

**TI-83 Plus Graphing Calculator Grant Pre-Proposal
Special Education Department
McKinney Independent School District
2006-2009**

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McKinney Independent School District Special Education Department
TI-83 Plus Graphing Calculators for Resource Math Classrooms Grant Proposal

The McKinney Independent School District Special Education Department desires to improve student math and calculator skills by providing a classroom set of 15 graphing calculators and associated hardware and software to every secondary resource math class because the department currently has inadequate access to graphing calculator technology.

Potential Grant Funding Source

The McKinney Education Foundation (MEF) is an entity that exists to support teachers in providing high quality education to students through a variety of methods. One of these methods is the awarding of Classroom grants. These funds are available to teachers who propose new programs, test new theories, and enhance new learning. The MEF supports its mission through donations from corporations, businesses, educators, and individuals in the community. The MEF was started in 1992 as a way to eliminate financial barriers to college for McKinney ISD graduates. It has since grown to a fully functioning foundation with over \$3 million in endowments and has been acknowledged by President George W. Bush as being a model for community involvement in schools (McKinney Education Foundation, n.d.).

The McKinney ISD Special Education Department will contribute 10 percent of the implementation costs of this program.

Justification

The McKinney Independent School District Special Education Department is dedicated to providing its students with a high quality education that will adequately prepare them for meeting the challenges they will face upon graduation from high school. Some of these students will be directly entering the workforce, but many of them will be continuing their education in colleges and universities. Problem-solving is a critical skill that must be developed in all students because it applies to every aspect of life—from buying groceries to manipulating the Pythagorean Theorem. Using real world examples from data that they have themselves collected engages students to learn problem-solving techniques in a way that no other method can. It establishes

relevancy for students, gains their attention, and challenges them to produce tangible results that reinforce their learning. Because technology is intertwined with every aspect of modern life, from the warehouse floor to the university classroom, it is critical that *all* students have the opportunity to explore it and become experienced with it prior to being confronted with a need for that experience. ||

Comment [JLD1]: Use this section to also introduce the specific problem. Basing the proposal on a quantifiable need will strengthen your proposal in a grant competition. Expand on "inadequate access."

Target Population and Scope

The McKinney Independent School District Special Education Department serves approximately 2200 special education students. Four middle schools and two high schools are currently in operation serving the secondary special education population of approximately 1000 students. A third high school is scheduled to open for school year 2006/2007 and is expected to serve an additional 100 special education students during its first year of operation. Of this total of 1100 secondary special education students, approximately 350 are or will be receiving instruction in resource math classrooms. There are 120 special education program administrators, lead teachers, teachers, and paraprofessionals serving McKinney ISD's secondary special education student population.

Goals and Objectives

The goal of this project is to promote problem-solving and critical thinking skills among the secondary resource math students of McKinney ISD using the TI-83 Plus graphing calculator and the associated CBR-2 data collection device. This program will empower students by giving them the tools needed to perform sophisticated data collection in their own environments and to record and interpret that data in meaningful ways. This will be a totally new approach to teaching mathematics and problem-solving skills to this population of students. It will give them a feeling of self-worth and accomplishment. Currently they see their non-disabled peers performing similar learning experiences with similar equipment, but since they are special education students many of them feel these opportunities do not exist for them.

Implementation

This plan will be implemented over a period of three years.

Spring 2006: A survey will be conducted in the spring semester that will collect information on the level of expertise that McKinney ISD's resource math teachers and campus lead teachers have with the TI-83 Plus graphing calculator and the CBR-2 data collection unit.

Summer 2006: One resource math teacher from each campus will attend the Texas Instrument T3 Summer Training Institute.

Inventory of new equipment will take place and all secondary resource math teachers will be issued a classroom set of 15 TI-83 Plus calculators, 15 CBR-2 data collection units, and associated software.

Fall 2006: Training of resource math teachers in use of the technology will be conducted by teachers that attended the T3 Summer Institute.

Students and parents will be introduced to the new technology and its educational potential at the Fall Open House.

Benchmark testing of students will take place to determine each student's starting point with the technology.

Instruction will begin with the TI-83 Plus calculators.

At the end of the Fall 2006 semester, a second round of benchmark testing will be conducted to determine what gains have been made in the students' education using the new technology. A survey will also be given to the students to gain an understanding of how well they are enjoying learning with the technology and how effective they think it has been.

Spring 2007: Instructional plans will be made and carried out based on the Fall 2006 end of semester benchmark testing.

A midyear district-wide inventory will be made of all calculators and associated hardware and software.

Teachers will be encouraged to share with their peers during staff development the successes they have achieved and some of the challenges they have faced in using this new technology.

A central repository of effective teaching strategies, techniques, and applications will be compiled and maintained on the MISD computer network.

End-of-year benchmark testing and another student survey will be conducted.

The results of this testing will be compiled by each campus lead special education teacher with the assistance of the campus resource math teachers and this report will be forwarded to McKinney ISD's Director of Special Services.

A document outlining the successes of the program and areas in need of focus will be made available to the superintendent and the board of trustees.

An end-of-year inventory will be conducted and a list of items in need of repair or replacement will be compiled by each campus lead teacher.

Summer 2007: Any required repair or replacement of hardware/software will take place.

