

Soaring Above State Averages in Frisco, TX

A NEW WAY OF TEACHING MATH

Frisco ISD began the transition towards teaching mathematics conceptually about seven years ago, before the state of Texas changed its standards. They began rewriting their lessons and teacher materials to fit with this new type of instruction.

In 2012, the standards changed and Texas had a statewide adoption call for middle school curriculum. Chantelle Elliott, Math Coordinator at Frisco ISD, says that they decided not to adopt at all if they couldn't find a resource that supported what they wanted to do philosophically. "We wandered into the Carnegie Learning presentation and nearly fell out of our chairs," she said. "It was everything we were looking for." Ultimately, Carnegie Learning was approved by teacher-vote and adopted for middle school. A year later, it was adopted for high school as well. According to Chantelle, "Our teachers who have embraced Carnegie Learning say they would never go back to another way of teaching."

Frisco ISD also receives professional learning to support the transformation. Over the past four years, the district offered teachers new to Carnegie Learning a two-day initial training. In Year 1, each school was also offered the option of 1–2 days of on-campus support, which they could request as needed in the following years. All new schools that opened received two days of on-campus support as well.

The district has now implemented a new cadre of campus teacher leaders called Math Instruction Peer Support (MIPS) who are trained by Carnegie Learning during the summer. They learn best practices, implementation support and instructional coaching strategies which equip them in their role of providing ongoing campus support of teachers creating and facilitating student-centered mathematics classrooms.

BETTER OUTCOMES FOR STUDENTS

The change has been significant. Chantelle says, "The kids have a lot more stamina and are willing to stick with something a bit longer. They're not so reliant on the teacher, but look to each other for information. They not only have the mathematical skills, but problem-solving skills too."

In the 2018–19 school year, Frisco ISD middle school students had an average score of 94% in math on the STAAR exam, outperforming the state average.

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District:
Frisco ISD

Grade Level:
K–12

Enrollment:
58,461

Race:
White 48%
Asian 24%
Hispanic 14%
African American 11%

Economically Disadvantaged:
11%

Bilingual/ESL:
5%

Special Education:
9%

SNAPSHOT: PIONEER HERITAGE MIDDLE SCHOOL

Pioneer Heritage Middle School is one of the top performing public middle schools in Texas. They have outperformed state average math scores for the past four years. Since using the Carnegie Learning Middle School Math Solution, they've seen great results with students and teachers alike. Channing Kelley, who teaches 8th grade, says, "I am a first-year teacher, so the Carnegie Learning textbook helped me immensely with strategies and how to implement them."

Math Instructional Coach Abdulai Kaikai says, "The textbook ties in with our norms in the department, and also in the district, for students to see concepts from a conceptual lens. It also makes it easy for us to be facilitators in our classroom by using the constructivist approach where instruction is mostly student-led."

He also believes that one of the biggest drivers of student success has been the combination of math vocabulary in the textbook with an emphasis on mathematical discourse in the classroom. "The textbook has been a really, really great resource for us. The words and definitions are all in the textbook, so our students are able to speak the math language accurately, which makes it easier for them to know what they're supposed to do with any directives they may see on the state exams."

Pioneer Heritage math teachers also appreciate the skills practice opportunities provided for students in the textbook. Nicole Lotz, who teaches 7th grade, says, "We found it very helpful to give kids practice problems to build knowledge of the content, and then give them extra assignments to build on that. The pre-tests, post-tests, and chapter tests we have access to online have definitely been helpful for us when we need to create our own test, quick assessment, check for understanding, or exit ticket." Darilyn Schroder, who teaches 6th grade, agrees. "We incorporate it into our warmups to help the kids retain and refresh and continue to practice some of the concepts that we covered in the beginning of the year that they may have forgotten by now. They are great tools for getting them ready for standardized tests."

They have also appreciated the on-campus support they received from a Carnegie Learning Master Math Practitioner. "Instead of coming in being set with her curriculum, she got to know what we know, who we are, and how we teach," said Michael Wolverton, a 6th grade teacher.

According to Darilyn Schroder, another 6th grade teacher, the results were exciting. "We were working with solving equations and had a wide variety of understanding among the students. Some were still at the very concrete level and needed manipulatives, while others could probably solve 8th grade equations if you let them. She showed us how to take the same problems, but differentiate them with numbers or scenarios, and let the kids choose which scenario and level they thought might best fit them. What was interesting was that some of the kids who were at the more basic level tried to do some of the higher level problems and were successful. Honestly, I probably would have never given them that opportunity, but they were able to do it and they enjoyed challenging themselves. It was a great, great thing to see and something we have definitely been using since then."

Coach Kaikai is very happy with what he's seen in the math classrooms. "The fact that we give students time to think and speak has given them increased engagement. The problems in the textbook connect to the real world for them, with scenarios that they can relate to, which really helps encourage them to be engaged in the lesson."

HOPE FOR THE FUTURE

Pioneer Heritage Middle School is just one example of the transformation taking place across the district, and Chantelle Elliott is excited about the future. "The momentum we're starting to see in our middle school, moving towards truly having student-centered classrooms ... what it holds for our kids is huge. My child is a junior in high school this year. Watching what she understands about math and her willingness to dig into a problem is so different. She really understands math."

**"What Carnegie Learning offers is very unique.
We couldn't find it anywhere else."**

**-CHANTELLE ELLIOTT, MATH COORDINATOR,
FRISCO INDEPENDENT SCHOOL DISTRICT, FRISCO, TX**