

State of Arkansas (Little Rock)

Math Solutions first began working in Arkansas in 1999, presenting the state's first course (About Teaching Mathematics, Part 1) in Little Rock. The partnership has continued and grown to include courses for math coaches across the state.

In 1994, Arkansas developed a Statewide Systemic Initiative (SSI) to improve math instruction and asked Judy Trowell to be the Director of Mathematics for the state.

"Right away I noticed that, for many elementary teachers, mathematics instruction was not the focus of their college education," Judy explained. "They came into the classroom more as reading or literacy teachers. Many had minimal background in mathematics content.

"Despite this, teachers really wanted their students to learn mathematics. It became clear to me that, on a statewide level, teachers needed professional development that would both help them develop their content knowledge as well as focus on strategies that children would find engaging and interesting.

"I wanted both the teachers and the schools ready to implement a strong standards-based mathematics curriculum. This is what prompted us to create a long-term professional development plan for teachers throughout the state. We chose Math Solutions to help execute this plan because they prepare the schools and teachers to look at curricula differently—Math Solutions helps educators understand how the curriculum supports the learning process."

Why Math Solutions?

Judy thought back to her own professional development experiences. Before taking the position with the state, she was Supervisor of Mathematics for the Little Rock Arkansas School District. Judy had heard about Math Solutions Professional Development at an NCTM (National Council of

Teachers of Mathematics) conference. "I soon learned about their five-day course, and had the opportunity to attend one in a district nearby. That five-day course changed my vision of teaching and learning in significant ways."

Judy continued, "I brought my own experiences with Math Solutions to the Little Rock district because I felt Math Solutions provided teachers with the content knowledge and teaching strategies they needed to reach our diverse population of students. I knew that Math Solutions would help teachers understand how children learn and how to address the needs of different students with different learning styles."

A State Professional Development Plan

Now working for the state, Judy had the opportunity to broaden her reach to teachers throughout Arkansas. In 1999, she brought Math Solutions to Little Rock and invited teachers from across the state to attend the Math Solutions five-day course *About Teaching Mathematics, Part 1*.

The feedback was overwhelmingly positive. "Teachers respond well to professional development that is nonthreatening," Judy said, adding, "The teachers were comfortable with the instructors and the hands-on activities. . . . The course enabled them to see how they might approach their mathematics instruction with the same excitement and confidence they brought to their literacy instruction.

"From that summer on, we've offered the Math Solutions five-day course *About Teaching Mathematics, Part 1* every other year. With every course offering, there are more and more teachers (approximately 300 to 400) signing up to attend. This is part of our long-range plan for building leadership capacity. The districts do their part as well, offering teachers year-round sessions to help build interest and demand."

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Building a Tiered Approach to Systematic Change

Though the Statewide Systemic Initiative ended in 1999, Arkansas's focus on mathematics continued: the department of education secured a grant under which Judy, acting as Coordinator of Professional Development, would develop and direct a network of 26 statewide math specialists.

"Our state math specialists provide support and training for more than 200 school- and district-level teacher leaders and coaches, who in turn support teachers in their efforts to learn about and implement standards-based instruction," Judy explained. "In between the Math Solutions summer courses, the state math specialists are responsible for offering follow-up initiatives and classes. They take what Math Solutions has provided and continue to nurture their teachers throughout the year. This is how we are building a tiered structure for systemic improvement."

Math Solutions Educational Specialist Nickie Rizzo commented, "I don't know of any other state that has this tiered system in place. This is a different approach, and one that is working well for Arkansas. They are charting a new course for building capacity throughout the state."

Sarah Hogg, Math Specialist for Sheridan School District and former math specialist for the state, explained, "When I attend a Math Solutions course, I pay close attention to what the facilitators are doing. They are good role models for me, and help me in my role as a leader. These sessions help me grow and learn the right questions to ask. I pull out the math activities and use them in my demonstration lessons.

