

# Research: Strategic Tutoring

## Study 1

### Overview

This study investigated the effects of Strategic Tutoring on three junior-high students' academic performance. All three were currently failing two or more academic courses, and they asked for help with their Algebra I course. The students received Strategic Tutoring after school two or three times per week. A multiple-baseline across-students design was used that included baseline, strategic-tutoring, and follow-up conditions. During baseline, the students received traditional tutoring for the same amount of time each week. During the Strategic Tutoring condition, the tutor used Strategic Tutoring methods to instruct the students in algebra for the same amount of time as they received tutoring during baseline. During the follow-up condition, students did not receive tutoring. Measures included student scores on quizzes and tests in their Algebra course and the semester grade in the course. The tests and quizzes were created by the publisher of the textbook for the course, and they were administered by the teacher during regularly scheduled algebra class periods. No accommodations or help were given the students during the tests and quizzes.

### Results

During baseline, Students 1, 2, and 3 earned mean scores of 45%, 54%, and 59% on tests and 45%, 58%, and 61% on quizzes, respectively. All three students showed improvement in their test and quiz scores once Strategic Tutoring began. During Strategic Tutoring, their mean scores were 70%, 86%, and 87% on tests and 80%, 84%, and 91% on quizzes, respectively. After tutoring ended, their mean scores on quizzes were 78%, 57%, and 76%. (No tests were given during this condition.) Their semester grades were F, D-, and D during the first semester before Strategic Tutoring. Their second semester grades were C, C, and B- during Strategic Tutoring. Effect sizes (Cohen's  $d$ ) were 4.14, 1.44, and 3.78 for the three students, with a mean effect size of 3.12. These are very large effect sizes.

### Conclusions

All three students' scores on tests and quizzes increased and maintained after Strategic Tutoring began. All students' quiz scores decreased somewhat after Strategic Tutoring was discontinued, with one student returning to baseline levels. Nevertheless, two of the three students were able to keep their mean quiz score within the "C" level, when they had been failing quizzes during baseline. All three students passed algebra with grades of C or above during the semester in which Strategic Tutoring was utilized.

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## Study 2

### Overview

This study investigated the effects of Strategic Tutoring on students' academic performance plus their knowledge of strategies. Six junior-high students participated in this second study. One student had been diagnosed as having a learning disability in math; the others were considered to be at-risk for failure. They were all earning Ds and Fs in one or two courses. Again, a multiple-baseline across-students design was used. Scores on tests and quizzes as well as semester grades were collected. In addition, student knowledge of cognitive strategies was determined by interviewing students and asking them to describe strategies that they use in their courses. The courses targeted for tutoring and data collection were Transition Math, Algebra I, and Biology.

### Results

During baseline, the students earned a mean score of 50% on tests and quizzes; after Strategic Tutoring started, they earned a mean score of 80%. During the baseline semester, they earned a mean semester grade of F. During the Strategic Tutoring semester, five of the six students earned a mean grade of C. The sixth student earned an F because of absences, low homework grades, and missing or low test scores. The students were able to describe the strategies that they had learned and how they used the strategies. Four of the six students maintained their test and quiz performance level after Strategic Tutoring ended for four or five weeks. Effect sizes ranged from, -.89 to 10.72 ( $M = 3.12$ ). Student performance on the Strategy Knowledge test increased from a mean score of 15% to 85%.

### Conclusions

Strategic Tutoring improved five out of six students' academic performance in courses. As their test and quiz scores increased, their semester grade also increased. Further, the students' knowledge of specific strategies that they could use for their coursework also increased.

### Reference

Hock, M.F., Pulvers, K.A., Deshler, D.D., & Schumaker, J.B. (2001). The effects of an after-school tutoring program on the academic performance of at-risk and students with learning disabilities. *Remedial and Special Education*, 22(3), 172-186.