

# Education

## Helping Students with Math and Science

Increasing students' interest and performance in math and science are two of the overarching goals in an ongoing UK-led program. Called the Appalachian Mathematics and Science Partnership (AMSP), this initiative is being funded by the NSF in the amount of \$24 million over five years—the largest NSF grant ever received by UK.

AMSP's goals are to help strengthen and reform education in math and science in pre-K through grade 12 classrooms in 38 Central and Eastern Kentucky school districts, 9 Tennessee districts, 5 Virginia districts, and several West Virginia districts. What UK and partner universities bring to this project is the latest research in teaching approaches and student learning.

One of the research components of this program involves a radical shift from the traditional "chalk-and-talk" approach to training teachers to implement a hands-on approach—a well-planned series of course activities with a solid research base that help students build an understanding of key science concepts. "What has been lacking in traditional math and science instruction is teaching for understanding so that students can apply math and science skills in a variety of contexts," says Ron Atwood, a UK professor of education.

And this program is already showing results.

"Because of AMSP, we can better serve the students and help them succeed," says Tami Pickett, who teaches in Garrard County, Kentucky.



## Opening the Door to Science for Girls in Kentucky

Igniting youthful curiosity in science is the goal of the UK Girls in Research Program. The focus of this program is to encourage 6<sup>th</sup>-grade girls to pursue careers in research—particularly drug and alcohol research—according to Carl Leukefeld, professor of behavioral science and director of UK's Center on Drug and Alcohol Research.

This three-year program, funded by the National Institute on Drug Abuse, includes a weeklong camp at

## replacing chalk-and-talk with hands-on learning

the university for three consecutive years in June, mentoring relationships, and five Saturday Academies throughout each school year at participants' local community colleges. All expenses are paid. Girls who entered the 6<sup>th</sup> grade in the fall semester in 21 Eastern Kentucky counties can apply for this program.

This initiative also involves the participation of teachers and parents through a series of workshops. Teachers receive two-day training sessions each summer for three years in science, research and gender equity, and a small stipend.

"What I liked the most about camp this past summer was the field trip to the tobacco research lab. It was fun learning about the use of tobacco for medicine. The reason I joined the program was, I want a job

in medical research," says Chandria Bennett from London, Kentucky.

"The Girls in Research Program has been wonderful for our girls," says Crystal Smallwood, a Pike County teacher who has a daughter in the program. "They have experienced what it's like to live on a college campus and attend classes, and they have been taught the dangers of smoking and of drug and alcohol abuse. Because our girls did so many hands-on science classes and participated in wonderful Saturday sessions, all of them easily scored 'Distinguished' on the 2006 CATS Test." The Commonwealth Accountability Testing System (CATS) is designed to improve teaching and student learning in Kentucky.

To date, 111 girls have participated in this innovative program.