

Research Results

Denver Public Schools, Denver, CO, 2000

Abstract

In the summers of 1999 and 2000, Denver Public Schools implemented Cognitive Tutor Algebra I in 11 summer school sites. Course passing rates were very high. Additionally, both teachers and students felt the Cognitive Tutor was a beneficial tool.

Study Design:

No comparison group

Measures:

Teacher report/course grade

Study location:

Denver Public Schools,
Denver, CO (urban)

Study conducted by:

Denver Public Schools

Course assessed:

Cognitive Tutor Algebra I

Data collection date:

2000

District Information:

Type: Public, urban
Students enrolled: 68,893

Ethnic Breakdown:

African American: 21%
Asian: 4%
Caucasian: 25%
Hispanic: 48%
Indian: 1%

Participants

Participants were 476 Denver Public Schools students who failed an algebra course or an integrated math equivalent during the previous school year. Students were primarily 9th and 10th graders. They were enrolled at 11 summer school sites that used Cognitive Tutor Algebra I for their summer curriculum.

Method

Students were deemed to have passed their summer school course if they met standard criteria for 2 out of 3 assessments. The items used were the district's comprehensive mathematics exams, a portfolio checklist of skills, and traditional teacher records. Students were administered one version of the comprehensive assessments two-thirds of the way through the course and placed out of the remainder of the summer school session if they demonstrated sufficient proficiency with the material. Additionally, during the summer of 2000, students and teachers completed evaluation forms for the Summer Algebra Program.

Results

Table 1 shows the results broken down by year. Overall, 77% of the 476 students passed. Over half of the students who passed received a grade of A or B. Both students and teachers had positive remarks about the Cognitive Tutor. Teachers indicated they would be willing to teach in a similar summer school program again, and mentioned the Cognitive Tutor as one of the biggest factors in achieving student success. Students felt they learned a lot from the computer program.

	Summer 1999	Summer 2000
Total number of students	243	233
Overall Pass Rate	72%	83%

Table 1: Number of students and pass rates from both summers

Discussion

In both years of summer school use in Denver Public Schools, Cognitive Tutor Algebra I seems to have been a successful intervention. Students passed at an overall rate of 77% and both students and teachers viewed the tutor positively. In comparison, during the summer of 2000, 75 students were enrolled at a summer school site that used a different reform mathematics curriculum. These students passed at a rate of only 48%. While these students are not entirely comparable to the Cognitive Tutor students due to larger class sizes and possibly population differences, these results are very favorable. The district is pleased with these results and began using the Tutor for the regular term during the 2000-01 school year.

For more information or for additional copies of this report, please go to <http://www.carnegielearning.com/results/reports> or send email to researchpartner@carnegielearning.com

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