

Educational Technology

Fund Code 170-B

Technology Enhancement Competitive Grant Descriptions 2005-06

ACCEPT Education Collaborative

Project Title: Development of Data-Driven Decision Making (D3M) Teams to Utilize MA DOE and Local Data Warehouses in Supporting Improved Student Achievement

Dan Kehoe 508-653-6776 or 781-934-6051
dankehoe@neaccess.net

Project Overview:

ACCEPT Education Collaborative in cooperation with the Massachusetts Department of Education and its selected vendor will provide coordination, professional development, and support over a period of two years to its member districts and South Shore Charter School. During FY 2006 each participating district will organize a D3M (Data Driven Decision Making) Team representing one school. This effort will serve as a pilot model that will be expanded within each district in succeeding years with leadership provided by district data coaches and technology leaders. Each initial D3M Team will identify one member of its team who will undergo technical training provided by the vendor chosen by Department of Education. Each team will participate in a professional development program focusing on how to gather, analyze, and retrieve data that provide all stakeholders with meaningful information in making key administrative, teaching and learning decisions.

Barnstable Public Schools

Project Title: Data-Driven Decisions: Making Data Meaningful for Improved Student Learning

Bethann Orr 508-790-2813
orr_bethann@barnstable.k12.ma.us

Project Overview:

D^3 provides for the automation, administration and meaningful data delivery of formative assessments. A fundamental component of the project is ongoing professional development activities for principals, curriculum/data teams and classroom teachers. These activities will focus on how to interpret assessment data and how that data can best be utilized in instructional decision-making that improves student learning. One source of formative assessment is the BCAS (Barnstable

Comprehensive Assessment System) quarterly formative assessments in mathematics for grades K - 10. The district will also develop a set of BCAS tests for English language arts in grades K-4, which will be brought into the assessment system in year two of the grant. Finally, MCAS data will become a tool for longitudinal analysis and this, too, will be pulled into the assessment system to inform instruction. The district has already committed funds for professional development activities in each school, including the funding of teams of teachers who will work closely with the Director of Research, Assessment, and Evaluation.

Beverly Public Schools

***Project Title:** Freedom to Learn*

Judy Miller 978-922-0401
jmiller@beverlyschools.org

Curriculum Area: Mathematics

Grade Level: 6-8

Project Overview:

This Beverly and Salem Public Schools project aims to use one-to-one wireless computing to enhance and deepen student understanding of mathematics concepts at the middle school level. Students and teachers will learn about and use a variety of online tools including web-based virtual manipulatives. These research-based tools will provide opportunities to individualize instruction and address specific goals to improve math achievement, not only for low-performing students, but for all students. This project will target two major goals of the school improvement plans in both districts: using technology to extend opportunities and potential for all students and staff and providing all teaching staff with quality professional development on the effective use of technology to improve student learning.

Boston Public Schools

***Project Title:** Boston Public Schools My BPS Formative Assessment (MFA) Project*

Diane Mustone 617-635-8880
dmustone@boston.k12.ma.us

Curriculum Area: English Language Arts

Grade Level: 3-10

Project Overview:

The Boston Public Schools MyBPS Formative Assessment (MFA) Project consists of two main components. The first is the development of a system that enables educators to generate student-centered, customized formative assessments. The second is online professional development workshops that foster the way assessment is used in everyday teaching and learning. The MFA Project is designed to enable

teachers to create and administer formative assessments customized to their students' learning strengths and weaknesses and then to analyze the data to develop instructional strategies addressing those needs. The project will also increase teacher knowledge of English language arts instructional strategies focusing on higher-level comprehension skills, as well as on reading nonfiction and information texts for 3rd and 4th grade students. Finally, the project will train teachers to continually use assessment data to inform and adapt instruction to address student learning needs. The MFA system will be integrated into the MyBPS MCAS Assessment system, building upon Boston's proven experience with developing assessment systems to enhance teaching and learning.

