



# Welcome

# to the

# Math

# Revolution

OU AND OKLAHOMA  
PUBLIC SCHOOLS ARE  
REVIVING STUDENTS'  
GRADES  
THROUGH THE  
TRANSFORMATIVE  
TUTORING INITIATIVE.

**BY WHITNEY BRYEN**

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**IKE MANY OKLAHOMA** students, Paublina Juarez struggled to learn from home when schools shut their doors as a result of the COVID-19 pandemic.

Lessons taught through videos were difficult to follow. She couldn't ask questions. And she overlooked assignments on confusing software platforms that had replaced her middle school classroom.

"I was always good at math before," Juarez says, "but I ended up failing because of all that online stuff."

Now, as she wraps up her first year of math at Little Axe High School, Juarez isn't just passing Algebra I. She's acing the class with a perfect score.

Juarez is one of nearly 750 ninth graders grappling with math post-pandemic who have received help through a University of Oklahoma program aimed at increasing graduation rates, improving post-secondary education opportunities and decreasing incarceration.

The Jeannine Rainbolt College of Edu-

cation's Transformative Tutoring Initiative, or TTI, pairs high school freshmen who scored in the bottom 25% in math with well-trained OU students for a year of high-dosage tutoring.

OU undergraduates work with two to three ninth graders, meeting three times a week for 45 minutes during the school day. Lesson plans designed by OU students with the help of TTI team members reinforce what the high schoolers learned that week in class and teach fundamental math skills that students missed or lost during the pandemic.

TTI's results are staggering. Tutored students achieved the equivalent of 2.5 years of learning in one school year, says Stacy Reeder, dean of the Jeannine Rainbolt College of Education. They also scored significantly higher than high-performing peers on state-required annual exams.

"These kinds of learning gains for students who are struggling in mathematics are unheard of—to learn more than double what is expected within one academic year is game-changing for students," she says.

Public school students in every state suffered learning loss during COVID-19. But in math, Oklahoma students floundered the most. Oklahoma middle schoolers had the largest decline in math proficiency nationwide from 2019 to 2022, according to results of national exams given to students at the end of their eighth-grade year.

Reeder says studies reveal that students

who score poorly on the exam are more likely to face significant roadblocks in high school and beyond.

"High school algebra is a gateway course to many important, life-changing milestones for students," she says. "Students who successfully complete Algebra I in high school are more likely to graduate and have the prerequisites needed to successfully complete programs at our vocational and technology centers or attend college. We also know that graduation from high school is highly correlated with lower rates of incarceration.

"TTI is specifically focused on improving learning outcomes for students in high school mathematics because we know that their success significantly increases positive lifetime outcomes," Reeder says. "A successful education intervention for high school students can change their lives."

Teenagers are often overlooked in an education system that prioritizes early interventions, she says. Last school year, more state education funding was spent on infants and toddlers and reading proficiency for elementary students than any other student groups. Those investments see high returns but bypass older students who have fallen behind.

"The implication is that we're punting on these kids in eighth and ninth grade, and we know what the outcome will be," says OU 1986 alumnus and retired AT&T Chairman and CEO Randall Stephenson of Dallas. "Who are we as a society if we're saying, 'Sorry, you're too old for help?'"

Stephenson first learned about high-dosage tutoring and the ramifications of ignoring underperforming teens during business dealings with the University of Chicago. Research conducted by that university found a correlation between math achievement and social achievement, highlighting the potential to help often-neglected students.

This new revelation and Oklahoma's education crisis spurred Stephenson—a proud graduate of Oklahoma public schools—to action. The first three years of TTI were supported by a generous, \$3 million gift from the Randall and Lenise Stephenson Family Foundation.

Stephenson says the investment was more than worth it.

"If your child has a runny nose, you don't give them high doses of antibiotics; it doesn't require high-dosage treatment," he says. "But if your child has a staph infection,



ERIKAH BROWN

Paublina Juarez, a freshman at Little Axe High School, says TTI has helped her rise from failing Algebra I to achieving a perfect score.



TTI tutor Kayla Nguyen believes the experience has taught her the importance of meeting students where they are.

ERIKAH BROWN

Randall and Lenise Stephenson feel so strongly about the potential of high-dosage tutoring that their family foundation supported the first three years of TTI.



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—STACY REEDER, *Dean of the Jeannine Rainbolt College of Education*

you move to the realm of crisis management and administer high doses of antibiotics to preserve life. The education situation in Oklahoma is in need of high-dosage treatment. And that treatment is tutoring.”

Now in its third year, TTI supports more than 100 OU students tutoring 322 ninth graders in seven public high schools across the Oklahoma City metro area. Dan Hamlin, OU associate professor of Educational Leadership and Policy Studies, leads a research team performing a blind study on the program measuring its effectiveness. TTI Director Cristina Moershel, along with a staff member and doctoral

student manages the tutors and runs day-to-day aspects of the program.

Though TTI is hosted in OU’s College of Education, tutors come from any major, including finance, accounting, mathematics and engineering. Regardless of their field of study, tutors receive rigorous training and have weekly meetings with the TTI team, which helps them carefully plan their sessions based on teachers’ lesson plans, students’ unique needs and feedback from the previous week. But, as Kayla Nguyen quickly learned, tutors must be ready to adjust.

Nguyen, a McKinney, Texas, accounting major and OU’s Price College of Business Outstanding Senior, is in her second year serving as a TTI tutor.

“You can prepare the best lesson plan for your students, but you have to keep in mind that everyone learns differently,” she says. “Once you get to know your kids, you adjust to their learning pace—which may include more time reviewing specific things that don’t make sense to them.

“I spent a lot of time pulling some of my students out of their shell so I could understand what they needed because they won’t always tell you.”

One of Nguyen’s first students was very shy, similar to herself during high school. Nguyen quickly figured out that the high schooler understood most of the lessons but refused to answer questions in class because she was afraid to be wrong.

“I felt her,” Nguyen says. “I taught her that it was OK to be wrong and that it

doesn’t matter if it takes a little more time, or you get to the same answer in a different way. I helped pull her out of the bubble.”

Confidence-building is not included in lesson plans, but Reeder says it can be just as important as math skills for some ninth graders and has contributed to the program’s astounding results.

Paublina Juarez’s mother, Esther Juarez, agrees. She says TTI has been great for her daughter and is grateful that Paublina is back on track, and back to herself.

Stephenson says the potential for TTI’s future is nothing short of revolutionary.

“What we’re focused on here—empowering ninth-grade math achievement—is comparable to the launch of the iPhone,” says the former AT&T head, who had a front-row seat to the smartphone metamorphosis. “That was radically transformative for an entire society, and we’re seeing those same kinds of results with TTI.”

Stephenson acknowledges that the program requires significant financial support, intensive training and time commitment from student tutors, team members and researchers. But he hopes that TTI’s impact will inspire the Oklahoma State Legislature to invest in spreading its success to students across the state.

“If Oklahoma gets behind this,” Stephenson says, “it would be transformative.”

*Whitney Bryen is a multimedia journalist who writes for InvestigateWest.*