

A Proven Partnership for Algebra Success

Introduction

Serving 29,515 students in grades PreK-12, Rockford Public School District 205 is the third largest in the state of Illinois, and includes 40 elementary schools, seven middle schools, and four high schools. The student-teacher ratio is 19:1, above the state average of 15:1. Special needs students account for 14% of the student population, and English Language Learners (ELLs) make up 7%. The culturally diverse district covers about 170 sq. miles in a largely urban/suburban industrial area that has been hit hard by the recent economic downturn.

District 205 Profile

The four district high schools participating in “The Algebra Vision” were Auburn, Guilford, Jefferson, and Rockford East. Here are their profiles:

School	Enrollment	White	Black	Hispanic
Auburn	1,709	43%	42%	10%
Guilford	2,084	55%	23%	16%
Jefferson	2,010	47%	28%	23%
Rockford E.	1,706	39%	35%	23%

Challenges

District 205 high school students were struggling. Algebra I scores were way down. In fact, the district had the highest Algebra failure rates in the state, and the high-school dropout rate was 10% -- well above the national average of 3.9%. Algebra I had to be passed before students could graduate, yet they could not grasp the day-to-day concepts of Algebra. Teachers and students were frustrated and unmotivated. Something had to change. They needed a hands-on, results-driven approach to learning.

Implementation

ETA/Cuisenaire’s Educational Consultant Barbara Jo Evans met with the district’s high school math coordinator to assess the problems and the immediate needs. “We had to get the teachers engaged,” Barbara Jo says. “You can

only get to the students through motivated teachers.” Barbara Jo identified several products that would not only engage and energize the students and teachers, but would fit seamlessly into the schools’ existing Algebra curriculum and provide the best opportunities for student success. These included ETA/Cuisenaire® exclusive resources VersaTiles®, for self-correcting independent practice; AlgeBlocks®, for providing classes with concrete representations of algebraic concepts; Algebra Works®, to build a solid algebraic foundation; and Hands-On Teaching Strategies for Using Math Manipulatives Kits, to provide teachers with support tools to boost their math confidence.

Barbara Jo then enlisted experienced math teacher and ETA/Cuisenaire consultant Kevin Dykema to develop a customized curriculum map, aligning the district’s existing curriculum with the appropriate ETA/Cuisenaire resources. Additionally, the district invested in a comprehensive professional development plan to train teachers in best practices and provide ongoing support.

In July, 2008, District 205 math teachers began professional training workshops with Dr. Sara Delano Moore, ETA/Cuisenaire’s Director of Mathematics and Science. The sessions focused heavily on 9th grade Algebra, the area where the need was the greatest. This was followed the next month by in-service training with Kevin Dykema. Kevin walked the staff through each Algebra unit to train teachers on how to align each ETA/Cuisenaire product directly to their immediate class needs and state goals. He also demonstrated the ways proper hands-on instruction would engage students and help them master the process of learning Algebra.

This training was reinforced with half-day sessions once a month throughout the school

year. At these sessions, teachers presented the ways they were using the products in their classrooms and shared their progress and successes. These workshops also included an overview and how-to presentation of what was coming up in the next lessons.

As a result of these combined efforts, Algebra test scores at each school rose substantially. Teachers reported that students who previously “didn’t get it” were now looking forward to Algebra, and some students even wished they could spend more time in math class!

Key Points

The dedicated partnership between ETA/Cuisenaire and Rockford Public School District 205 was the foundation for the success of this program. ETA/Cuisenaire was committed to providing the best hands-on customer solutions and assisting the schools in achieving both their immediate and long-term goals, while the School District was committed to understanding exactly how to use those important solutions to engage students and implement the desired results. “This was a real partnership,” says then district math coordinator Cathy Morrow. “ETA/Cuisenaire worked very hard to make everything come together in the best way for us, and they kept our specific needs in mind every step of the way.”

Several factors contributed to the program’s positive results:

- Identification of the best products to achieve desired effects
- Customized curriculum map
- Products aligned to each Algebra topic and state goal
- Extensive, on-going teacher training
- Dedicated commitment of school administration

An established ETA/Cuisenaire customer, District 205 knew it could rely on dedicated professional development training and resources from the company. As Cathy Morrow explains, “The value of the continual training throughout the year was essential.” That, partnered with the right products and dedicated professionals on both sides, formed a true environment for success.

Reflections

Here’s what some of the teachers had to say as a testament to the success of District 205’s new program:

“One of my students said she wanted a VersaTiles to have at home and another student told me, ‘Math is actually fun now that I’m getting good at it.’ Thanks for working so hard to make our math programs better!”

■ *Joanna Faber*

“I just finished using the AlgeBlocks to teach subtraction of integers. My students were able to visualize the subtraction and came to the conclusion that working with the blocks was much easier than what they had done before.”

■ *Dana Hopkins*

“It was very important that there were several trainings for different units and chapters in our curriculum. It allowed our district to focus on lessons specific to that particular unit topic. The value of the continual training was essential to our success.”

■ *Cathy Morrow*

Conclusion

Dubbed “The Algebra Vision” when it began in Spring, 2008, District 205’s program continues to be a success. This Spring, when teachers were asked if the students struggling most were now engaged in understanding Algebra, the overwhelming response was “absolutely, positively, yes!” The teachers are fully on board and have seen the value of using hands-on manipulatives to foster better understanding of math processes. Some of the schools have instituted special afterschool “intervention labs” to keep the few still-struggling students up to speed. And best of all, test results have shown dramatic improvement. “We are very pleased with how everything came together,” says Cathy Morrow. “We’re thankful to ETA/Cuisenaire for working so hard on our behalf. A big part of our vision, which we emphasize in our mission statement, is ‘creating integrated learning environments that respond to the needs and aspirations of the individual student.’ This Algebra Vision achieved that and more.”