Burlington Public Schools

Project Title: Accessible China Studies

Katie Spinos 781-270-1804
spinos@burlington.mec.edu

Grade Level: 8-12

Project Overview:

This project enables the formation of a network of urban and suburban public schools with a commitment to teaching students about China. The project has a dual focus. First, it will incorporate content knowledge of China (because of its growing role in the global economy). Second, it will focus on the development of technology skills in order to help students communicate and collaborate using the tools of the 21st century. Teachers will use the Department of Education's MassONE to create and use high quality, interdisciplinary learning modules in science, math and language arts with a focus on China. Teachers with extensive experience in China studies will collaborate and share a multitude of resources to create learning modules that will be available online for other interested teachers and students within the participating districts, and ultimately statewide. The diversity of experience among these "expert" teachers will fuel innovative exchanges in content and practice in the classroom and through online/hybrid independent study courses.

Community Day Charter School

Project Title: EDWarP (Educational Data Warehouse Project)

Susan O'Neill 978-682-6628 x 599
soneill@thecommunitygroupinc.org

Project Overview:

Community Day Charter Public School of Lawrence has a well documented history of success in implementing a data analysis model that provides MCAS assessment data in a format that can be easily accessed by classroom teachers. The focus of this data analysis is to improve the academic achievement outcomes of the students. This project uses grant resources to enhance the school's technology infrastructure to

support expanded data storage, accessibility, analysis, and reporting. This will provide teachers with high quality assessment information at frequent intervals, allowing for more rapid curricular and instructional adjustments for individual students, groups of students, or entire classrooms and grade levels in the school. Over the course of this two-year effort, MCAS results and SIMS data will be integrated with MEPA and MELA-O results, as well as with other standardized test data and benchmark assessment data.

Greater Lowell Technical High School

***Project Title:** Greater Lowell Assessment Development System (GLADS)*

Mary Jo Santoro 978-441-4807
msantoro@gltech.org

Project Overview:

This project will develop a comprehensive, standards-based, electronic, data-generating and reporting system. Activities will include developing ongoing, quarterly, midterm, and final assessments, as well as practice MCAS assessments for the English Language Arts and Math Departments. This system will provide additional scoring and reporting capabilities that will assist teachers and administrators in analyzing students' needs, especially those of special populations. The goal is to provide appropriate adaptations to curriculum and instruction and to measure ongoing efforts in these areas. All members of the Language Arts and Math Departments will learn to disaggregate data by subgroup, to design appropriate standards-based assessments, and to develop additional databases of test items. These databases will include MCAS items and teacher-made items aligned to standards-based course content. In the second phase of the project, teachers of other subjects will be included. A newly designed, teacher training lab will provide a physical environment where ongoing training and support will be available to teachers as they implement this new assessment system.

Greenfield Public Schools

***Project Title:** CRISTAL LITE (Leaders Integrating Technology in Education)*

Joyce Mehaffey 413-772-1313
jmehaffey@gpsk12.org

Greenfield Public Schools has long been a member of the Technology in Education Partnership (TEP) of Greater Franklin County, which was a partner in a regional data warehouse project funded in 2004: the Cooperative Regional Information Storage for Teaching and Learning (CRISTAL). While not an official partner in the first CRISTAL project, Greenfield Public Schools has been involved in some of its professional development and planning meetings. The goal of this project is to bring Greenfield and additional TEP partners up to speed with the larger CRISTAL group, which will

involve completing the data inventory process while simultaneously engaging in an intensive series of professional development activities. The professional development activities are designed to create “data leaders” and to build a climate for the effective data use in the districts, positioning them to implement the warehouse solution selected by TEP and the Massachusetts Department of Education. Activities will involve key stakeholders—teachers, administrators, and district “data-keepers”—in facilitated discussions or inquiry groups focused on data-driven decision-making. These activities will complement and augment the activities already coordinated by the CRISTAL project and will ultimately prepare the staff and systems for full, meaningful participation in a regional warehouse.

