

The impact of biweekly reading assignments on student science literacy and self- perception of competence in science

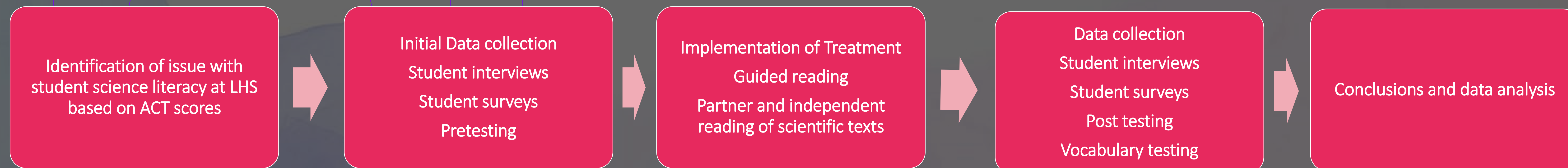


Research Question

How much do biweekly (every other week) reading assignments improve student literacy and confidence in science?

Research performed by
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Billings, MT, Fall 2023

Research Design



Treatment

Students were given reading assignments and guidance on how to read scientific texts. Eventually they read independently and were reassessed.

Data and Data Analysis

Student science literacy improved. A two tailed T test was performed on the data, $p < .05$. There was no statistically significant improvement in student self confidence. A chi squared test was performed on survey data. $p > .05$.

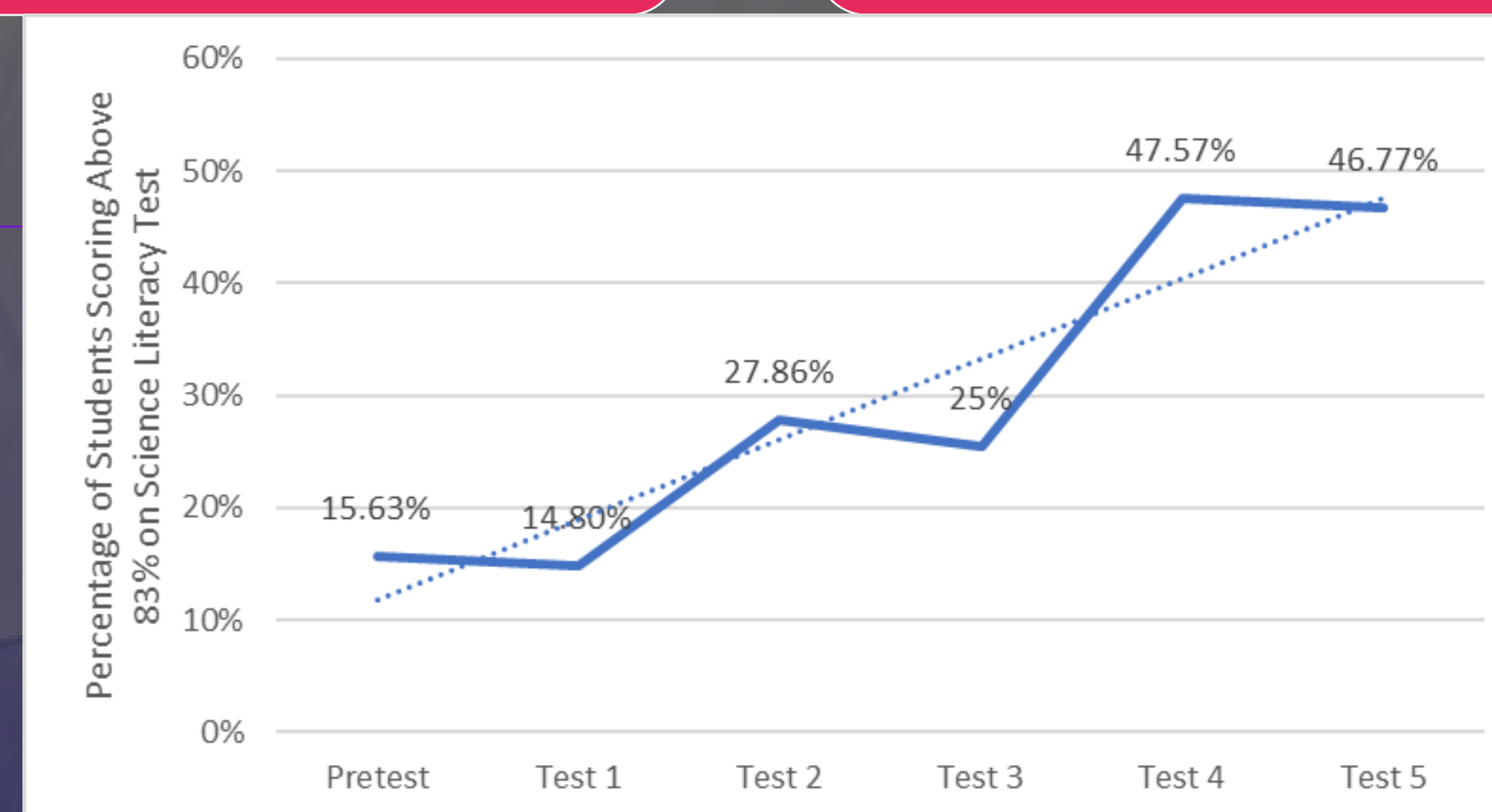


Figure 1. Graph of students scoring above 83% on science literacy test vs time. The graph shows an increase in the number of students scoring above 83% on science literacy tests over time. N=69.

