

## Research Paper Proposal

### Hawaii International Conference on Education January 7-10, 2003

- A. Title: Using Graduate Students in Mathematics and the Sciences as Middle School Content Experts.
- B. Topic Area: Secondary Education (science and mathematics)
- C. Keywords: science, mathematics, middle school, graduate students
- D. Name(s) of Authors: William Leonard (lead presenter) will attend  
John Luedeman will also attend  
Robert Horton  
John Wagner
- E. Mailing Addresses: 415 Tillman Hall, Clemson University, Clemson, SC 29634
- F. E-mail addresses: Leonard@Clemson.edu lued@Clemson.edu
- G. Phone number(s), 854-656-1398 864-656-5129
- H. Fax numbers: 864-656-7243

#### Abstract

Most middle school (grades 6-8) teachers in the United States are elementary school trained with at most three undergraduate courses each in mathematics and science. Therefore the success of students learning mathematics or sciences in the middle school becomes problematic. But we can help the teachers (and their students) with an infusion of rich and current content.

Clemson University has received a \$1.5 M grant from the National Science Foundation for a novel program to place graduate students in mathematics or the natural sciences into selected middle school classrooms as a condition of their paid assistantship. These students spend a total of ten hours per week helping the middle school teachers and students understand in depth the content of their area of expertise and with methods of inquiry instruction. At the same time, the graduate students gain a lasting perspective of the reality of typical middle grades.

This presentation will include data collected from the graduate student journals, surveys from participating middle school students and their teachers, and testimonials to learn if such an approach can improve the overall sense of learning mathematics and science. Discussions about the effects of state mandated tests upon inquiry learning methodology that is highly recommended by national and state standards will also be discussed.