

# The Effect of Literacy Strategies in Science Content Areas on Redirections and Assignment Completion

Shaunna Holcomb, LaVenture Middle School, Mount Vernon, WA

## Introduction

In the spring of 2018, LaVenture Middle School was classified to be in the bottom 5% of middle schools in Washington State. Our students were not making adequate yearly progress on the state standardized tests. Reading scores were stagnating, most notably in the subgroup of English Learning (EL) students, which make up about 24% of our school.

This led to wondering if increasing specific literacy strategies in science would affect how students do in class. With Smarter Balanced Assessment scores not available for analysis until August, the focus of this action research was not content acquisition or reading skills, but how literacy strategies affect certain classroom behaviors, such as staying on task and completing work.

## Treatment & Data Collection Methodology

Treatment round 1:

- Teach relevant roots/prefixes/suffixes
- Pre-teach key vocabulary
- "Write to learn" instead of write to assess

Treatment round 2:

- Critical reading strategies
- Reciprocal reading/teaching strategy

## Sample

- Five sections of 8<sup>th</sup> grade life science, sample size (N) = 137 students
- Currently identified EL students = 38

## Main Research Question & Data Collected

How does the use of literacy in science content affect students' off task redirections and work completion?

Off Task Redirection Count

Work Completion Percentages

Teacher Reflection and Notes

## Results & Conclusion

Implementing the literacy strategies had mixed results: the average number of redirections decreased, however work completion continued to fluctuate. A heavy vocabulary focus correlated with a decrease in work completion, while a heavy critical reading focus correlated with an increase in work completion.

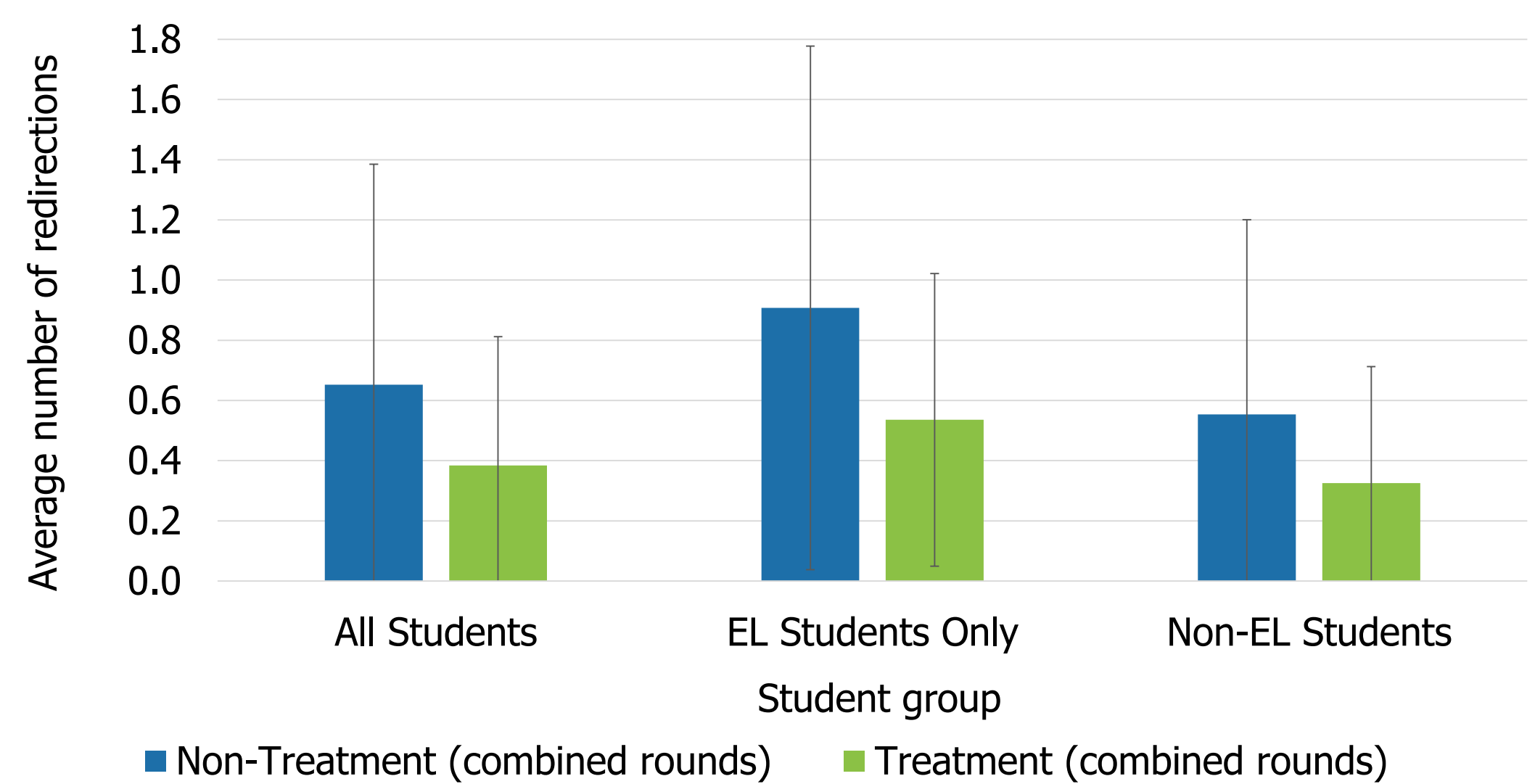


Figure 1. Average number of redirections per student for combined periods, broken down by subgroup, (N=137; EL n=38; Non-EL n=99)