Hudson Public Schools

Project Title: *Achieving M.E.T.² (Mathematical Excellence through Technology)*

Ellen Schuck 978-567-6250 x 9108
eschuck@hudson.k12.ma.us

Curriculum Area: Mathematics

Grade Level: Middle School

Project Overview:

In this project, Hudson Public Schools and Worcester Public Schools will demonstrate the effective use of laptop technology for advancing the learning of mathematics. The project will also examine the impact that mobile wireless laptop technology has on improving standardized and non-standardized mathematical learning and assessments. The grant will provide a one-to-one student-to-computer ratio through a wireless laptop system at JFK Middle School (Hudson Public Schools) and University Park Campus School (Worcester Public Schools) for the teaching and learning of mathematics. Worcester will focus on grade 7 in year one of the project and on grade 8 in year two, while Hudson will focus on grade 6 in year one and on grade 7 in year two.

Ipswich Public Schools

Project Title: *Creating Online Learning Environments to Support Teacher Learning and to Improve Science, Technology and Engineering Instruction at the Elementary Level*

Chris Burke 978-356-3137 x 197
cburke@ipswichschools.org

Curriculum Area: Science

Grade Level: 5-8

Project Overview:

This partnership connects educators in the Salem and Ipswich with experts in the field of science, technology and engineering through an online environment of courses, mini-courses, and collegial sharing. Experts from the Museum of Science,

Boston, and Salem State College will use MassONE to teach rigorous courses in science content and pedagogy. After the participants have been updated in the nuances of online environments, MASSONE, and its myriad of tools, these teachers will mentor their colleagues in this powerful medium. Educators will collaborate through online discussion forums and participate in web-enhanced workshop series, supporting the implementation of integrated science curriculum in elementary classrooms. Salem State College students engaged in pre-practicum fieldwork at the elementary level will benefit from first-hand experiences with these teacher-leaders. The use of science tools such as digital microscopes, Palm computers, and probes will enhance this inquiry-based approach to science learning. Year two will include a focus on assistive technologies and online environments to ensure dissemination of these models long after the grant-funded time frame. The teacher-leaders will then have the knowledge and skills necessary to create their own distance learning courses.

Lowell Public Schools

Project Title: MAC Model Assessment Classrooms

Jeff Gwiazda 978-937-7616
jgwiazda@lowell.k12.ma.us

Project Overview:

Lowell Public Schools will use the web-based Galileo Educational Management System to develop and conduct formative and quarterly district benchmark assessments. The schools will use these assessments to inform and guide instructional practice in mathematics. Learning Innovations will provide training for leadership teams and instructional specialists implementing new mathematical practices. Teachers will learn to use a variety of instructional practices to help all students succeed—from those who are both “proficient” to those “in need of improvement.” The implementation of formative and benchmark assessments using a web-based system will provide teachers with immediate access to student assessment data aligned to the state mathematics framework. As a result, teachers will be able to provide individualized learning opportunities and differentiated instructional practices to help more students achieve proficiency in math. Proficient students will be given instruction that challenges them and enriches their experiences in mathematically supportive environments.

Lowell Public Schools

Project Title: Supportive Reading Environments (SRE)

Susan Birrell 978-937-8910
SBirrell@lowell.k12.ma.us

Curriculum Area: English/Language Arts

Grade Level: 5-8

Project Overview:

It is the goal of Lowell Public Schools to help all children achieve literacy and to enable them to appreciate quality literature. The use of wireless laptop computers, along with *Thinking Reader* software, will help the district to do that with its diverse learners, especially second language learners. *Thinking Reader* includes Universal Design for Learning (UDL) supports, making it possible for all children to be included in thoughtful discussions of contemporary literature. The software's text-to-speech support helps children hear, visualize, reflect, and immerse themselves in comprehension. In addition, *Thinking Reader* teaches children strategies to help them make meaning out of text. Based on reciprocal teaching research, this unique software product helps children feel included, self-confident, motivated and effective at learning how to visualize, predict, clarify, and summarize text. This reflection and self-monitoring have been shown to facilitate reading comprehension. The software includes work logs, quizzes, and rubrics, which will help teachers better understand students' challenges so that they can plan instruction that will meet their needs.