"I rely a lot on Math Solutions courses to help me focus on specific areas where we need support—to fill in the missing pieces. For instance, I'll look at the test scores in a specific school or district and

determine that they need help with probability. Then I bring Math Solutions in to present an all-day session specifically tailored to that topic. I also bring in good resource materials that support teachers in implementing their curriculum. Math Solutions publications are great, because they are aligned with our same philosophies and approach to standards-based instruction."

Judy added, "The specialists would be happy if every teacher in the entire state attended both Math Solutions five-day courses, *About Teaching Mathematics, [ATM], Parts 1 and 2.*"

Sarah agreed. "Math Solutions provides teachers with new ways to think and new strategies to use. Most important, they help us all better understand how these strategies will impact children. In these courses we experience the 'light bulb' effect ourselves and therefore have a better understanding of how students will respond."

"Since our partnership with Math Solutions began, I've noticed a real change in the way mathematics is taught," Judy said. "When I observe teachers in their classrooms, I see better ways of questioning students . . . real efforts to incorporate hands-on experiences in the classroom. Teachers tell me that, after taking the Math Solutions course, they encourage students to share their solutions and strategies—they place more value on that kind of sharing and learning."

A Focus on Math Coaches

"In the last couple of years, districts have hired math coaches in order to support teachers and help them meet the high demands of assessments," Judy said. "Right away, it became evident that we needed some kind of statewide perspective on what math coaching was all about. So this last summer, we worked with Math Solutions to develop our first five-day math coach course."

Math Specialist Gena Anderson offered her perspective on the course. “I’m working with 10 math coaches right now, all relatively new to their positions. We learned so much from the five-day coach course in Little Rock; the coaches really enjoyed it. They said it helped them understand more fully what they were going to be doing in their jobs—the course experiences helped them define their roles.”

Judy received similar feedback. “Coaches came up to me afterward saying they felt listened to, and that the course helped build their confidence and content knowledge. The coaches were also quite pleased about the two follow-up sessions offered—one that took place in December and another in April 2006.

“The first follow-up session in December helped coaches link to, and extend, the summer five-day course. Here, math coaches developed expertise in the areas of lesson planning, observation, and feedback skills needed to improve classroom instruction. These experiences laid the groundwork for the second all-day session in April.”

Judy continued, “Prior to the April session, five math coaches collaborated with Math Solutions instructors to plan for a live demonstration lesson scheduled for the April session. Math Solutions instructors served as coaches throughout the coaching cycle, including the planning process, pre-lesson conference, demonstration lesson, and post-lesson conference. The larger community of math coaches were active participants in the coaching cycle that took place during the April session.

Gena reported, “Watching the instructors take us through the coaching process—going into the classrooms, the pre-conference with teachers, observing the demonstrations, and helping with [the] post-conference. It was a great learning experience, and we were watching and listening carefully.”

A Long-Term Relationship for Sustained Improvement

In between courses and sessions, Math Solutions instructors conduct multiple planning conversations with Judy to communicate goals, expectations, and plans as they evolve prior to the course. “During the course, the team of instructors regularly check in with me to refine plans for the following days as needed,” Judy explained.

“I’m already planning for next summer,” Judy added. “We plan to offer the new Math Solutions [five-day] course *Math and Literature*. I feel certain that this will draw even more attention and interest among teachers. Through this course, we can partner with the state’s literacy program and support both mathematics and literacy. I’m so glad that this new course is being offered. We have teachers who can’t get enough of these Math Solutions courses and are always asking for more ways to learn.”

“What I value most,” Judy added, “is that the Math Solutions instructional team truly personalizes the experience to match our state standards and curriculum requirements. Through all the preplanning, they kept an attentive eye on our true focus.”

Judy summarized the partnership: “Without exception, teachers and math coaches alike say that Math Solutions offers the best professional experience they’ve been through.”

Note: In 2007 Arkansas state specialists will be working with Math Solutions to design individual math professional development programs for their regions.