Middle School Students in Levelland, Texas, Close Gaps With the Texas Math Solution

STAAR scores are up, and the district is happy with its new, aligned curriculum.

Challenges:
- Pandemic-related learning gaps
- Stagnating assessment scores
- Unaligned curriculum
- Low engagement
- Reaching all students in a diverse population

Solutions:
- Texas Math Solution

Populations Served:
- 6-8 grade students

Results:
- Closed learning gaps and enhanced conceptual understanding
- Improved assessment scores
- Aligned curriculum that
- Engages a wide variety of students

Coming out of the pandemic, Christy Barnett, Instructional Coordinator for Levelland Independent School District in Hockley County, Texas, and an educator of 28 years, knew her district needed a new math curriculum.

“We wanted to close gaps in students’ math learning and unify instruction after one-and-a-half years of online classes,” Barnett explains. “And we also needed to streamline so that every student who comes through Levelland Middle School has the same instruction with the same materials. Carnegie Learning’s Texas Math Solution got us where we wanted to be.”

The Texas Math Solution, which Levelland Middle School implemented in the fall of 2021, blends MATHbook, a consumable, write-in textbook that encourages students to create their own mathematical knowledge, with MATHia, the adaptive learning software that supports the specific skills each student needs.

A year and a half after implementing the Texas Math Solution, Barnett and her fellow educators are thrilled with the results. Mathematical curiosity is thriving, scores are improving, and teachers, students, and families appreciate a math program aligned across grade levels.
Real-World Math That Goes Beyond Tips and Tricks

Provided through the Texas Education Agency (TEA), the Texas Math Solution is different from other programs because it equips students with deep conceptual understanding—teaching them the "why" behind mathematical processes and not just the "how."

“I like the theoretical understanding students gain from Carnegie Learning,” says Barnett. “I feel like when I first started teaching in the 90s, and even today, math teachers can get hung up on teaching tricks or strategies to get by and not ever have students gain that underlying mathematical knowledge they need to progress. It's different with the Texas Math Solution. They don't just learn how to do something; they learn why a certain mathematical process works.”

Rather than offering the tips and tricks Barnett mentions which aim to help students arrive at the correct answer, the Texas Math Solution fosters true understanding of complex ideas by situating math in real-world contexts.

“I think we’re building lifelong mathematical thinkers through what we’re doing in our classrooms,” adds Amanda Rodriguez, a 6th-grade teacher with 16 years of experience. “Both with the conceptual understanding piece and by applying math to real-life situations. I remember a lesson where we found the areas of different parts of a park: baseball field, tennis court, and so on. Kids remember those activities so much better than a lesson where I'm teaching area just with numbers or shapes.”

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Prioritizing Mathematical Discourse to Reach All Students

Another unique aspect of the Texas Math Solution is that students learn from each other through mathematical discussions based on guided teacher questioning.

“The discussions are a huge part of what makes this program so great,” says Rodriguez. “When the higher-level kids’ wheels are turning, and they discuss math with each other, and everyone else gets to hear that, that’s where the connections start to happen for those low- and mid-achieving kids.”

“The peer interactions are a big reason the program works,” agrees Kathy Shepherd, a 6th-grade math teacher with five years of experience and a background in special education. “I can explain something, and while some students will get it, others won’t. But it just tends to work when peers explain concepts to each other. The more perspectives a struggling student is exposed to, the more likely something will click. And they have great conversations as they’re solving problems together,” Shepherd continues. “They totally take control of the learning. Those are the best moments as a teacher.”

Spiral Instructional Design for Easier Connections

Rodriguez, Shepherd, and Mallory Reeves, a 7th-grade math teacher in her second year of teaching, all point to the Texas Math Solution’s spiraled design, where concepts resurface in new ways throughout the curriculum, as another key to their success as teachers and their students’ success as learners.

“One piece of the curriculum always ties into the next piece,” notes Reeves, “so it’s very fluid, and we could always reference past lessons, which made the connections between different mathematical concepts clearer to students.”

