

Investigations

IN NUMBER, DATA, AND SPACE®

Case Study: Gadsden Independent School District, Gadsden, New Mexico

A Conversation with Cheryl Coyle, Instructional Specialist

The Gadsden School District is a largely Hispanic community in southern New Mexico. All the children qualify for the Free Lunch program, and well over half are ELL (English Language Learners). Cheryl Coyle, the district-level Instructional Specialist for Mathematics, shared some of Gadsden's experiences with *Investigations in Number, Data, and Space*.

Because of budgetary restrictions, the district was not able to adopt *Investigations* all at once. Instead, as Ms. Coyle explained, "We started to implement *Investigations* in grades 4 and 5 six years ago. The next year, we began to implement it in grades K–3. Initially, we only used two units a year. By three years ago, it was expected that all teachers would be using all of the units." Even with this gradual introduction of *Investigations* into Gadsden elementary classrooms, the district recognized the need to provide teachers with tools to ensure their success with the new materials.

Prior to *Investigations*, mathematics in Gadsden was taught using a diverse array of materials, many of them quite traditional. Even within one building, there might be different publishers' programs in use at different grade levels. So the comfort level with *Investigations*, at the beginning, varied widely among teachers. Gadsden's response to this wide variation was to put in place a solid program of Professional Development for all the math teachers in the district. At first, these sessions were presented by experts from New Mexico State University, by experienced people from El Paso, and by TERC authors. With time, however, Gadsden staff developed their own expertise, with the result that now all the Professional Development can be provided by Gadsden personnel. As Ms. Coyle put it, "we have sustainability."

Key contributors to ongoing Professional Development are the Math Process Trainers. These building-level experts have no assigned classrooms. Instead, they provide guidance and coordination to the classroom teachers by team

teaching, modeling, coaching, and facilitating grade-level meetings. At the district level, each year there are optional sessions that focus on both content and pedagogy. Ms. Coyle mentioned that "next year, we plan on offering four in-depth Professional Development courses to further expand the knowledge of our teachers about how students learn and think about mathematics."

Teachers new to the Gadsden district are required to take a 24 hour course in Foundational Mathematics to ensure that they have the content knowledge and pedagogical understanding to be successful with *Investigations*. This course is grade-strand specific (for K–1, 2–3 and 4–5 grade clusters.)

As might be expected, it has taken some time for all teachers to be equally

“With the *Investigations* program, the communication of mathematical thinking is built right in.”

comfortable and enthusiastic about *Investigations*. "For us, since we had to introduce the materials over a period of several years, it also took several years for all the teachers to feel at ease," said Ms. Coyle. "Some of our teachers welcomed the new materials with open arms. Interestingly, many of these were teachers who had difficulty learning the mathematics themselves. For them, it was 'finally, I understand what I'm doing!' But we plan to continue our emphasis on staff development into the future. And we will continue to call on outside

expertise from time to time. Next year, for example, we will offer several programs, including ‘Talking Mathematics’, ‘Cognitively Guided Instruction (CGI)’, and [Pearson’s] ‘Developing Mathematical Ideas’ (DMI).”

In Gadsden, parents aren’t likely to raise questions about an innovative mathematics curriculum. “They assume we are the experts and know what we’re doing” commented Ms. Coyle. But the district reaches out to parents early in the school year through the building-centered Math Night. Parents have the opportunity to see, by grade level, what their children are doing in math, and are given SEDL (Southwest Educational Development Lab) pamphlets – available in both English and Spanish. Since most teachers and Math Coaches are bilingual, there is easy communication with parents as needed.

The result, according to Ms. Coyle, is that the kids love math. “Math anxiety just isn’t there!” she affirmed.

In Gadsden, as in many districts, test scores are vitally important. And Gadsden is proud of the performance of its students. “Our third graders are twelve percentage points above the state average in math,” stated Ms. Coyle. “And we are above the state average in many subgroups also, including Hispanic, ELL, Economically Disadvantaged, and Special Education in grades 3–5.”

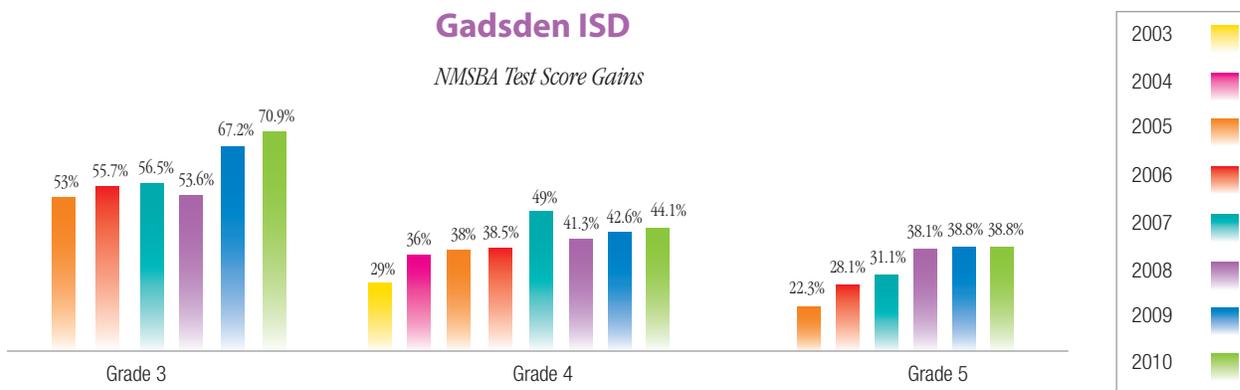
The Gadsden district recently held a district-wide math adoption. In contrast to the earlier years, when each building might have several different text series in use, now all the elementary grades use one program: *Investigations in Number, Data, and Space* Second Edition. The Gadsden Independent School District has learned how important it is to have a district-wide curriculum, and wanted to continue with the same program that all of the teachers were trained on, and with which teachers can find success.

New Mexico

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| School District: | Gadsden ISD |
| Test: | NMSBA (New Mexico Standards Based Assessment) |
| Grade: | 3, 4, and 5 |
| Measure: | Percent proficient or advanced |
| Percent Change: | +34%; Grade 4: +52%; Grade 5: +74% |

Gadsden adopted **Investigations in Number, Data and Space** in the fall of 2001. At that time, New Mexico school districts used the Terra Nova to assess academic progress. The Terra Nova was last given in the spring of 2003, and that same year districts began assessing with the NMSBA, based on New Mexico mathematics standards. Therefore, trended mathematics data are available only for grade 4 beginning in spring of 2003. Beginning in the spring of 2005, all elementary grades were tested with the NMSBA. As the graph shows, there has been a steady improvement in fourth and fifth grade performance on the math part of the NMSBA while grade 3 had remained steady and then increased sharply within the last couple of years. Gadsden adopted **Investigations in Number, Data and Space-2nd edition** in the fall of 2009. Future reports will continue to track the progress of the district on their NMSBA

District Demographics: Total enrollment: 13,913; ELL students: 47%; Ethnic Mix: Hispanic: 96%; Caucasian: 3%; Other: 1%; Free/reduced lunch: 100%; Approximate N of students represented by this graph in ‘10: 3,206.



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