

Dare County Schools

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Manteo Elementary School's Math Revolution

reinvents math instruction & assessment

By [Sharon Perry Sullivan](#)



Assess Pilot - Manteo Elementary School is one of 13 schools statewide tapped to participate in a year-long trial of a program to improve the teaching and learning of mathematics foundations. In mid-February, North Carolina Department of Public Instruction (DPI) Elementary Mathematics Consultant Renee Cunningham visited Manteo Elementary to interview teachers about the effectiveness of the pilot project. Cunningham observed in kindergarten and first grade classrooms and met with teachers for discussion.

Manteo Elementary School kindergarten and first grade teachers are so enthusiastic about a pilot program they're participating in that they best way to describe them is "on fire." Manteo Elementary School is one of 13 schools selected from around the state to participate in a year-long trial of a program to improve the teaching and learning of mathematics foundations. Participating kindergarten and first grade teachers can't stop talking about how the new tools afforded to them through this NC Department of Public Instruction pilot program has impacted their instruction.

Essentially, the pilot has two sides. Typical classroom math instruction has been turned on its head. No worksheets, no looking at the board. Instead, math workstations are set up each day. After receiving basic direction from the classroom teacher, students rotate from station to station for math "games" that are reinforcing concepts with each spin of the pointer or toss of the die. Students are prompted to change their activity by a timer, but if they have finished their game they have the autonomy to move to another station as long as it has an open spot. The focus may change from day to day or week to week. For example, the instruction is themed; all the "games" being played are centered on a particular number.

The counterpart to this method of instruction is the teacher's assessment tool, a palm pilot with a program authored by renowned math instructional guru Kathy Richardson. The program guides teachers through a careful sequence of questions to ask students about a number under study. Depending not only on the answer, but the way in which the student answers, the teacher is prompted to either progress to new instruction, or has evidence that the concept needs more practice. The data from the students' responses can be synced to a secure website that can be accessed by state and district officials as well as the teachers for easy data retrieval. Reports can be generated, giving teachers additional tools on which to base individual instruction.



The enthusiasm of the classroom teachers is matched by that of the students. "When can we play math?" they'll ask.

DPI Elementary Mathematics Consultant Renee Cunningham is conducting on-site interviews about the effectiveness of the math pilot. This, and a reading counterpart, is part of a Governor's Office initiative. The participating schools were selected in part to represent the population of the state; Manteo Elementary's student demographics is a factor in its inclusion in the pilot.



Getting back to the classroom math stations, part of their effectiveness is that they work with any number. One group of students can be working on the concept of "nine," while another group is practicing with the number seven. Additionally, the classroom teacher is no longer constrained to whole group instruction and can spend time with an individual student or small group of students.

First grade teacher Anne Creef asserts, "We are sold on this program."

“It’s noisy,” she admits, “but when you listen to their conversation, it’s about math.” Creef notes that the peer to peer interpersonal and communication skills that are being used in the math activities carry over into Language Arts and literacy workstations.



Kindergarten teachers meeting with Renee Cunningham to assess the DPI math pilot - from left - Lydia Byrum, Button Daniels, Lori Toler, Cunningham, site coordinator/Title I teacher Rendy King, Marcie Haywood, and Tammy Watkins.

Kindergarten teacher Tammy Watkins is thrilled. She says that with the tools this pilot has brought to her classroom she can see her students “really internalizing that number-sense.”

Another huge change is the way teachers feel about “assessment.” Teachers receive instant feedback. Rather than recordkeeping on sheets of paper, teachers basically conduct interviews with their students. Creef says it’s like having a little window into their brain. “We’re able to teach these kids because we know exactly where they are.” Teachers know immediately whether a child has mastered a concept, and just as importantly, when they haven’t.

First grade teacher Emma Meekins says that this program takes what teachers often felt they knew intuitively and proves it with the data. “Now we have proof,” Meekins says.

“I love it,” says Manteo Elementary School Principal Mary Anne Wetzel, “when have you ever heard a first grade teacher say that she just can’t wait to do an assessment?”



Photo: Rendy King

The excitement about mathematics instruction at MES began when East Carolina University’s Dr. Katie Schwartz was brought to MES as a mathematics consultant through the efforts of Title I teacher Rendy King. King had worked with “Dr. Katie” and had written a grant to bring her expertise to Manteo Elementary to improve math instruction. “Katie’s quiet manner and incredible insights into student and adult learning has changed teaching at our school,” says King.

“Katie worked with K-2 teachers last year and introduced them to Kathy Richardson’s Developing Number Concepts,” explains King. “Her work with this resource laid the foundation for the K-1 palm

pilot project that our kindergarten and first grade teachers are participating in this year. Katie built the trust in the Kathy Richardson research and the practical teaching, too.



“Katie modeled lessons in classrooms while the teachers observed, then brought the teachers back to de-brief. At that time she shared the strengths and weaknesses of the students that she had just met ...and taught ...and where she would go next to enrich, extend, or re-teach the concepts in the lesson. It was amazing!”

The palm pilot trial is a perfect fit in Manteo Elementary’s new teaching strategies.



Judi Hornbeck, Director of Elementary Instruction for Dare County Schools, is an enthusiastic supporter of the transformation that math instruction is undergoing at Manteo Elementary. "Being a part of the math revolution taking place at Manteo Elementary School is very exciting," asserts Hornbeck. "It's a real tribute to our teachers who are embracing these new instructional strategies and recognizing how the new techniques can help all students achieve success in math."

On the heels of Cunningham’s February visit to assess the math palm pilot project, Dr. Katie Schwartz returned to facilitate a Saturday math retreat. The beach house when the retreat was held was packed. “When teachers are excited about attending a math retreat on a Saturday,” says Rendy King, “you must be doing something right!”