“With the spiral design, review is constantly built in,” Rodriguez adds. “We started the year teaching the area of triangles, and then, ‘Oh, look!’ It showed up again in April in a different way. So connections are made across the year and even from year to year. It just flows.”
Challenging Students at All Levels Through Personalized Math Education

Because it draws on every learner’s unique assets and models multiple approaches to achieving mathematical understanding, the Texas Math Solution engages and challenges all students, whether they’re advanced or still catching up to grade level.

Reeves agrees that privileging multiple approaches has proved especially fruitful during group work, which includes a range of students. “My groups are a mix of low, high, and middle-performing students,” she shares. “And it was so cool to watch the lower-level students leading the group during some parts of the lesson and the more high-achieving students leading during other parts. There was a lot of variety where different types of learners ‘got it’ and were able to lead, but it was never the same kids.”

While the Texas Math Solution is built for all learners, Levelland teachers have seen particular benefits with their special education students, who often risk falling below grade level, and their honors classes, which are often full of kids who get bored when the work isn’t challenging enough and then plateau.

Building Skills With MATHia While Preparing for the STAAR

MATHia is the one-on-one AI-driven coaching software that helps students build the skills they need at the pace best suited to them. The adaptive learning program is comprised of questions that mirror the new item types on the STAAR redesign, meaning that preparing students for the STAAR is organically integrated into learning.

“The kids really enjoyed the MATHia piece,” Rodriguez reports, “They liked learning on their own. And they liked the encouragement of Tutor Bot dancing across their screens. And, of course, the STAAR readiness is a huge bonus.”

Levelland educators also appreciate how MATHia’s robust and usable data lets them monitor progress and offer support on the specific skills students need help with.

“I have a student who missed one problem on the benchmark test and was bothered because he wanted a perfect score. A few weeks later, he was doing a problem in MATHia similar to the one he missed, and a lightbulb went off. ‘Oh,’ he said. ‘This is what it’s asking me. I won’t miss this problem next time.’ And he didn’t.”

Amanda Rodriguez
6th Grade Teacher

“The spiraled review is so important,” echoes Shepherd. “Because typically, you teach something, move on, and a fraction of the information will stick with students. But the continuous review widens the scope of their learning, and they remember more.”

The spiral design these educators are employing so effectively is not a happy accident. It’s based on intentional instructional design driven by research-backed principles steeped in the learning sciences. Evidence tells us that continually incorporating previously-learned content in new ways maximizes student learning, and these findings inform every lesson in the Texas Math Solution.
Special Education Students Succeed With the Texas Math Solution

Reeves is ecstatic about the Texas Math Solution’s impact on her special education students. “I had quite a few special ed students working well below grade level who flourished with this program,” she reports. “They were able to go piece by piece, and once they built confidence, they could lead their groups.”

Shepherd also notes that being able to present various mathematical approaches has been particularly advantageous for her special education students. “You’ve got to find different ways to get your special ed kids on board,” she shares. “I have students who shut down when I’m talking to them, but then they’ll get with their peers, and they’ll suddenly hear something that will help them make a connection and understand the math. Carnegie Learning supports a wide variety of thinking and learning styles, and that’s good because that’s what we’ve got!”

Regarding MATHia, Reeves notes that many of her special education students initially found the program challenging but came around when they realized they could work through each problem at their own speed. “I’ve had several special education students get really excited about using MATHia,” she says. “They told me they’d hated math their whole lives, and now they got it because they got to work through each step and learn from their mistakes without punishment.”

The Texas Math Solution Challenges High Achievers

As every math teacher knows, it can be difficult to find a curriculum that simultaneously supports special education students in doing grade-level work and keeps honors students motivated, but Rodriguez is happy to report that the Texas Math Solution has kept her high-achievers challenged.

“It was hard to push the high-level kids with our old curriculum,” she says. “They were just kind of going through the motions. But with Carnegie Learning, there is so much higher-level thinking, and even the kids who had previously been coasting had to take a step back and ask, ‘Wait, what are you asking me for now?’”

There are so many access points in the lessons, and kids who can go to really theoretical places with their thinking have the supports they need.”

