

Grassy Pond Elementary test-driving bold new math teaching concept

By SCOTT POWELL Ledger Staff Writer spowell@gaffneyledger.com



Grassy Pond Elementary fifth grade students (left to right) Ansley McCraw, Malik Gaffney and Wesley Gainey play a game to practice solving function problems while using “Math Out of the Box.” The new Clemson University math curriculum is aimed at closing the achievement gap among elementary students. (Ledger photo by SCOTT POWELL)

Grassy Pond Elementary fifth grade students Ansley McCraw, Malik Gaffney and Wesley Gainey are laughing Friday afternoon when the next math problem appears on their function generator game.

At first glance, a casual observer might think the students are playing a game like Connect-Four instead of a math game that challenges their ability to solve difficult problems. This hands-on learning approach is at the heart of Math Out of the Box, a new math curriculum created at Clemson University as part of the Center for Excellence in Mathematics and Science Education.

Math Out of the Box gets its name from its packaging. The teacher’s manual and all the math learning materials being used by students come in a box from Carolina Biological Supply.

Each lesson begins with students and teachers working in a group to discuss a math concept, define problems, brainstorm ideas and discuss solutions for how a certain type of math problem can be solved. The students later in the lesson get into small groups to share experiences that challenge their ability to solve math problems.

The hands-on activities in Math Out of the Box are designed to help students develop their critical thinking and problem-solving abilities while learning math concepts.

“We want to fulfill the mathematical promise that exists in every child. We want to help teachers allow all students to be successful with math in school, not just the students who have a natural inclination towards math,” said Dr. Donna Diaz, research director for Math Out of the Box.

Cherokee County School District math coach Kimberly Elder has been working with Grassy Pond Elementary teachers and Clemson University math professors to monitor the use of Math Out of the Box materials at the school on a weekly basis.

Grassy Pond Elementary is one of the South Carolina schools invited over the summer to participate in the Math Out of the Box program. The curriculum is also being piloted in Pennsylvania and New Jersey schools.

Results of early field tests for Math Out of the Box have been so positive that demand for the innovative program for students in kindergarten through fifth grade is on the rise, project director Dot Moss said.

“There’s a lot of good research on how children learn,” Moss said. “The research is very good, but it hasn’t been applied in a real way in the classroom.”

Math Out of the Box was developed in cooperation with technology-oriented companies interested in improving the math and science skills of students. The project is supported by Carolina Biological Supply, DuPont Michelin North America, General Electric and American Honda Foundation.

Diaz said the hands-on math activities encourage a better way of learning.

“It’s concrete versus abstract. The traditional way of teaching geometry to young students is to show them a picture of a cube, for example,” Diaz said. “Math Out of the Box includes a cube. They can hold it and feel it and see it. It’s a better way to learn about a 3-dimensional object than to look at a 2-dimensional picture on a page.”