Rochester City School District

ARRA case studies

Background

The *American Recovery and Reinvestment Act of 2009* (ARRA) included a $650 million allocation in ESEA Title II, Part D, commonly referred to as the *Enhancing Education Through Technology* program (EETT). This case study was prepared by the State Educational Technology Directors Association (SETDA) – the principal association representing the technology leadership of state and territorial departments of education – to provide an example of ARRA funds working at the district and classroom level that creates effective, viable, and robust reform in education, and improves the way teachers teach and students learn.

New York's EETT Competitive Grants

The New York State Education Department (NYSED) identified four priorities areas for ARRA EETT funds: 1) To develop technology-rich, student-centered, active learning environments; 2) Provide an online formative assessment data management system compatible with current data system; 3) Deliver online instruction connected with the development of NYSED's Virtual School Initiative; and 4) Support English language learners (ELLs) and students with disabilities through the use of technology tools.

EETT Model Classrooms
Rochester City School District, New York
September 2010-September 2011

The purpose of this grant was to scale-up Rochester's Model Classrooms program by providing the equipment and professional development required to establish additional technology-rich, student centered, model classrooms. Through professional development and the addition of technology to classrooms, teachers learned to integrate technology into a student-centered model of instruction.

Demographics

The city of Rochester is located in upstate New York. It is considered one of New York's Big 5 districts, along with Syracuse, New York City, Buffalo, and Yonkers. The school system supports approximately 32,000 PK-12 students and 10,000 adults. Students speak 35 different languages, from 28 different countries. In Rochester, 88% of the student population is eligible for free/reduced lunch, while 22% of the city schools are at 90% poverty or higher.

Project Description

In Rochester City Schools, a district survey revealed that most teachers were not prepared to effectively teach using technology tools. All teachers had a computer each, and schools had at least a computer lab. In addition, some schools had mobile labs, projectors, and interactive whiteboards but this was not widespread. In response, the district targeted fourth through eighth grade teachers to help ensure student technology proficiency by the time students entered ninth grade. Using a combination of federal and local funds, this large endeavor aimed to couple appropriate access to

ARRA EETT Grant Details	
Grant Focus	Ongoing Professional Development and High-Access, Technology-Rich Learning Environments
Beginning/End Date of Grant	September 2010-September 2011
Locale	Urban
Total Funding	$ 1,857,403
Grade Level (s)	4-8
Number of Teachers Impacted	120
Number of Administrators Impacted	150
Number of Students Impacted	3,600

technology tools with intense, professional development that would build teachers' skills, support instruction, and change classroom practices. This initiative initially began in 2006 with local funds on a small scale, and then expanded annually with the help of local, EETT formula, and competitive funds. By 2008, the program expanded to reach each school in the district. The ARRA EETT funds awarded for the 2010-2011 school year enabled the Model Classroom program to expand to 120 additional classrooms. The program provided multi-modality professional development opportunities for teachers and building level staff, which included face-to-face training and coaching by a technology integration specialist. Overall, since the Model Classrooms inception, 396 teachers from 159 classrooms have been trained, and the district continually provides training so that staff members are prepared as additional technology tools are distributed. Overall, 5,683 unique participants have participated in at least one Model Classroom training sessions since 2006. The total funds for this grant since 2006 include $3,000,000 in local funds, $953,216 in EETT Formula Funds, $2.4 million in EETT competitive funds, and $1,857,403 in ARRA EETT Funds.

Project Implementation

Model classroom teachers were selected in pairs based on their instructional expertise and their interest in technology integration. Each participating teacher's classroom was outfitted with an interactive whiteboard, projector, document camera, a teacher laptop, and a pod of six desktop computers. In addition, each participating school was supplied with a

mobile lab of netbooks, class set of interactive response systems, and digital cameras for the model classrooms to share. The teachers attended five to seven days of training spread out over the course of the year. The face-to-face instruction covered training of the technology equipment provided in the classroom, software applications, and the overall integration of technology into classroom practices, including Technological Pedagogical Content Knowledge (TPACK) framework with focus on content and pedagogy. Following each training session, teachers benefited from direct support through classroom coaching. For example, if teachers received training on using the interactive whiteboard, the coach would work with the teacher to effectively integrate the interactive whiteboard into the content instruction as well as develop student-centered classroom activities.

