

An algebra 1 teacher who wishes to participate in the project described below, and who meets the criteria, please submit (1) the Teacher recruitment form below and (2) a letter of support from an administrator (details below). Please volunteer as soon as possible. The first round of applications will be reviewed on June 24th, 2005. Applications will continue to be accepted until all spaces are filled. http://coe.ohio-state.edu/kirving/TI_Navigator_Grant_Forms.pdf

Classroom Connectivity in Promoting Mathematics and Science Achievement

Project Description

The project aims to aid mathematics and science conceptual development and students' self-regulated learning or strategic behaviors by improving communication in classrooms, especially in the quality of questions asked, class discussions, and formative assessment to expose and correct student misunderstandings and strategies through the use of a connected classroom environment. This study will draw teachers from across the nation and guide research in the interaction of technology and pedagogy for promoting greater student achievement and intellectual development.

Specifically, teachers (and their classes) chosen for this study must be Algebra 1 teachers who have **not used** TI Navigator. More than one teacher within a school building is recommended. Teachers must have access to graphing calculators, TI-83/84 Plus on a regular basis and the teacher applicants should be familiar with using graphing calculators in instruction. One TI-Navigator system will need to be purchased by the school for each successful applicant. This will be at a special 55% discount agreed to by TI for this project -approximate discount price \$1,800. The school must furnish a computer running Windows 2000, or Windows XP Professional.

Approximately 120 Algebra 1 teachers who have not used TI-Navigator will be chosen, half to be trained in one-week workshops in summer 2005 and the other half in the summer of 2006. Selection to each cohort will be made randomly. Summer professional development institutes will be held at The Ohio State University. Teacher participants will receive 3 graduate (quarter hour = 2-semester hour) credits **paid from the grant**. There will be follow up professional development at the annual T3 International Conference. School officials must agree to release the teachers for two days/year for two years (February, March timeframe) to attend, and cover substitutes to release the teachers. Participants' travel and accommodations for summer institutes and T3 Conferences will be **paid by** Texas Instruments, Inc. and grant funds from the U.S. Department of Education.

Student achievement and will be measured by Project pre and post tests and scores on standardized district or state tests. State standardized Mathematics or Physical Science test scores will be collected at the end each year for all participating students where these scores are available. Where state scores are not available, district standardized scores may be substituted. It will be necessary for the schools to provide the results of these standardized tests to the Project team each year during the four-year project. Teachers will log their use of the Navigator system, administer student tests and surveys related to the project, and send data to the researchers. Teachers need to be available for teacher surveys, classroom observations, and video-taping of selected lessons, twice a year and telephone interviews more frequently.

Volunteer Form

TI-Navigator Professional Development and Research Project

Classroom Connectivity in Promoting Mathematics and Science Achievement

Please refer to the Project Description above. The project team will choose the volunteers who best match the project objectives and needs. If more than the requisite number of teachers meet the selection criteria, random selection will be held for the number required. The time commitment requires: a total of 11 days for professional development (5 in summer and 6 over 2 years), 4 hours for CITI training (first summer), 10 hours each year (4 years) to recruit your students and give surveys and exams, plus an hour per week on average for 36 weeks over the 3 years of the study after the summer institute to submit data (152 hours total). Once selection is made, the researchers will immediately notify all volunteers whether they have been chosen to participate. To volunteer, please complete this form and send it to:

Dr. Doug Owens

333 Arps Hall

The Ohio State University

1945 N. High St.

Columbus OH 43210-1172

Email address: Owens.93@osu.edu Fax: 614-292-7695 Phone: 614-292-8021

Teacher's Name _____ Email _____.

Home/summer address _____.

Home Phone: _____ School Phone _____.

School Name _____.

School Address _____.

How many sections of Algebra 1 do you anticipate teaching in the coming year? _____

Over the next four years? _____.

Please describe the characteristics of your algebra 1 classes (e.g., typical grade level, semester or year, inclusion students, etc.)

Please describe your length and depth of experience in using TI 83-Plus/ TI/84-Plus (or other graphing) calculators in the teaching of mathematics.

___ I certify that I have not used TI-Navigator to teach for more than 10 hours.

___ I am willing to participate in the random assignment study. If I am not selected for the 2005 group, I agree to refrain from using TI-Navigator until after training in summer 2006.

___ I am willing to submit proof of a Bachelor's Degree, enroll in a 3-credit graduate course and complete 4 hours of on-line training on protection of human subjects in research (CITI).

___ I am willing to attend TI-Navigator Training for 5 days in July or August 2005 or 2006. Expenses are to be paid by the grant.

___ I agree to attend follow-up professional development at the T3 International Conference 3 days per year for 2 years after I begin the study. Travel and housing cost will be shared between the grant and Texas Instruments, Inc.

___ I agree to participate in the research study by logging my use of the Navigator system, administering measures related to the project, sending student test results, taking teacher questionnaires, and allowing site visits and video taping sessions by project researchers.

Teacher's Name _____ Signature _____ Date _____

For School Administrator (Principal or District official)

The section below is addressed to school administrators, principals or superintendents who have authority to approve that the project occur at their school.

For teachers to participate, we must have letters of support to be submitted to our IRB. The letters should be on the school's letterhead. Letters should provide at least a paragraph that indicates that you understand what is involved in the project and that you will permit the project to take place in your school. Letters can be faxed; they do not need to be original copies. Letters of school support should be addressed to

Dr. Douglas T. Owens
The Ohio State University
333 Arps Hall
1945 N. High St.
Columbus OH 43210-1172

Fax: 614-292-7695 Phone: 614-292-8021 Email address: Owens.93@osu.edu

School Administrator (Principal or District official) agrees to:

_____1. To the best of my current knowledge and planning, the teacher participant will be teaching at least one section of Algebra 1 (physical science) for the next four years.

_____2. The School will provide a TI-Navigator at a reduced price of approximately \$1800 for the **exclusive** use of the teacher whenever s/he is teaching algebra 1 (physical science).

_____3. The school agrees to purchase and begin use of the TI-Navigator in 2005 or in 2006 to comply with the random selection process.

_____4. The school has available a TI 83-Plus or TI 84-Plus calculators for each student in the participating class(es).

_____5. The school will provide a computer running Windows 2000 or Windows XP Professional for use with the TI-Navigator.

_____6. The administration agrees to the data collection procedures as outlined in the project description. (Parental permission will be sought for minors.)

_____7. The administration agrees to release state or district standardized test data for the four years of the study, for each algebra 1 class taught by the participating teacher.

_____8. The school will permit each participating teacher to attend the T3 International Conference for 2 years after beginning the project with the summer institute.

_____9. The school or district will allot funds to pay for a substitute teacher for one, or at most two days to cover each participating teacher's assignment while they attend the T3 conference.

Thank you for your consideration.
Doug Owens,
Professor and Project Director
The Ohio State University