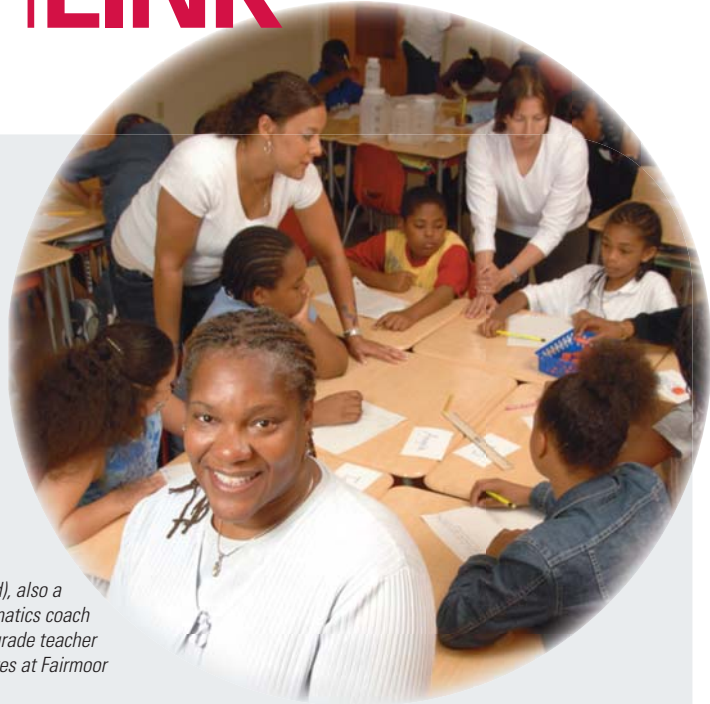




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Raising Kids' Math Scores with the Mathematics Coaching Program (MCP)



Mathematics coach facilitator **Melva Grant** (foreground), also a PhD student in the college, meets regularly with mathematics coach **Kim Burke** (standing, right), who works daily with 4/5 grade teacher **Nicole Scott** (standing, left) to boost mathematics scores at Fairmoor Elementary, a Columbus City School.

In 2007, 7 out of 11 participating urban schools left academic emergency after a year and a half with the college's Mathematics Coaching Program, a job-embedded professional development program for teachers.

What Is the MCP?

Approximately 15,000 children at 48 Ohio elementary schools improved their math skills last year, thanks to the Mathematics Coaching Program (MCP) directed by Associate Professors **Patti Brosnan** and **Diana Erchick**, School of Teaching and Learning. The Ohio State program first entered low-achieving schools in Ohio starting in early 2006 to provide children with the opportunity to succeed in mathematics and to resolve academic emergency status.

The MCP has achieved remarkable success in a short time. The program's first Appalachian school had gains of over 100 percent in grade three. For the 11 participating urban schools, the average gain across grades three through five was 13 percentage points on the mathematics portion of the Ohio Achievement Test. Another stunning achievement was in a school where students in coached classrooms scored

85 percent on the mathematics portion of the Ohio Achievement Test, while students in the same school in non-coached classrooms remained at a 44 percent achievement rate.

Given the program's success, the sponsor, the Ohio Department of Education (ODE), asked the Ohio State team to scale up for the third year. To achieve this growth, Brosnan and Erchick invited expert math faculty at five additional Ohio universities to join the program. The faculty members train the coach facilitators following a research-based protocol developed by Brosnan and Erchick. Also actively collaborating are three Ohio educational service centers and staff from ODE. As a team, they now engage 70 schools and 20,000+ children at elementary and intermediate schools.

Everyone is enthusiastic about working with a program that represents the culmination of Brosnan's life work in mathematics education. "We at Ohio State are incorporating all the strategies

we've perfected over the years into one program," she says, "and now we're teaching it to others. We've developed job-embedded professional development as a new approach to improving mathematics achievement, and it is starting to work."

How the MCP Works

To prepare coaches to deliver professional development to teachers, coach facilitators provide them with two days per month of whole-group intensive training and another two days of small group work. The coach facilitators also provide coaches with consistent, ongoing technical support as needed.

Mathematics coaches work full-time in the schools, often with Title I funding. They partner with classroom teachers to ensure that they and the children gain a more rigorous knowledge of content and process in mathematics. The coaches provide one-on-one intensive professional development

(continued)

to teachers on-site, teaching them—

- mathematics content
- pedagogy
- student learning theory
- how to work with student data
- how to make data-based decisions

Teachers describe the barriers they face when using research-based practices in the challenging climate of their specific classrooms. Coaches are prepared thoroughly in these practices so they can enter classrooms, collaborate with teachers, and determine how to get research-based ideas to work in each unique situation.

School Staff Feel the MCP Works

Assistant Principal **Ken Pease** of Park Street Intermediate, South-Western City Schools, says, "Our math coach has great rapport with the staff. Since she is not a supervisor, she has the unique ability to visit classrooms without [our teachers feeling] the stigma of being judged or evaluated."

Principal **Carol Daniels** of London Elementary School, London City Schools, says, "I wish I could capture the enthusiasm of our staff when [our coach] comes into their rooms. It is so beneficial for our district to have this type of hands-on professional development rather than just send staff to conference after conference.



One of the staff said she loved working with [the coach] rather than a curriculum director because the coach knew what was going on in the classrooms."

Kip A. Bisignano, a former ODE field relations manager, says he believes the reason the program

works so well is that Brosnan and Erchick selected the most promising instructional strategies, aligned them to cognitive learning theory, and used a high-quality method of deployment that embeds ongoing professional development into the daily routine of classroom teachers.

How to Get Involved in the MCP

To discuss how the program could benefit your school, contact Associate Professor Patti Brosnan at 614-292-8060 or brosnan.1@osu.edu.

Note that a school does not have to be in academic emergency to be involved.

Read more details about the program at http://www.newark.osu.edu/derchick/MCP_Program



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Mathematics Coaching Program

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