

TARGETED LANGUAGE DEVELOPMENT IN THE SCIENCE CLASSROOM

Background

My science classroom is a diverse community of students. Over 30% are ELL students working to build English skills and master science content at the same time. This is difficult work, and I wanted to better support them. My classroom research examined whether language-focused instructional strategies could impact language proficiency as well as science content mastery.



Focus Question

In what ways might targeted language development strategies influence ELL students' literacy and acquisition of science content knowledge?

Research Subquestions

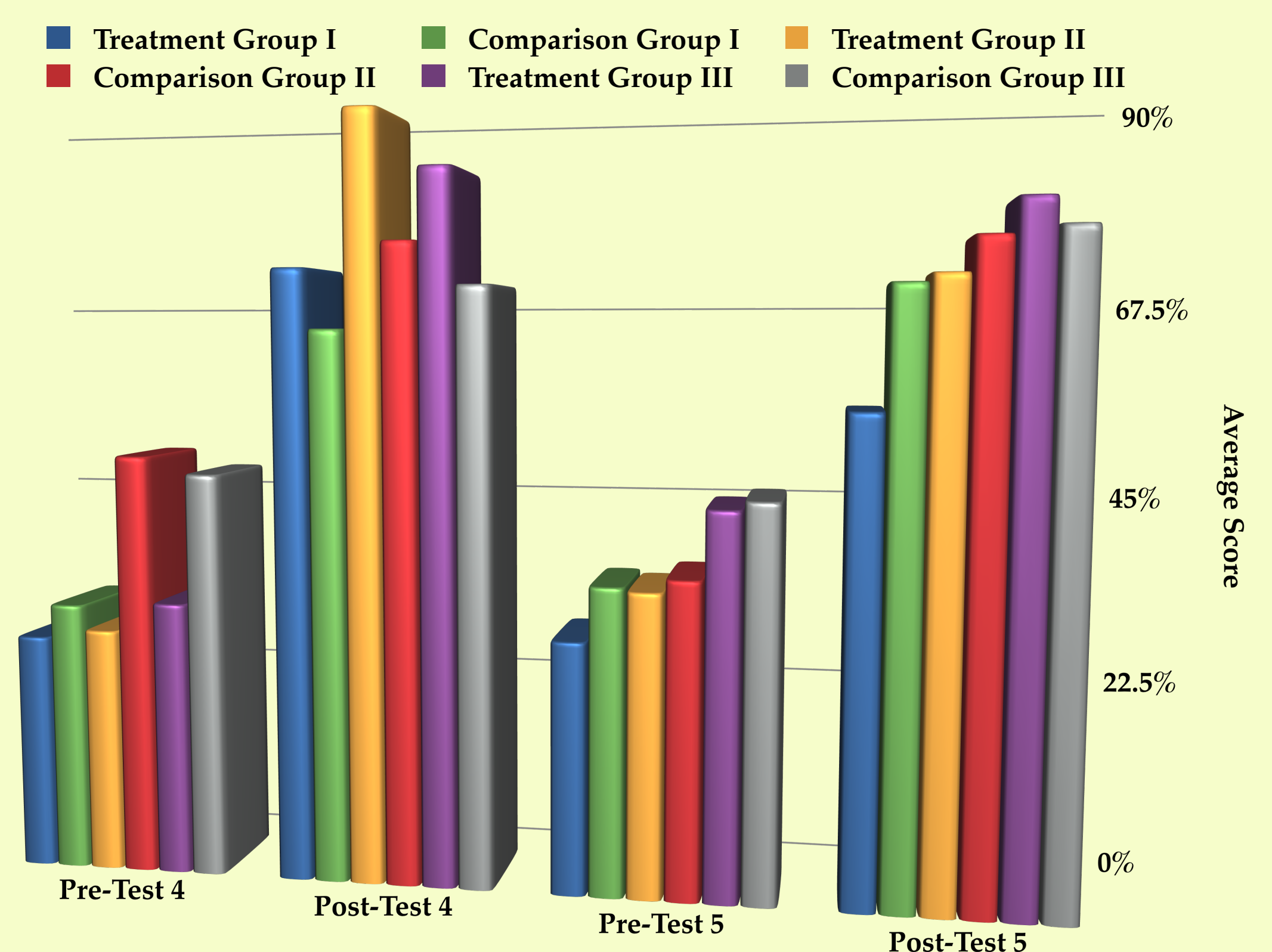
- 1). Do targeted language instructional strategies yield measurable benefits for students at various levels of language proficiency?
- 2). To what extent does diversification of strategies impact student engagement levels?
- 3). In what ways does targeted language development benefit students' scientific writing?



Methodology and Data Collection

The treatment group worked through the steps of Reading for Meaning strategic reading process 4 times over the course of the study. This active reading process addresses the four language skill areas: reading, listening, speaking, and writing. Supports included activation of prior knowledge, graphic organizers, paired reading, and small group discussion. Data was collected from the following sources: pre and post-tests, science notebooks, formative assessments, surveys, interviews, writing samples, and rubrics.

Comparison of Raw Test Scores for Chapters 4 and 5



Results

This study showed language interventions benefit students at varying levels of language proficiency in mastery of science content (Group I: ELL and Language Resource, Group II: Recent Graduates of the ELL program, and Group III: Non-ELL Students). Student engagement in the treatment group improved as students reported increased confidence and participation. In the area of scientific writing, the greatest gains were observed in use of textual evidence.



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