



# Middle School Math Success

Adaptive Learning Program Bridges Gaps

## SOUTH NEW ROCHELLE FAST FACTS

- 3 Title I schools
- 70% eligible for free or reduced-price lunch
- 80% minority students

## DREAMBOX IMPLEMENTATION

- Deployed since 2011
- 852 K–5 students
- 100 middle school intervention students
- Tier I and II intervention
- Special education program
- After school program
- 40 minutes on DreamBox per week
- Classroom rotation model

## FUNDING SOURCES

- General operating funds
- Title I funds
- 21<sup>st</sup> Century grant

## ABOUT DREAMBOX LEARNING

DreamBox Learning's Intelligent Adaptive Learning™ program accelerates learning by ensuring every student works continually in their optimal learning zone and helps all students achieve math proficiency.

### → CHALLENGE:

#### Bridging gaps in math understanding

Every September at Isaac E. Young Middle School, approximately 12 percent of 6th grade students (of roughly 400 total) were identified as needing math intervention. And it turns out that this need wasn't limited to students.

Many of the middle school teachers were not trained to provide—or not comfortable providing—math basics to students performing significantly below grade level, or teaching elementary math fundamentals at the K–5 level.

A large percentage of the students at the school come from lower middle class or borderline poverty class families. Also the Latin population has doubled in recent years, bringing a large influx of immigrant families with beginning ESL needs. "Often kids in middle school have not been sufficiently grounded in

elementary math," says Michael Galland of the New Rochelle School District who used to chair the math department at Isaac E. Young. "We found that students' fragile understanding of math concepts quickly unraveled when asked to work at class level."

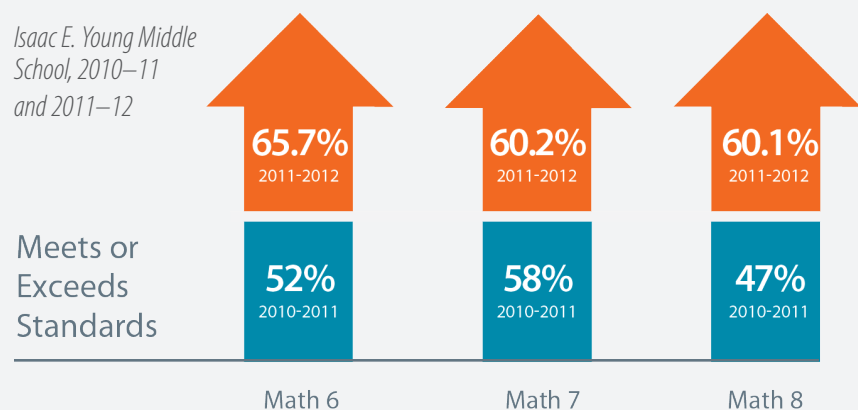
"These were kids," notes Galland, "with many struggles in their lives having absolutely nothing to do with intelligence but everything to do with poverty. We struggle with high-school graduation rates for these economically challenged kids, who often decide that 'it's not worth it' or 'I'm not going to make it.'"

Now Assistant Principal of Columbus Elementary, Galland and Columbus Principal Sonja Nuñez were determined, despite four years of downsizing and budget cuts that their students would get the Tier II intervention they needed.

## New York State Standards Yearly Test Results

### Middle School Intervention Students

*Isaac E. Young Middle School, 2010–11 and 2011–12*



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— Michael Galland, Assistant Principal

## → SOLUTION:

### Leveraging new adaptive technology

After trying different solutions at Columbus Elementary — including isolating and remediating the poorest performing 25 students and implementing multiple after-school programs—it was clear a more powerful intervention method was needed. Teachers also needed useful tools and guidance to enable them to intervene appropriately and with confidence when reinforcing elementary grade level math instruction.

Committed to equal access for all her students, Principal Nuñez shared Michael Galland’s conviction that leveraging technology would benefit both students and staff. She took advantage of out-of-school resources to fund both hardware and software needs to fulfill the vision of putting her school on the cutting edge of math-education technology.

“We chose DreamBox as a best-in-class adaptive instructional technology to close the achievement gap at Isaac Middle School,” Galland says. “The greatest thing about DreamBox is that because of the way the program is constructed, you can’t ‘skip steps.’ Everything is structured to progressively and logically increase conceptual understanding and math proficiency. The best way to transmit mathematics and help kids construct math is to engage them in context and

progressively help them develop more and more efficient strategies. DreamBox makes all that digital, but it also allows instructors access to the data they need to raise the level of personalized instruction. It’s the best possible blend of online and one-on-one education.”

## → IMPLEMENTATION:

### Individualized instruction and powerful teacher tools

Because many Columbus students have no computer access at home, their time online is mostly during school hours. Three to four days a week, a workshop model is used in class. As a third of the students work online, teachers are able to access data and observe where children need additional help, pulling them into small groups and supplying individualized instruction, where and when it’s most needed. Additionally, 125 learners are involved in an after-school program four days a week. There are also software licenses for Special Education students to provide additional support. Furthermore, Principal Nuñez saw to it that teachers with their own children were provided DreamBox licenses, so they could work with them on DreamBox, to better get a feel for the technology.

“When we began using DreamBox for interventions at IEYMS for 6th graders,” observes Galland, “students logged a lot of computer time. Most of them started

at the 2nd grade level and progressed from there—slowly, but surely. What is truly remarkable is their willingness and involvement. Hands go up and many of them are truly engaging in math for the first time. Using the math rack, number line, and other models has empowered students so they can follow discussions and investigations. Thanks to their stronger whole number, decimal, and fraction sense, most are now keeping up with the 6th grade curriculum. They

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DreamBox Teacher Tools are powerful learning aids for educators. Middle school teachers who were lacking a background in K–5 math now have a sense of elementary school models, and how they can help even their lowest-achieving students. “Our teachers at Columbus Elementary are learning to be exceptional elementary math teachers,” observes Galland. “With renewed math confidence and ability, watching the



students work through the lessons has been a revelation for them. Our teachers have benefited from the models and tools in DreamBox designed to support the development of strong fraction-sense and proportional logic. Some of them have told me that they used to dread teaching fractions but now, they realize they can be great at math, too.”

### → RESULTS:

#### Dramatic improvements and elementary school preparation

Over the course of one year, the middle school students of South New Rochelle achieved gains of 10 to 15 percent. Teachers have improved their own skills and confidence in their abilities as mathematicians and teachers. “Now fractions, percentages, decimals, and ratios are equal in students minds,” Galland says, “and kids

can flexibly move and solve problems as they encounter them, and they are enabled to move into algebra and the higher math they need.”

This year all 870 K–5 students at Columbus have started on DreamBox to help them maximize their math comprehension. “DreamBox is now our cornerstone of a successful and long-term blended learning math strategy,” says Principal Nuñez.

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— Michael Galland, Assistant Principal

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