Classroom Examples

- In fifth grade language arts, students wrote poetry about the holidays including how different countries celebrate Christmas and other holidays. Using their netbooks, students researched other countries and their celebrations including using Google Earth to locate and track the distances to multiple countries. Students presented their research using a slide show presentation and shared a poem about their country. Classmates evaluated other students' presentations using a rubric. Prior to the grant, limited technology tools minimized research and presentation options.

> The engagement I have seen in my fifth and sixth graders is inspiring. They are invested in their learning and take pride in the work they turn in to me. I haven't seen that pride in the paper/pencil assignments for some years now.
>
> -Rochester City Teacher

- In the fifth and sixth grade, students studied geology and plate tectonics. Before the grant, students used maps provided by the teacher and textbook readings to explore plates and earthquakes. With greater access to technology, students participated in a unit created by The Center for Innovation in Engineering and Science Education during which students took on the role of United States Geological Survey (USGS) scientists to explore locations of recent earthquakes and determine areas that are most prone to earthquakes. Students used maps on the USGS website to research earthquake activity. They explored a projected tectonic plate map and worked in small teams to explore the connections and correlations between the earthquake map and tectonic map.

Evaluating Effectiveness

Based on teacher surveys, 75% of participating classroom teachers surveyed stated that they now routinely use technology in the delivery of their daily content instruction. Technology is increasingly utilized for the planning of teacher lessons, the delivery of the classroom instructional program, and the adaptation of materials for individual student use. Furthermore, participating teachers believe that technology serves as a motivating factor for both teachers and their students, which fosters students' active participation in

learning activities and drives increased students' achievement. By the end of the second year, teachers celebrated the many ways that technology helped to provide a more effective instructional program and reported that they have become more cognizant about how to engage students in instructional content and process through the use of technology. As well, survey results show that teacher training has a positive impact on teacher use of technology in the classroom and that, in turn, has a positive impact on student academic achievement. The number of teachers who view technology as a teaching tool to enhance and enrich students' learning experiences has grown, and the number of teachers who have struggled with technology continues to decline.

> Using technology engages students and offers them an opportunity to discover the world at their fingertips. The interactive whiteboard software allows me to prepare engaging, eye-catching lessons using media resources that address standards in all academic areas. I would find teaching very difficult if I had to go back to using a textbook, marker board only model.
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> -Rochester City Teacher

Overall results in the second year of the grant implementation show that instruction from technology-trained teachers in a model classroom setting had a positive impact on the achievement scores of students on the 2011 New York State Assessments. The No Child Left Behind (NCLB) subgroups of female, disadvantaged, black, and Hispanic students noted the highest gains. Results indicated that the most positive impact was made in eighth grade English language arts where nearly all measured subgroups demonstrated scaled scores that were significantly greater than their regular classroom peers. Overall, results suggest that instruction from technology-trained teachers in a Model Classroom setting has a positive impact on the achievement scores of students on the 2011 New York State Assessments.

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District Data

- In year one, 52% of classroom teachers surveyed now state that they routinely use technology in the delivery of their daily instructional program.
- In year two, 75% of classroom teachers surveyed now state that they routinely use technology in the delivery of their daily instructional program.
- English and language arts had the largest positive academic impact with 44% of the measured students benefiting from technology-integrated instruction based on 2011 New York State Assessments.
- The average positive academic impact for all subgroups; female, disadvantaged, black and Hispanic was above 33%.

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Access full evaluation report at http://tinyurl.com/8xf5lxr.

Moving Forward

For the 2011-2012 school year, $525,000 of FY10 EETT funds and $570,000 in local funds have been dedicated to support and expand the program. Based on the implementation, buildings are now also using local funds to scale out the program within individual schools. During the 2011-2012 school year, all certified district staff received training and were issued laptops. In addition, using the same professional development model, including a coach, teachers are continually trained to integrate technology. This professional development model has proven most effective and will be used to teach and implement other district initiatives strategies. Technology will continue to be refreshed, and alternative devices will be researched for implementation in the classrooms.

Resources

Rochester City School District Instructional Technology Website
http://rcsdk12.org/197310107101030933/site/default.asp

New York State Education Department
http://nysed.gov/

SETDA ARRA Information and Resources
http://setda.org/web/guest/ARRAresources