New Bedford Public Schools

Project Title *Project SLATE (Student Literacy Achievement through Technology Enrichment)*

John Gomes 508-997-4511 x 3455
Jgomes@newbedford.k12.ma.us

Curriculum Area: English Language Arts

Project Overview:

The New Bedford Public Schools will implement an innovative program of online learning that will engage teachers, students, and families. The centerpiece of the program will be a unique series of online courses for educators in New Bedford and Acushnet. The district's team of five trained online course facilitators will create a portfolio of web-based courses that will meet the unique needs of these educators. The course content will expose teachers to a comprehensive set of technology-based tools that will dramatically enhance English Language Arts instruction and promote student writing skills across the entire curriculum. Each course facilitator will administer four courses, all of which will be designed to improve teacher technology proficiency, stimulate the use of classroom-based technology tools, and engage students in technology-based activities that promote improved writing skills.

North Adams Public Schools

Project Title: *North Adams Math Assessment Project: Integrating Formative Assessment into Mathematics Instruction*

Jean Bacon 413-664-9633
Jbacon@northadamsschools.com

Curriculum Area: Math

Grade Level: 1-9

Project Overview:

The aim of this project is to fully integrate weekly formative assessments into mathematics instruction in grades 1 through 9. Teachers and students will use McGraw-Hill Digital Learning's Yearly Progress Pro (YPP) web-based assessment and remediation program. Based on weekly curriculum-based tests, grade-level teacher teams will work with math specialists within their buildings. These teams will monitor student mastery of grade level curriculum as it is taught, use YPP's exercise and custom tests features to plan and deliver individualized remediation and additional practice, and develop whole-group and small-group instructional interventions to address broad-based difficulties in content mastery. The district will also use the assessment system to identify areas of math content that appear weak for many students and then develop and offer high quality math content professional development to improve teacher understanding of those content areas.

Springfield Public Schools

Project Title: *Visualization and Modeling: A Technology-Enhanced Inquiry Approach to Chemistry*

Erlene Provost 413-787-7158
provoste@sps.springfield.ma.us

Curriculum Area: Science, Technology, and Engineering

Grade Level: 9-12

Project Overview:

This one-to-one wireless computing grant will support the teaching of chemistry at the high school level. The focus of the project is to provide chemistry students with access to an individual computer with chemistry software in support of the Massachusetts Science and Technology/Engineering Framework in chemistry. To achieve this goal, the Lexington and Springfield Public Schools will purchase mobile laptop carts with 16 computers, along with two software packages, *ChemDraw* and *Molecular Workbench*. Professional development and on-line mentoring will be provided for the participating science teachers as they use these computer programs to teach the chemistry standards and concepts.

Wareham Public Schools

Project Title: *Data for Educational Excellence Project (D.E.E.P)*

Jan Rotella 508-291-3540
jrotella@wareham.k12.ma.us

Project Overview:

The overarching goal of this project is to use data to understand the achievement gaps in at-risk populations at partner schools and to make informed decisions on how to improve student performance. The effort to accomplish this goal encompasses four major elements: (1) Creating a climate in schools that uses data effectively in the practice of teachers and administrators; (2) Implementing the state-wide data warehouse program, making it easily accessible to decision-makers,

and easing the capacity constraints caused by reporting requirements; (3) Building a robust professional culture that uses the shared understanding of the research and research-based practices that pertain to high-need students in particular; and (4) Disseminating best-practices to other school districts in Massachusetts.