Rodriguez is also quick to credit MATHia for allowing high-achieving students to work at a pace that keeps them engaged while they learn independently from their mistakes. She shares the story of one high-achieving student. “He missed one problem on the benchmark test and was bothered because he wanted a perfect score. A few weeks later, he was doing a problem in MATHia similar to the one he missed, and a lightbulb went off. ‘Oh,’ he said. ‘This is what it’s asking me. I won’t miss this problem next time.’ And he didn’t.”

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Seeing STAAR Gains With the Texas Math Solution

Because it draws on every learner’s unique assets and Although addressing learning gaps and aligning the curriculum were the primary motivators for Levelland’s adoption of the Texas Math Solution, everyone agrees that increasing STAAR scores is an added benefit.

“We saw some good gains this year,” shares Barnett. “Our ‘approaches mastery’ level went up seven percentage points, and our ‘meets’ and ‘masters’ increases were about the same. With a school our size, that’s quite a few more kids who passed the test than last year. And I think in year two, we’ll see more growth as students become more comfortable with the program.”

Speaking of STAAR success, Reeves shares the story of a “very off-the-wall 7th-grader” seeing significant gains on his STAAR test after using the Texas Math Solution for a year. “He was so high energy,” she recalls. “He never sat in his seat, and it was a challenge to get him on track.

In 6th grade, he scored 33% on his STAAR test, which placed him in a ‘does not meet’ standards category. Luckily, the Texas Math Solution naturally addresses the needs of kids like him by giving opportunities for collaboration, discussion, and creative problem-solving. It’s the opposite of a sit-and-get classroom, and because he could learn in a way better suited to him, this student ended up scoring a 55% on his STAAR at the end of 7th grade, which means he’s now in the ‘approaches’ standards category. This is big for this student,” Reeve emphasizes. “He’s in Special Ed and had a Behavior Intervention Plan in place. I am so proud that even with his very short attention span, he could build enough knowledge to pass the test.”

Although clearly pleased with her student’s success, Reeves adds that while Levelland Middle School, like all public schools in Texas, uses the STAAR test as an indicator of success, what matters more to her is student growth throughout the school year—not just their performance on a test that happens once a year. “I tell them that a test does not define them and that if they’re growing, that’s what they should care about,” she says. “And over 90% of my students made growth whether they passed the STAAR or not. They’re becoming better learners, and that’s what’s most important.”

![STAAR Results of 7th Grade Math](image-url)
Teacher Support That Goes Above and Beyond

Shepherd, Reeves, and Rodriguez agree that they had to scale back their roles as the central figures in their classrooms and let students take responsibility for their own learning to successfully implement the Texas Math Solution. And while this wasn't always easy, they also agree that the journey has been made much more seamless through Carnegie Learning’s unparalleled professional support.

“In terms of professional learning, we received outstanding support from the Carnegie Learning team,” reports Barnett. “Having reps come to Levelland and provide in-house support was a game-changer. They dug into the math with us, visited classrooms, and always had positive feedback for the team.”

Rodriguez, who serves as her school’s Professional Learning Coordinator, adds that availability and quick response times were two features of the support she particularly appreciated: “Our reps were so gracious with the help they gave us,” she shares. “We could go to them with any question. We could email and get a same-day response that solved our problem.”

“I loved having Carnegie Learning reps in my classroom,” adds Shepherd. “I would get great encouragement, but also great feedback on things to think about more. It was nice to have another perspective in the room.”

Bright Hopes for Future Math Success at Levelland ISD

After a successful first year and a half implementing the Texas Math Solution, Levelland ISD looks forward to greater gains to come. “I think we’re going to see even more positive effects in the future because it will no longer be brand new to our students,” says Barnett. “The Texas Math Solution is a fresh way of thinking, modeling, and doing mathematics, and everyone will go into year two better prepared.”

“We saw our whole school improve after starting the year nowhere near where we wanted to be,” says Rodriguez. “Phenomenal growth has occurred across the board, and I think that growth will continue.”

“At the end of the day, the Texas Math Solution helped transform my students into learners,” concludes Reeves, “and that’s why I got into education: to create learners. And to have a resource that helps me do that is incredible.”