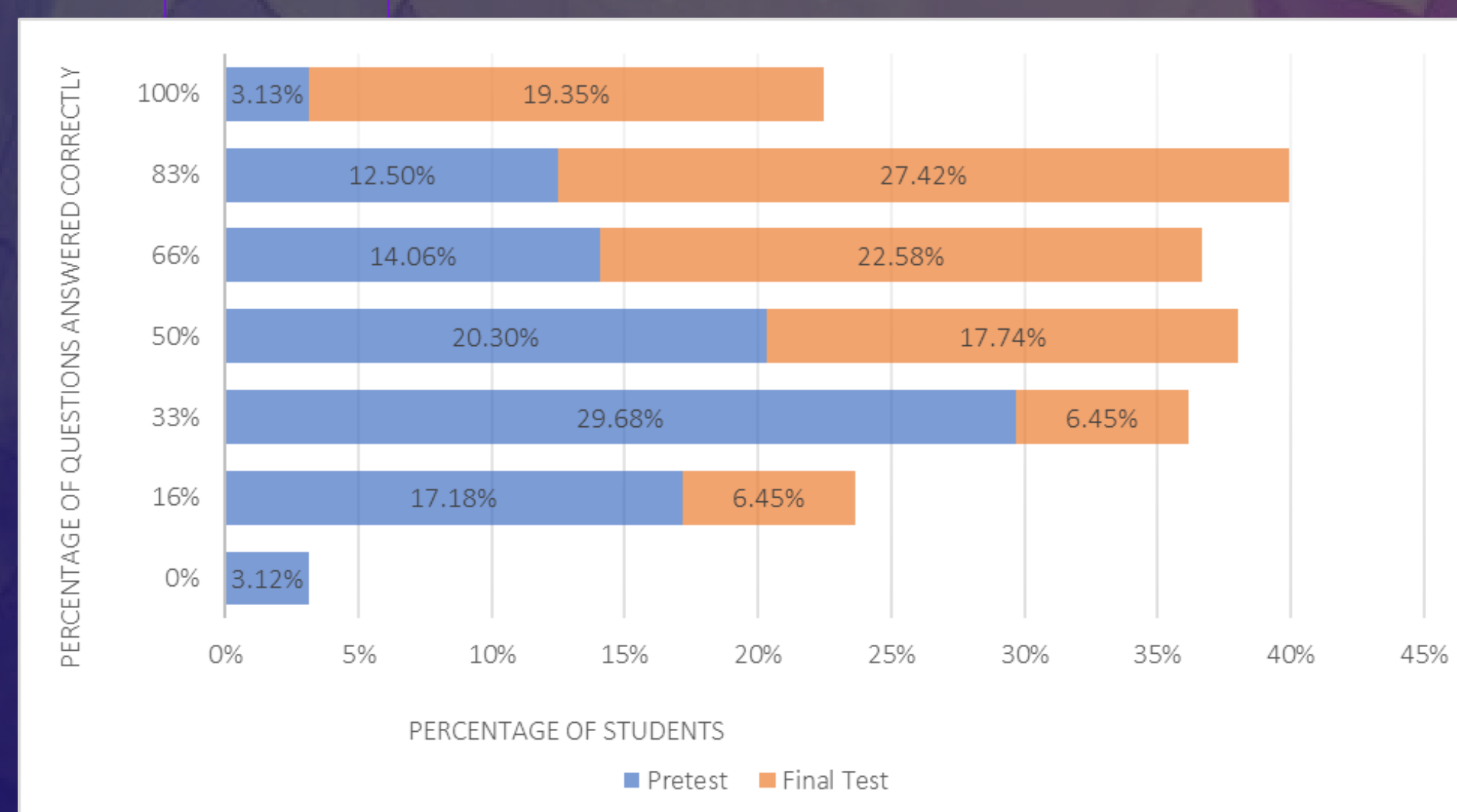


Figure 2. Pretest versus final test comparison. Graph of student literacy score improvement on pretest vs final test. n=63 for pretest. n=62 for final test.

Sample

The goal of this study is to improve student literacy and perception of literacy in science. The sample includes 69 students enrolled in chemistry class at Lockwood High School in Billings, Montana

Conclusions and Impact

Student literacy did improve in a statistically significant way, but student self perception did not improve. I need to implement additional strategies to improve student confidence. Performance of this study showed me that it is essential to take the time to find science literacy resources for students, and to utilize time in class for instruct students in science literacy.