West Springfield Public Schools

Project Title: West Springfield Public Schools: The Year of Assessment

Angelo Rota 413-263-3348
rota@wsps.org

Curriculum Area: Mathematics

Project Overview:

West Springfield Public School's Year of Assessment will focus on helping educators think in new ways about how to expand the contribution that assessment can make to school improvement. The district has been a recipient of the Comprehensive School Reform Program and a participant in the Massachusetts Department of Education's Formative Assessments Pilot Project, which both incorporate the use of the online Galileo Educational Management System. This technology grant will allow the district to implement assessment reform district-wide. It will also provide the professional development needed to achieve the district's goals: a module that evaluates the work completed by teachers in mathematics curriculum alignment and benchmark setting and assessment, a module that uses student data to develop differentiated instruction/intervention, and a module that trains teachers in core instructional strategies related to the student data.

West Springfield Public Schools

Project Title: Organize, Standardize, Modernize (OSM)

Paul Facteau 413-685-1020
pfacteau@grsd.org

Project Overview:

The *Organize, Standardize, Modernize* grant will allow the West Springfield, Easthampton, and Gateway School Districts to implement a data warehousing system that will enable each district to obtain immediate feedback on classroom practices, allowing the districts to make timely changes in instruction to meet the needs of all learners. This two-year project has five main goals: (1) To train a team of administrators and staff members in identifying, collecting, sorting, and interpreting student data via a data warehousing system in order to improve instruction; (2) To create a data dictionary that will standardize specific data entry procedures and ensure "clean" data on all district data systems; (3) To develop a formative data analysis process that will allow teachers and administrators to understand the context, value, limits, and implications of the data; (4) To create action plans that identify intervention strategies for all students that need support, either for remediating basic skills or for creating a more challenging curriculum; (5)

To establish structures of accountability for conducting Administrative Benchmark Conferences, in which each teacher will present an analysis of the month's formative assessment data, a summary of findings, and an action plan to address identified student learning needs. Administrators will coach teachers through the process of meeting the learning needs of all students.

Whitman-Hanson Regional School District

***Project Title:** Project LEAP: Laptops Enhancing Academic Proficiency*

Ruth Gilbert-Whitner 781-618-7471
Ruth.Whitner@whrsd.org

Curriculum Area: Math

Grade Level: 6-8

Project Overview:

Project LEAP will provide a one-to-one computing environment for middle school students at Memorial Middle School in Hull and Whitman Middle School in Whitman. Building on the solid infrastructure that exists in both schools, this project will further enhance the school's academic environments by providing laptops for daily use in middle school mathematics classrooms. Through a hands-on, collaborative approach, coupled with comprehensive technology integration practices, the district expects students to succeed academically and to show improvement in overall math assessment scores. Students and staff from both districts will communicate and share ideas and projects through the Massachusetts Department of Education's MassONE (Online Network for Education) and its exemplary online instructional tools, professional development resources, and collaborative forums.

Worcester Public Schools

***Project Title:** Worcester Public School Data Miners: Designing Algorithms To Analyze Myriad Indicators Needed for Education Restructuring*

Joan Fitton 508-799-3110
FittonJ@worc.k12.ma.us

Curriculum Area: All

Grade Level: All

Project Overview:

The Worcester Public Schools information systems team in collaboration with the Massachusetts Department of Education Data Warehouse Pilot Project team will transform data from the existing student database into a format that will support in-depth data analysis and reporting functionality. Through the use of a data warehouse environment, end users will be able to track cohorts of students, individual students, and instructor development over time. This enhanced data availability for administrators and instructional personnel will make it possible to evaluate school

curriculum and student performance, as well as to provide evidence of the need for differentiated instruction in the classroom. The district will collect and analyze data on student attendance, suspensions, expulsions, dropouts, advanced placement and honors course enrollments, and overall student achievement to ensure continued success at all schools and within all student demographic sub-groups.