.

INTRODUCTION:

Reading comprehension requires competency in both semantic (meaning) and syntactic (structure) skills. Struggling readers often lack the ability to understand and interpret clause structures and word relationships effectively. These challenges are further aggravated by limited metacognitive awareness, which reduces their ability to monitor, plan, and evaluate their reading processes (Flavell, 1979).

This study explores the role of linguistic interventions in enhancing semantic and syntactic proficiency and parallelly fostering metacognitive growth. Syntactic activities predominantly focus on understanding clause structures and building coherent sentences. While, the semantic activities target word relationships and inferential reasoning. Metacognitive prompts are incorporated to encourage self-reflection and awareness strategy to be used during these tasks.

Keyword - Reading comprehension, Semantic skills, Syntactic skills, Metacognitive awareness, Linguistic interventions, Clause structures, Word relationships, Metacognitive prompts

METHODOLOGY

Participants

The study involved 30 struggling readers of Grades 3, 4 and 5, from different backgrounds and schools. They were selected purely based on school and home reading challenges observed by their teachers and parents. A grade level reading comprehension text was given along with the customized MARSI and MAI assessments sheet. The pre-test indicates weaknesses in semantic and syntactic tasks and metacognitive awareness.

Instruments

- Pre- test with Customized Metacognitive Awareness of Reading Strategies Inventory (MARSI 1.0) : To measure Global Reading Strategies (GLOB), Problem-Solving Strategies (PROB), and Support Reading Strategies (SUP)

- Reading Comprehension text: To understand students' challenges in syntactic and semantic understanding.

- Activity-Specific Performance Metrics : To track progress in metacognitive awareness in syntactic and semantic tasks while reading. This is given in the form of self- affirmative statements. A

struggling reader would ask and say the statements while reading. This with practice will help them to identify his challenges and strength as a reader.

Intervention Design:
The intervention was implemented over 10 days, with a focus on syntactic and semantic games supported by metacognitive prompts:

Syntactic Activities:
1. Clause Scavenger Hunt : Students identify dependent and independent clauses in a given text.
2. Sentence Building : Students combine clauses to create grammatically correct and meaningful sentences.
3. Story Sequencing: Students rearrange scrambled story fragments into comprehensible narratives
4. Linguistic Interventions in the form of self- affirmative statements for Metacognitive awareness.

Semantic Activities:
1. Fill in the Words: Students select appropriate words to complete sentences based on synonyms, antonyms, or hyponyms.
2. Pick Alternatives: Students identify and use contextually correct words to fit into the sentence.
3. Pick the Opposite: Students choose antonyms to replace highlighted words in a sentence.
4. Linguistic Interventions in the form of self- affirmative statements for Metacognitive awareness.

Procedure
Each session included a 30-minute activity followed by metacognitive reflection. Completing the activity is not the criteria. The focus is on creating metacognitive efficacy, so students are encouraged to use statements like, "I will check for keywords," "I will read the sentence aloud," and "I will look for clues in the context", "Can I identify the independent and dependent clauses?", "I can break it down into smaller clauses to understand the relationships", for syntactic tasks. Similarly, for semantic tasks statements like, "When I see difficult words, I'll break down the words to better understand their meanings.","I will associate the word with an idea" or "I will check the relationship between words" are used. These prompts are introduced to students after they read a grade appropriate comprehension passage in the form of a pre-test. The students chose the strategies that they find applicable and easy. They are encouraged to either memorise them or prepare flash cards, which they can use during the reading process.

Students then engage in the fun linguistic activities that are specifically designed to support closer structure in syntax, and synonyms, antonyms, and hypernymsof semantics. They are encouraged to ask in their mind the prompts to create self- awareness. As they do this activity for a period of 10 days they learn many more self awareness strategies useful for reading there by creating Metacognitive efficacy in reading comprehension.

A post test is conducted using the same check- list as the pre test to see the achieved changes in results.

RESULTS:
Quantitative Findings
Pre- and post-intervention assessments revealed significant improvements in both syntactic and semantic awareness, along with metacognitive strategy use.

Table 1: Improvement in Syntactic Awareness (Pre- and Post-Test Scores)

Metric	Pre-Test Average	Post-Test Average	% Improvement

Clause Identification	2	4	100%
Sentence Building	1.8	3.7	106%
Story Sequencing	2.1	4.2	100%

Table 2: Improvement in Semantic Awareness (Pre- and Post-Test Scores)

Metric	Pre-Test Average	Post-Test Average	% Improvement
Synonymy Recognition	40%	72%	80%
Antonymy Recognition	35%	68%	94%
Inferential Reasoning	38%	70%	84%

QUALITATIVE FINDINGS :
- A student noted that finding keywords helped him understand if a clause could stand alone or not."
- Teachers stated that the student began independently identifying relationships between ideas and words, stating, now pause and think about how words connect in sentences and make sense, works for him.
- A Grade 4 student reported, I used to guess words, but now I look for clues in the sentence to understand them.
- Teachers observed an increase in student confidence, with one noting that students are starting to verbalize their thought processes during reading tasks.

DISCUSSION :
The findings indicate the effectiveness of combining syntactic and semantic activities such as scramble the sentences, sequencing the story, fill in the blanks, match the following along with metacognitive awareness through prompts. Engaging in syntactic fun activities such as clause scavenger hunts, sentence building, and story sequencing for syntax, helped students understand grammatical structures better and produce coherent sentences. At the same time, semantic exercises focusing on synonymy, antonymy, and inferential reasoning enhanced their vocabulary and contextual comprehension while reading. Students enjoyed doing these activities as it was not strenuous and demanding on the comprehension. A stress free linguistic activity supported them to inculcate the metacognition process better.

The following task inherently encourage the use of a variety of reading strategies:

1. **Global Reading Strategies:** Learners anticipated overall text organization, set reading goals, and related new structures or words to their prior knowledge, thus guiding their approach to both syntax and meaning.
2. **Problem-Solving Strategies:** Students continuously refined their understanding by applying the metacognitive prompts by revisiting confusing segments, verifying their interpretations against grammatical patterns, and drawing on context to clarify ambiguous meanings.
3. **Support Reading Strategies:** They employed tools and resources—such as note-taking, reference to clues, or discussion in their mind—to confirm their understanding, resolve

uncertainties, and improve their ability to integrate and retain new linguistic and conceptual information.

The integration of metacognitive reflection further reinforced students' ability to self-regulate and monitor their reading and learning processes. Thereby, aligning with established research on the role of metacognition efficacy in reading and comprehension (Mokhtari&Reichard, 2002; Schraw& Dennison, 1994).

CONCLUSION:

Linguistic intervention activities targeting syntactic and semantic concepts offer a structured approach to enhanced reading comprehension and metacognitive efficacy in struggling readers. Activities such as clause scavenger hunts, sentence building, and story sequencing along with tasks like synonym and antonym recognition, for syntax and semantic provide a comprehensive framework for linguistic knowledge. When paired with self awareness prompts, the struggling readers become a metacognitively aware and skilled reader. The study highlights the importance of integrating metacognitive prompts into these activities to foster self-regulated learning, empowering struggling readers to achieve greater academic success.

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