

Archived Information

Clark Atlanta University & Gabriella and Paul Rosenbaum Foundation Answering the Call: No Child Left Behind

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Goal area of the activity: Improving teacher quality

Summary: Education Secretary Rod Paige, in response to the *No Child Left Behind (NCLB)* directive of President Bush, is spearheading a mathematics and science initiative "... which will help develop the next generation of scientists and engineers who help America stay strong and keep our country safe." There is mounting research evidence that teacher content preparedness, or rather lack of it, is a hindering factor in the quality of K-12 education. The teacher qualification statute in NCLB is very clear. It specifies degrees, competencies & training requirements for both established teachers and those who come through alternative certification programs. It specifically discusses a rigorous test of knowledge of content. Most teachers are conscientious & want to do a good job. However, many of them *dread* and *fear* math. We as educators must find a way to give teachers the deep understanding of the content their profession requires, and do this for both in-service and pre-service teachers.

Efforts are underway in many institutions around the country, including Clark Atlanta University, to 'overhaul' their curricula, offerings and preparation for pre-service teachers. Nationwide, it amounts to a huge undertaking. There needs to be a very close working relationship between the content departments and the schools (or departments) of education. Traditionally, this has not been the case. For in-service preparation of teachers, the problem is more difficult. These teachers are already credentialed and the idea of going back to school is a bit frightening for them.

The Department of Mathematics at Clark Atlanta University (an HBCU institution) is actively engaged in outreach programs at different levels with schools in the area. It is partnering with school systems in different counties within the State in their systemic initiatives to 'reform' their K-12 mathematics curricula. In a survey in DeKalb County, for instance, a clear and distinctive need emerged to increase the content knowledge base of the teachers through in-service programs. In response, a new Master of Arts (M. A.) degree initiative, with a heavy emphasis on content needed for a deep understanding of elementary and middle school mathematics has been developed at the Clark Atlanta University.

Purpose: **Master of Arts (M. A.) in Mathematics** is a program designed for in-service elementary & middle school teachers who have at least 3 years experience in the classroom. The program is of two-and-a-half years duration and includes three (5-weeks) intensive summers and two academic years with afternoon and Saturday sessions. It focuses on teacher empowerment through mastery of content featuring problem solving processes and strategies permeating the entire content, use of technology tools, and conscious vertical and horizontal integration of concepts. A list of courses is given below:

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| 1. Problem Solving in Mathematics | 2. PreCalculus |
| 3. Sets & Combinatorics | 4. Discovery Learning |
| 5. Geometry | 6. Number Theory |
| 7. Probability & Statistics | 8. Concepts of Calculus |
| 9. Art, Decoration & Symmetry | 10. Mathematical Games |
| 11. Measurement & Dimensional Analysis | 12. History of Mathematics |
| 13. Project/Reading Seminar | |

Plans: The M. A. program will be operational in the Fall 2003.

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