

SUCCESS SPOTLIGHT

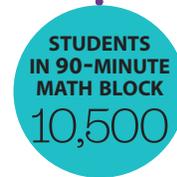
Reimagining Middle School Mathematics Instruction in Rutherford County Schools Adds Up to Big Results

Rutherford County Schools in Tennessee is an award-winning district and a public education leader in the state.

With 11 traditional middle schools (Grades 6–8) ranging from 800–1,600+ students and two academic magnet schools serving middle schoolers, the district has a unique mix of urban and rural students across all its schools (Grades K–12) and a growing English Learner population.

While the district traditionally performs well, the fall 2021 Grades 6–8 mathematics data told a different story. Rutherford County middle school students were 42 percent proficient in mathematics and awarded a Level 5 status.

Rutherford
County
Schools



“Our students are getting math instruction that’s almost double [that] of their peers every single day with *Ready*[®] *Tennessee Mathematics* and *i-Ready Assessment* and instruction from Curriculum Associates.”

—Barbara Powers

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Mathematics Scores Dip

“We started looking across the board and saw a huge dip in our mathematics scores, especially from fifth to sixth grade,” said Dr. James Sullivan, former assistant superintendent for curriculum and instruction and now director of schools at Rutherford County Schools. “The dip wasn’t a result of a deficit by our teachers or students. It was because in sixth grade, we take away 30 to 40 minutes of daily mathematics instruction that elementary students were used to for six years of their lives. We were expecting them to be successful with a 45- to 55-minute mathematics block instead of a 75- or 90-minute mathematics block.”

Since Rutherford County Schools had been struggling with inconsistent mathematics growth among its middle schoolers for a few years, the district decided to implement a 90-minute daily mathematics block for the 2021–2022 school year.

While serving as a middle school principal at a previous district, Sullivan had implemented the 90-minute mathematics blocks. The intention was to help students master their foundational skills while offering additional time for mathematics instruction. Within a year, their mathematics numbers had increased.

Since Rutherford County Schools had been struggling with inconsistent mathematics growth with its middle schoolers for a few years, the district decided to implement a 90-minute daily mathematics block for the 2021–2022 school year. This required a shift in mindset and some additional training for teachers, but there wasn’t much pushback. “Having a year of successful data at my previous school helped with buy-in, and people were willing to try something new,” said Sullivan.

“Several years ago, we decided to dedicate more time to math instruction by implementing 90-minute blocks with our middle schools,” added Barbara Powers, middle school coordinator. “At that time, several changes were initiating with our middle school structures, and this was an opportune time to enact a transition for math.”

What They Did

In order to close the mathematics learning gap, the district replicated the 90-minute daily mathematics block for its Grades 6–8 students in 11 different schools in fall 2021. School leaders wanted to determine if there really was something behind increasing mathematics instruction time—but finding the added time took some creativity.



Implementing a 90-Minute Mathematics Block

First, Sullivan and his team eliminated homeroom altogether. Then they shaved seven minutes off both science and social studies to get to 90 minutes. “We wanted to match the mathematics instructional time these students had in elementary school so they could learn the foundational skills and build the confidence they need to succeed when faced with higher-level mathematics,” he said. Mathematics and English language arts are two subjects the district is measured on, so they are a priority. “I started as a science teacher and wouldn’t want to take away from science [or social studies], but we have to expose our students to what’s going to help them most moving forward,” he said. And mathematics concepts take a little extra time to master.

Melinda Fleischer, middle school mathematics specialist, developed a daily framework to make the most of the 90-minute mathematics block. It starts with a five- to 15-minute number sense routine to promote positive mathematics discussion followed by 45 to 60 minutes of high-level, standards-aligned mathematics tasks accessible to all levels of learners. This segment includes 10 to 20 minutes of exploration and 10 to 20 minutes of a share/discuss/analyze phase. Next, students move on to a formative assessment for five to 10 minutes, in which they gather evidence of student understanding and reflect on it to explore next steps. They close out the block with five to 10 minutes of discussion and reflection.

Fleischer also designed a block for focused lessons and small groups. It starts the same way as the whole class approach, with a number sense routine, but then breaks into a five- to 10-minute focused lesson on a standards-aligned learning target followed by 30 to 40 minutes of guided groups and learning stations. Students end with formative assessment and closure.

Providing a Mathematics Foundation

Because mathematical concepts build on each other, it's critical for students to master these skills early on. "Our students are getting math instruction that's almost double [that] of their peers every single day," Powers said. "We rely on *Ready Tennessee Mathematics* and *i-Ready Assessment* and instruction from Curriculum Associates." Sullivan added, "These products provide a foundation for us to start helping with standards mastery and give us a consistent tool that indicates where our kids are at."

"Curriculum Associates has helped us maintain a focus on grade-level standards," said Fleischer. "The materials help because they are aligned to our state standards. We use the Diagnostic as our universal screener when we're looking at math intervention placements for students, but it also provides differentiated instruction. Having access to instruction for all grade levels through the [Teacher] Toolbox is a huge benefit for teachers."

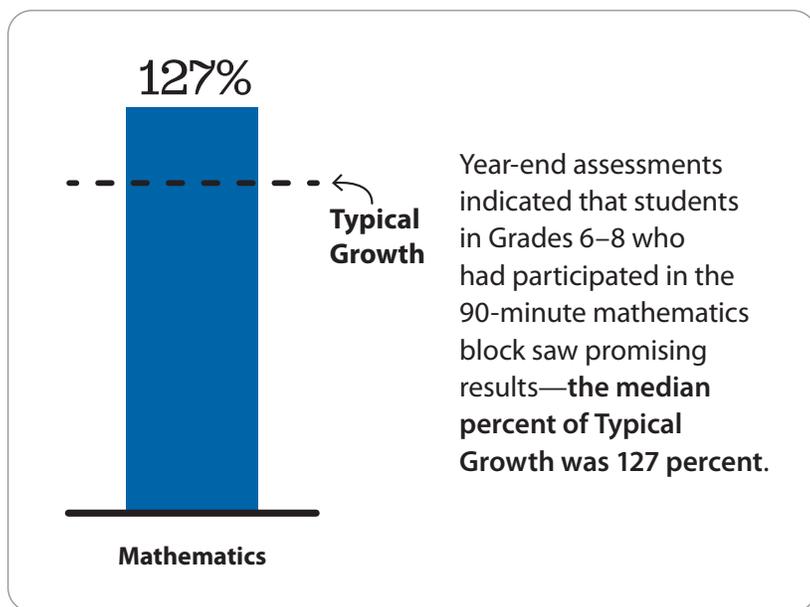


What They Accomplished

Several schools saw the median percent of Typical Growth achieved increase more than 35 percentage points.

Rutherford County Schools' latest rankings from the Nashville Business Journal rated it as number one for elementary, middle, and high school, with many of its schools in the top 25 for each category. Additionally, several elementary schools were rated as most improved on their test scores.

While Rutherford County Schools' approach was experimental, it has more than paid off, and it will be part of the district's plan in the future.



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