



Transforming East Alabama Mathematics

The East Alabama Partnership for the Improvement of Mathematics Education

Fourth Annual TEAM-Math Partnership Conference
Kellogg Conference Center
Tuskegee University
August 24-25, 2007

Mini-Presentations

Session I: August 24, 2007, 4:25PM – 4:55PM

- **Title:** *Improving Student's Critical-Thinking Skills through Mathematical Inquiry*
Presenter: Pamela Norris, Jeter Primary School, Opelika, AL
Location: Ballroom A

Abstract: Teachers will learn how to use open-ended questioning, children's literature, and physical models to increase the critical thinking skills of students in grades K - 2. Practical activities such as math journals, games, and daily mathematical routines will be shared.

- **Title:** *Systemic Mathematics Reform and Inclusion – Some Implications*
Presenter: Calvin McTier, Dept. of Mathematics, Alabama State University, Montgomery, AL
Location: Meeting Rooms D-E

Abstract: This presentation is a follow up of my dissertation, An Examination of the Effects of a Systemic Approach to Mathematics Reform on the Attitudes and Practices of General and Special Educators in an Inclusive Setting. This research examined the interfacing of reform-based teaching with inclusion. It utilized an ethnographic approach to examine what happen when the influences that drive reform-based teaching and those behind inclusion intersect. It focused on how exposure to a reform-based approach to teaching mathematics affected two educators in an inclusive setting. It looked at how these teachers' exposure to reformed-based teaching affected their attitudes and interactions with each other and students who were designated as special need. It also focused on six students who were identified as special need in mathematics and the effect that this reform-based approach had on them. This research enumerated some influences that are impinging upon the implementation of reform-based teaching in the inclusive setting and some unique observations that were garnered about the interfacing of reform-based teaching and inclusion. Some important implications for educators and policy makers regarding the education of students in the inclusive environment were also a result of this research.

- **Title:** *Using Investigations to Teach Some Undergraduate Mathematics Courses*
Presenter: Mohammed A. Qazi, Dept. of Mathematics, Tuskegee University, Tuskegee, AL
Location: Meeting Rooms F-G

Abstract: As part of the TEAM-Math initiative to improve mathematics education in East-Alabama, we have been implementing some of the TEAM-Math instructional strategies to teach concepts in a section of two mathematics courses (College Algebra and Calculus with Analytic Geometry) offered at Tuskegee University. The goal is to improve learning by encouraging students to make sense out of the mathematics concepts contained in the two courses. This presentation provides an outline of our efforts.

Session II: August 24, 2007, 5:00PM – 5:30PM

- **Title:** *Reform vs. Traditional Pedagogy – A Teachers’ Perspective*
Presenter: Cathy Jones, Math Specialist, Alabama Math Science and Technology Initiative (AMSTI), Alabama State Department of Education, Montgomery, AL
Location: Ballroom A

Abstract: How does a traditional teacher become reformed? How do professional development, curriculum revision, textbook selection, a support network and university professors help teachers utilize research to improve teaching? This session addresses the paradigm shifts that occur as a traditional teacher becomes “transformed” by trying research-based, inquiry methods, the potential hazards of implementing reform methods, and the benefits derived from a problem-solving approach.

- **Title:** *MathMovesU & Rocket Science*
Presenter: Jack Frederick, Principal Systems Engineer, Raytheon Company, Waltham, MA
Location: Meeting Rooms D-E

Abstract: MathMovesU.com is an Internet based program for students in grades 6, 7 and 8. It is designed to keep students engaged in math at a time when their interest in the subject typically drops. The program involves celebrities who illustrate the critical role math plays in “cool” careers. Students register to do math problems and can win \$1,000 college scholarships and matching grants for their school. The goal of MathMovesU is to help reverse the national trend in declining math scores among students by showcasing how math connects to “cool” people, careers and experiences.

Jack Frederick of Raytheon, will share about the MathMovesU Program and share how he leverages experience as a rocket scientist with Raytheon, NASA and Morton Thiokol to develop students interest in math & science. Jack draws on his childhood, building rockets at six years old with his brothers to give students real vision for their future.

- **Title:** *How Has TEAM-Math Influenced Me?*
Presenter: Michele Matin, Auburn Junior High School, Auburn, AL
Location: Meeting Rooms F-G

Abstract: My presentation will be centered around four ways TEAM-Math has influenced my teaching practice. First, was in using groups. I found that using groups to check homework is a very effective tool. Also, using relevant mathematics helped students to be more involved in the lesson. Another area that TEAM-Math has influenced me was the teacher as a facilitator. I am not so sure that I have mastered this, but I feel that I have improved. Finally, at my school, we have initiated the laptop initiative. TEAM-Math has helped me find direction in this initiative through Geometers Sketch Pad.

TEAM-Math has also influenced me through my many leadership positions. I am involved in the textbook committee, the curriculum committee, as a School-Teacher Leader, as a District Teacher Leader, as a CMP trainer, and in professional organizations. TEAM-Math has influenced me in many areas of my teaching practice which I continue to learn and change.