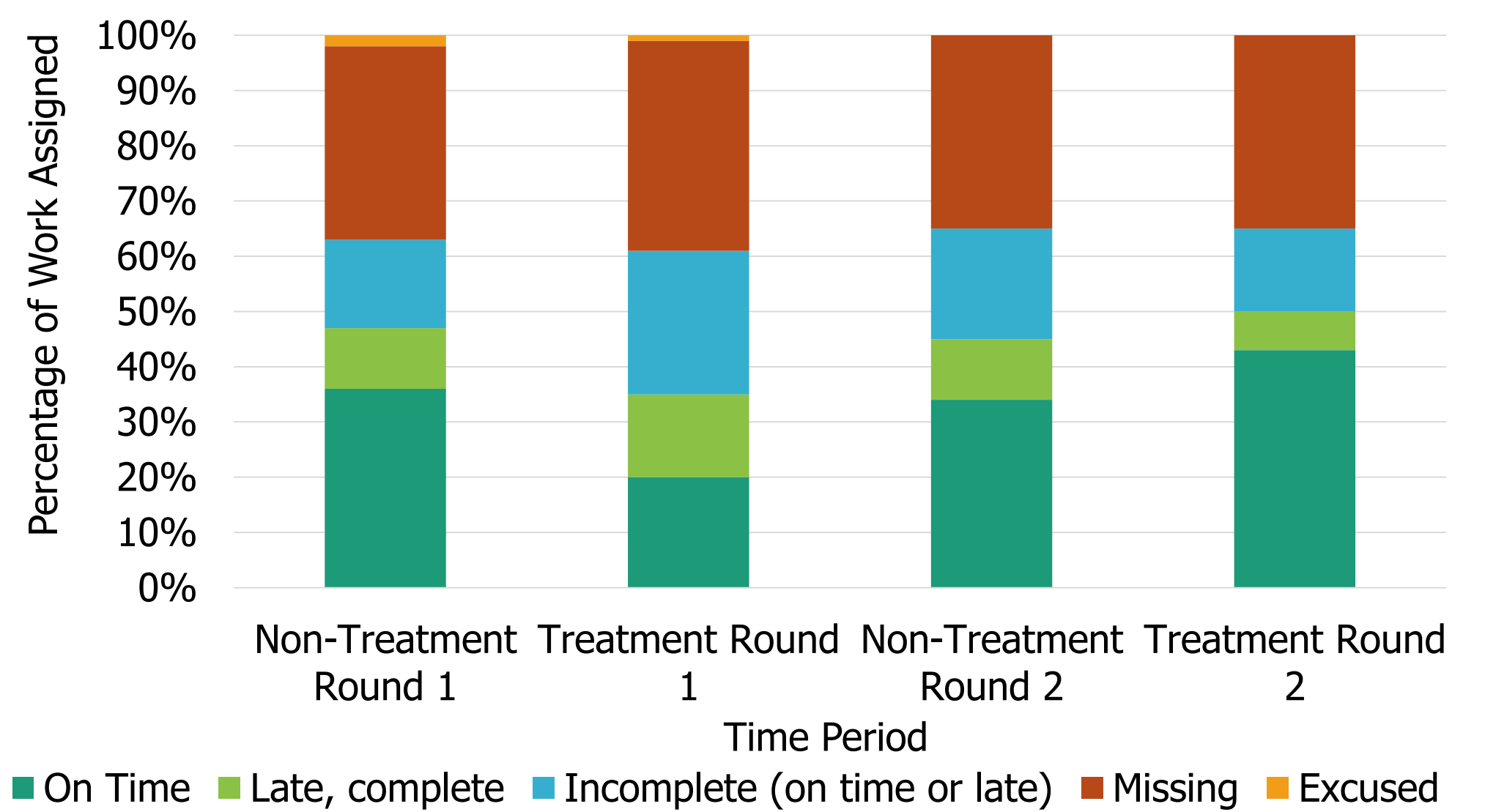


Figure 3. Work Completion Data for All Students, (N=137)

Student Quote about critical reading strategies: "When we have to make the prediction before going onto the next page and things like that, it helps because it makes you actually think about the text and what your reading so that when you get to the end of the reading you don't forget what you read, or just not have actually been reading and paying attention to what you were reading."

## Value

This classroom research project highlighted the effect that structured literacy activities can have on student engagement, and also increased awareness of areas of growth still needed. Structuring lessons around content vocabulary and critical reading are a step in the right direction of making science classes more equitable to bilingual/multilingual students and increasing learning for all students. Content area teachers need to build strong literacy teaching skill sets to facilitate this need for our students.

Areas of future work include:

- Blending the critical reading and vocabulary emphasis
- Motivating all students to complete all classwork, specifically EL students
- Increasing equity of assignments and accessibility in the science classroom

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