

Subjects: MIND Research Institute analyzed Math Initiative schools in the New York City Department of Education for math proficiency growth in the 2010/11 school year using New York State Testing Program (NYSTP) results in grades 3-5 mathematics. The Math Initiative, funded by local philanthropy, is designed to increase math achievement at lower performing schools through deployment of a research-based math teaching and learning approach, implemented via student and teacher use of visual math instructional software. Eligible schools, which were from the bottom 30% of the state in mathematics, applied for startup grants for two selected grade levels (e.g. grades 3 and 4). The program covers grade-level math standards and is designed for twice weekly use in sync with conventional math lesson pacing. Program usage was monitored digitally. All Math Initiative schools in NYC that averaged 70% or more of their students using the software at least once per week were analyzed. This report focuses on those 8 schools implementing the program nominally at grade 3, 4, and/or 5, with altogether 10 grades and 763 students. The comparison set was chosen to be similarly performing schools in NYC, which did not participate: 21 schools, 27 grades, and 2,296 students.

Program: In each grade using the program, all students and teachers are licensed to participate. The ST Math ® program consists of supplemental math instructional software which covers New York math standards at each grade level. The software presents the mathematics as a year-long curriculum of interactive, animated visual diagrams, or puzzles, for the students to solve. The students use the self-starting, self-paced instructional software twice per week under the teacher’s supervision. The teacher is trained to also use the software’s visual representations of mathematics concepts during regular classroom lessons, to connect to the conventional language-intensive math instruction.

Data Collection: The average math achievement scale scores, proficiency levels distributions, and student enrollment, were collected for each grade level for the years 2009/10 and 2010/11 from the New York State Department of Education website. Each year the data indicate the percentage of students at each grade who tested into the 4 different levels of math achievement. The average MIND Research Institute program implementation percentage and student weekly enrollment in the MIND software were collected from MIND’s digital usage data.

Analysis Summary: Changes from 2009/10 to 2010/11 in the percent of students at the top 2 achievement levels, Level 3 and Level 4, were evaluated for the ST Math group and also the comparison group of schools. A grade-wise growth comparison was evaluated (i.e. growth in same grade, same school, from 2009/10 school year to 2010/11 school year) and then aggregated across grades and schools.

Results: The grades implementing ST Math grew 6.1 points in the percentage of students at level 3 or level 4, as compared to an increase of 0.4 points for the comparison group (p-value = 0.17).

