SUCCESS SPOTLIGHT

How One Connecticut District Upended Its Math Curriculum to "Shift" with the Times

Stratford Public Schools

STUDENTS 6,699

GRADES Pre-K–12

TITLE I 51%

When Harold Greist became the coordinator of math and STEM education for Connecticut's Stratford Public Schools (SPS) in 2013, he faced what he called a "very grim" situation.

During Greist's first year in his new role, the number of students in Grades 3–6 who met or exceeded proficiency standards in math, as measured by the Connecticut Smarter Balanced Assessment (SBA), ranged from only 18 percent to 28 percent. Students' math scores were also significantly lower than their English language arts (ELA) scores. The rate of students who met or exceeded standards for ELA surpassed those in math by nearly 14 percentage points in Grade 3 and more than 30 percentage points in Grades 4–6.

Greist's position meant that he was responsible for ensuring his district updated its curriculum to reflect the rigorous Connecticut Core Standards. To do that, he needed to tighten curriculum alignment, modernize teaching practices, and secure resources that would aid teachers in making the daunting cultural shift he was asking them to make.

"*Ready* gives you a chance to learn how students find their own ways to solve. It gives them a chance to question, to think independently and as a partnership, and to think more outside the box."

—**Grade 3 Teacher,** Nichols Elementary School

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What They Did

Greist's primary requirement for a new core math curriculum was tight alignment with the new state standards. However, the more he researched, the more he realized that he needed to add the following elements to his criteria for a new elementary math curriculum:

> *"The level of discussion has skyrocketed. Students are able to explain their thinking so much better. They can tell me all the 'whys.' They often joke with me and say, 'Watch, she's going to ask, 'Why?' again. That's her favorite word!'"*
>
> —**Grade 3 Teacher**, Stratford Public Schools

Strategic Focus on Grade 3

While researching the new math standards, Greist found that Grade 3 was, as he put it, "a huge transition year" because it's when students move from addition and subtraction to multiplication, division, and fractions. Greist wanted to know: How is this transition handled? How are fractions introduced?

Balance of Different Question Types

Greist noted that SPS teachers were accustomed to math instruction in which most of the questions students encountered during lessons were focused on procedures (i.e., memorizing the steps it takes to get to an answer). However, to develop deep mathematical knowledge, SPS students needed more exposure to question types that helped them understand mathematical concepts, such as conceptual and application questions.

High-Quality Teacher Resources

Greist knew that adopting a new math curriculum was asking a lot of his SPS teachers, so he deliberately looked for programs that would quickly earn teacher buy-in by meeting their core needs. The new curriculum should be, among other things, explicitly aligned to standards, full of easy-to-access resources, and defined by rigorous content.

After a yearlong pilot, Greist chose to adopt *Ready® Mathematics* from Curriculum Associates as the core resource for instruction in Grades K–6 for the 2014–2015 school year. A year later, Greist added *Ready Mathematics* for Grades 7–8 for the 2015–2016 school year.

In the early days of implementation, some teachers protested that *Ready Mathematics* was too challenging for their already-struggling students. Families also voiced concerns about its rigor. SPS education leaders addressed these concerns by ramping up professional development, and Greist shepherded a new math coach program to support teachers with training, lesson planning, and advice about *Ready* best practices and resources, such as the Teacher Toolbox for *Ready* instruction.

What They Accomplished

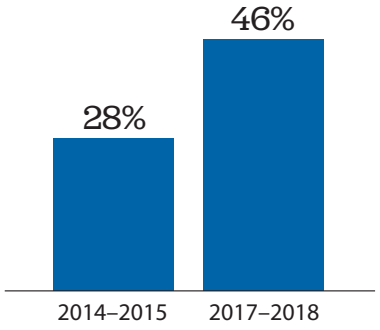
After four years of using *Ready Mathematics*, SPS was able to point to quantifiable performance improvements as well as stronger classroom cultures that encouraged discourse and student engagement.

Grades 3–6 saw increases in the percentage of students meeting or exceeding math standards as measured by the state assessment. Grade 3 had the greatest percentage point growth. In 2014–2015, when *Ready* had only been part of the Grades K–6 curriculum for a year, just 28 percent of Grade 3 students met or exceeded the math standards. But in 2017–2018, 46 percent of Grade 3 students, who had the benefit of using *Ready* since Grade K, met or exceeded the standards.

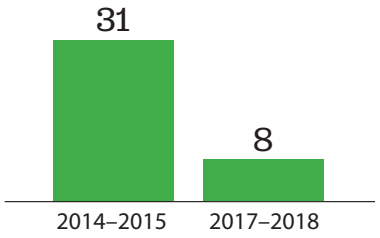
Four years with *Ready Mathematics* also enabled SPS to close a performance gap in Grade 3 between math and ELA results. In the 2017–2018 school year, the percentage of Grade 3 students who met or exceeded standards for math was higher than ELA for the first time since the implementation of the SBA. Meanwhile, Grade 4 students narrowed the 2014–2015 31-point gap to 8.

As a result of the *Ready Mathematics* curriculum, SPS students are well versed in growth mindset and have embraced the idea that they are players in their own learning. "We're always telling people about *Ready*," Greist said. "We're hearing from upper-grade math teachers that our students are coming in more and more prepared as the years go by. It's been a real success."

Rate of Grade 3 Students Who Met or Exceeded State Math Standards



Percentage Point Gap between Grade 4 Mathematics and ELA Proficiency Scores



"My advice for teachers starting out with Ready *is to believe in it. Really fall in love with that lesson design, and allow yourself to use all the parts slowly. Trust the weeklong sequence, and stick with days one, two, three, four, and five.* Ready *moves students through the concrete to the representational to the abstract. It's so important that all students go through each of those steps."*

—**Grade 1 Teacher**, Nichols Elementary School

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