



# Transforming East Alabama Mathematics

*The East Alabama Partnership for the Improvement of Mathematics Education*

## Media Questions ... and Answers

- 1) Are any other states implementing a program similar to TEAM-Math?

We are building on the model used by the MARS (Mathematics Applications and Reasoning Skills), a local systemic initiative in Baltimore City, Maryland. (Dr. Strutchens worked on the project team there, and their project director has been consulting with us.) We are extending this model to a different region (Deep South), to a different educational organization (12 school districts vs. 1), and to a broader range of grades (K-12 instead of K-5 as with MARS).

- 2) What makes TEAM-Math unique?

The real unique feature is the partnership itself. First of all, getting commitments from 12 school districts to act in unison with respect to mathematics education is remarkable. In some respects, they are acting as a “super-district”. Second, we have two universities working together with these schools. Third, having balanced participation of mathematicians and mathematics educators at the universities is a major benefit because both groups bring their knowledge and expertise to the table.

A second distinctive feature is the focus on transforming the entire educational system for mathematics. We are trying to change not just what mathematics is taught, but how mathematics is taught; not just elementary, but secondary as well; not just what teachers do, but also administrator practices and community attitudes; not just focusing on what is going on in the schools, but also reconsidering what we do at the universities to prepare teachers who will be teaching mathematics.

- 3) Is there potential for TEAM-Math to reach out to other states or serve as a regional/national model?

YES! Otherwise NSF wouldn't fund it! In the short term, our work with the Alabama Course of Study and textbook selection may be a model for other parts of Alabama. The partnerships forged form a model for other areas across the South. In particular, the “super-district” concept could be a model across the South, where districts are often small and underfunded.

- 4) What makes this program different than what schools are currently using?

The schools in this area, and across the nation, are dominated by mathematics instruction that has changed little in the last century. Teachers (a) go over homework, (b) introduce a new topic with a lecture, (c) work one or more sample problems, (d) give the students a homework assignment they can start in class. For students, mathematics is mainly doing what they are told to do, over

and over again. The result of this, as shown on international and national assessments, is U.S. students can carry out routine computations but are unable to apply their knowledge in other areas.

In contrast, TEAM-Math is aligned with educational research on student learning and best practices, as exemplified in national standards. We emphasize students thinking things through for themselves, really understanding what they are doing, and then being able to apply that knowledge to solve problems. They need to analyze the situation in order to figure out what they need to do rather than just parroting what the teacher shows. In this model, the teacher role shifts from being an answer-giver to helping students answer their own questions. The student role shifts from being a passive receiver of knowledge to being an active participant in learning. Students are encouraged to communicate their thinking with one another, and to work collaboratively as well as individually.

This does not mean that we “oppose” students learning their basic skills. Quite the contrary. We advocate a balanced curriculum that ensures both basic skills and a solid understanding of mathematics. But a primary focus on memorizing basic facts will lead to students who will continue to flounder when asked to use mathematics and who continue to find mathematics a meaningless enterprise. We want students who are excited about doing mathematics.

5) How long will it take for us to see the effect of the program in the schools?

In the MARS project in Baltimore City, it took two years before they got meaningful results. Following that model, we do not expect much improvement the first year, as teachers begin to get acquainted with what we are doing. By the second year, we expect to see some improvements in the schools in which we are working, with substantial improvements in the third year. This is not a “quick fix” that provides only short-term gains that disappear in a year or two. Our goal is to substantially raise performance in East Alabama, to produce lasting gains that stand up over the coming years. And we will need the full five years of the project to achieve that goal.

The core accountability in this state is the SAT-10, but we are looking at a range of student outcomes, including rates of enrollment in advanced courses in mathematics. Moreover, we are particularly focused on the gaps of achievement that exist among students of different socioeconomic backgrounds, race/ethnicities, and other factors. We want to see substantial improvements in the performance of these underrepresented groups, not just increases across the districts as a whole which can mask systemic problems in which the needs of large groups of students go unaddressed.

6) Elaborate on the strength and benefits of the partnership among the College of Education, COSAM, and Tuskegee University as well as the local K-12 schools.

It is very rare to see such multifaceted partnerships in which all the partners are fully engaged and fully invested in the process. We will rise or fall together.