Fall 2007: Training of new resource math teachers in use of the technology will be conducted.

An Open House presentation will be made to parents to educate them on the effectiveness of the technology in their children's mathematics education and to introduce new parents to the program.

Benchmark testing will be performed to identify any deficiencies related to retention during the summer break and appropriate instruction will be planned to address those deficiencies.

End of semester testing will be performed to identify areas of learning and to facilitate the planning of new instruction for the coming semester.

A mid-year inventory will be conducted prior to winter break.

Spring 2008: Teachers will be encouraged to share with their peers during staff development the successes they have achieved and some of the challenges they have faced in using this new technology.

End-of-year benchmark testing and another student survey will be conducted.

The results of this testing will be compiled by each campus lead special

education teacher with the assistance of the campus resource math teachers and this report will be forwarded to McKinney ISD's Director of Special Services.

A document outlining the successes of the program and areas in need of focus will be made available to the superintendent and the board of trustees.

An end-of-year inventory will be conducted and a list of items in need of repair or replacement will be compiled by each campus lead teacher.

Summer 2008: Any required repair or replacement of hardware/software will take place.

Fall 2008: Training of new resource math teachers in use of the technology will be conducted.

An Open House presentation will be made to parents to educate them on the effectiveness of the technology in their children's mathematics education and to introduce new parents to the program.

Benchmark testing will be performed to identify any deficiencies related to retention during the summer break and appropriate instruction will be planned to address those deficiencies.

End of semester testing will be performed to identify areas of learning and to facilitate the planning of new instruction for the coming semester.

A mid-year inventory will be conducted prior to winter break.

Spring 2009: Teachers will be encouraged to share with their peers during staff development the successes they have achieved, and some of the challenges they have faced in using this new technology.

End-of-year benchmark testing and another student survey will be conducted.

The results of this testing will be compiled by each campus lead special education teacher with the assistance of the campus resource math teachers and this report will be forwarded to McKinney ISD's Director of Special Services.

An end-of-year inventory will be conducted and a list of items in need of repair or replacement will be compiled by each campus lead teacher.

An end-of-program effectiveness survey will be conducted on each campus using all previous testing data and student surveys. Teacher input regarding the effectiveness of the technology on the learning that has taken place in their classrooms during the life of the program will also be sought. An overall project effectiveness paper will be developed by the McKinney ISD Special Education Department personnel and the results will be made available to the superintendent, board of trustees, and the public.

Grant Budget

2006/2007

Item	Description	Cost
220 TI-83 Plus Graphing Calculators	Scientific calculator with graphing/data collection capability	\$24,200
220 TI Connectivity Kits	Connects calculator to computer via USB	\$4,620
220 CBR-2 Units	Calculator Based Ranger— collects real world motion data	\$19,800
Texas Instruments T3 Summer Institute (7 teachers and Project Director) including hotel and per diem	5-day Training course for teachers using the TI-83 Plus calculator and associated hardware/software	\$10,000
12 Overhead View projectors	Allows projection of graph portion of calculator to be projected via overhead projector	\$2220

2007/2008

Item	Description	Cost
Equipment	As needed	\$1200
Repair/Replacement		

2008/2009

Item	Description	Cost
Equipment	As needed	\$1200
Repair/Replacement		

Comment [JLD2]: Be sure to identify the total project budget, total local funds, and total grant funds requested.

Project Administration

The Special Education Coordinator for Resource Classrooms will serve as Project Director. The Director will be responsible for equipment ordering and acquisition, scheduling training of teachers, maintaining a “best practices” idea-sharing location on the district network, compiling results of campus benchmark testing, and presenting status of the program to the Director of Special Services. The Director will maintain the hardware/software inventory list as it applies to the program and be the collection point for all repair/replacement issues at the end of each school year. No additional stipend is provided for by the terms of this grant for this position.

Personnel Support

The plan requires the support of all campus-level administrators, special education lead teachers, and resource math teachers. Additionally, the plan will require the assistance of the McKinney ISD Technology Services Group for all hardware/software installation issues.

Sources of Continuing Support

Consumable items, such as batteries, storage media, printer paper, etc. will be provided for by each campus’ special education budget.

Performance Measures

Formal assessments will be made periodically throughout each year of the program’s implementation and results will be compiled in a report to be provided to the superintendent and

board of trustees at the end of each school year and to the grant funding agency representative upon request. These assessments will measure calculator skills and competency, understanding of complex processes, and problem-solving with technology. Results on the State Developed Alternative Assessment (SDAA) will provide additional evidence of the program's effectiveness.

Informal assessments will be made constantly through teacher observations of student engagement and enjoyment in learning, questioning, and student demonstrations.

ADA Compliance

McKinney ISD will comply fully with the American with Disabilities Act in providing equal access to facilities, employment, programs, services, and activities to persons with disabilities.

Comment [JLD3]: You want to convey that you will act responsibility with the grant funds and you understand that you are accountable to the funding agency. It is their money that are investing in you to affect positive change.

Works Cited

McKinney Education Foundation. (2005). *Read about the MEF's history*. Retrieved on November 11, 2005.
<http://www.mckinneyisd.net/mef/aboutmef/aboutmefhistory.asp#GWB>