

## TEACHER ENHANCEMENT INSTITUTE

Dr. Tina Marshall-Bradley  
 School of Education  
 Norfolk State University  
 Norfolk, Virginia 23504

During the 1980s, a period of intense concern over educational quality in the United States, few indicators of U.S. student achievement garnered the interest of policy makers and pundits as successfully as the results of international testing in mathematics and science. This concern was so great that as a part of the Goals 2000 initiative, President George Bush indicated that "By the year 2000, U.S. students should be first in the world in mathematics and science." The Clinton Administration is placing a major emphasis, not only on rigorous academic standards and creating a new system for assessing students' progress, but also including professional development as a major focus. The argument being that teachers need more sustained, intensive training to prepare them to teach to higher standards. Executive order 12821 mandates that national laboratories "assist in the mathematics and science education of our Nation's students, teachers, parents and the public by establishing programs at their agency to provide for training elementary and secondary school teachers to improve their knowledge of mathematics and science."

These and other issues led to the development of ideas for a project that addresses the need for excellence in mathematics, science and technology instruction. In response to these initiatives the NASA/LaRC Teacher Enhancement Institute was proposed.

The TEI incorporated systemic reform perspectives, enhanced content knowledge for teachers, and teacher preparation. Emphasis was also placed on recruiting those educators who teach in impoverished urban school districts with at-risk student populations who have been traditionally underrepresented in science, mathematics, technology and engineering. Participants in the Teacher Enhancement Institute were 37 teachers from grades K-8, teaching in Region 2 in the state of Virginia, as well as 2 preservice teachers from Norfolk State University and one teacher from Dublin, Virginia where a Science/Mathematics model school has been established. Teachers selected for this project represented school systems where income levels are extremely low, and students served tend not to receive innovative instruction in mathematics and science and their use of technology is limited.

The Teacher Enhancement Institute contained several features, that when combined, allowed for a unique experience. Some of these features included local teachers, administrators and school board members as presenters, instruction and use of technology every day, tours of select features of the research facility, briefings by NASA/LaRC scientists, engineers and researchers as well as individuals from the Continuous Electron Beam Accelerator Facility (CEBAF). Another unique feature of this program is to have participants convene on three separate occasions throughout the academic year to discuss strategies for information dissemination and implementation results.

Teachers' attitudes towards the use of technology, their ability to develop lessons using technology and their ability to develop lessons using information obtained through TEI were assessed using instruments developed by TEI summer faculty members. Data from these instruments were analyzed and reported in a final report submitted to the director of the Office of Education.

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