

## **Inquiry + Tech = Middle School Math Mastery**

**Project Title:** *Inquiry + Tech = Middle School Math Mastery*

**Project Director:** Dr. Mahmoud Yousef

**Lead Institution:** University of Central Missouri

**Duration of Project:** One Year

**Grade Level Focus:** 6-8

**Credit Hours to be Provided:** 3 graduate credit hours

### **Project Summary:**

This project is a professional development program at the University of Central Missouri (UCM) in collaboration with the school districts in Bates, Benton, Henry, Hickory, Jackson, Johnson, Lafayette, Pettis, and St. Clair that will positively impact middle school mathematics instruction in these counties (80% of the school districts in these counties are considered to be high need). The program will consist of a 90-hour workshop in July-August 2011 (2012) with 30 middle school mathematics teachers from the above counties. Five follow-up sessions (six hours per session) will be conducted for the workshop participants during the academic years 2011-2012 (2012-2013). A total of 130 teachers will be trained to use technology and effectively teach mathematics with the inquiry-based learning by the end of the program. UCM will partner with these school districts by forming peer-support groups with the participants during the July-August workshops, sustaining the project throughout the year through the follow-up sessions, maintaining continuous communication through an online discussion forum, and publishing a newsletter semi-annually.

The July-August workshops will strengthen the participants' mathematics knowledge, as well as enhance their teaching strategies through inquiry-based, cooperative learning, integration of writing into mathematics, and the use of technology. It has been shown that inquiry-based learning is a very effective method to enhance the student learning (Tomlin [12], Hope [3]). Various activities aligned with the Missouri Grade Level Expectations are designed to show how inquiry-based learning complemented with technology can work together to increase students' performance in mathematics. Five follow-up sessions are planned for additional support and enrichment activities for the teachers to re-enforce and assess what they have learned in the summer workshops. Pre-service mathematics teachers at UCM will be invited to attend the follow-up sessions so that they can be better prepared for their teaching career in mathematics.