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.

Louisiana's EETT Competitive Grants

In Louisiana, ARRA EETT grants were awarded to address school-wide improvement efforts through the effective, expanded use of instructional technology tools. Grant programs developed instructional technology models that addressed the goals and instructional strategies of the technology plan and local school improvement efforts to assist teachers with effective technology integration, improve technology proficiency and increase student performance.

EETT HIGHTech Grant
Rapides Parish School District, Louisiana
July 2010-June 2011

The HIGHTech grant project created a 1-to-1, digital curriculum learning environment at Northwood High School. Teachers received professional development through the support of a full-time technology facilitator and through a partnership with nearby Bolton High School's Digital Academy.

Demographics

Rapides Parish School District is located in rural, central Louisiana in the town of Alexandria. Northwood School is a K-12 school of 800 students; Northwood High School is a part of this school community serving 225 students in grades 9-12. Seventy-seven percent of Northwood students qualify for free or reduced lunch, and the school qualifies for Title I. The Louisiana School Accountability System provides a School Performance Score (SPS) consisting of test and graduation results, student attendance rate, and dropout rate. Northwood High School, at the beginning of the grant period, scored 77.1. By 2014, the state's goal for each school is an SPS of 120.

Project Description

Rapides Parish, a low socio-economic rural school district, had limited access to technology tools, digital content, advanced placement courses, and high-speed broadband prior to this grant. In Northwood High School, there were computer labs for business vocational courses only and a few interactive whiteboards. Students also struggled with developing the 21st century skills of collaboration, critical thinking, and communication. This grant provided a total redesign of the instructional environment by integrating a 1-to-1 program and a variety of online resources including advanced

ARRA EETT Grant Details	
Grant Focus	High-Access, Technology-Rich Learning Environment and Technology Coaches/Mentors
Beginning/End Date of Grant	July 1, 2009-September 30, 2011
Locale	Rural
Funding	$414,600
Grade Level (s)	9-12
Number of Teachers Impacted	19
Number of Administrators Impacted	3
Number of Students Impacted	225

placement opportunities, distance learning classes, and subscription-based services. Students were provided with 24/7 access to netbooks. School and community wireless hot spots were established so that students could access internet resources during, before, and after school, and outside of school property at community centers and on the nearby Indian reservation. In addition to student tools, classrooms were equipped with interactive whiteboards and digital curricula resources including a schoolwide content management system. The technology coordinator provided comprehensive professional development for teachers with in-person training and ongoing classroom support. Teachers learned how to use the new devices and how to implement collaborative, project-based lessons into the core curriculum. Northwood teachers also partnered with teachers from Bolton High School, the district's all-digital high school.

Project Implementation

The first step in implementing this program was to establish a technology-rich infrastructure including a campus-wide wireless network, laptops for teachers, and netbooks for all 9th, 10th, 11th, and 12th grade students. Additionally, digital curricula resources such as Gizmos, Geometer's Sketchpad, ABC-CLIO, Nettrekker, and Blackboard were provided to help create a technology-rich instructional environment.

> Before we had the computers, I knew very little about technology. Now I think I am more prepared for my future.
>
> - 12th grade student

At the start of the 2010-2011 school year, parents and students were oriented to the 1-to-1 program and signed user contracts. Students received training at the beginning of the year in laptop maintenance and basic word processing, spreadsheet, and presentation applications. Teachers received professional development in basic computer applications and project-based learning principles. Before the beginning of the school year, teachers attended workshops, which then continued throughout the year. Teachers also received training on each of the digital content and online management resources. A full-time technology facilitator was added to the faculty, who coached, modeled, and provided support both during the school day and after school. In addition, during the summer of 2011, Northwood teachers attended a two-day curriculum planning event during which technology teacher leaders from Virginia, Florida, and Bolton High School assisted the Northwood teachers in working within their content areas and writing unit plans that integrated the technology.

The partnership with Bolton High School was critical to the success of the grant implementation. Northwood teachers worked with the more experienced Bolton High School teachers, who had three years of experience with their 1-to-1 program. Northwood teachers visited Bolton twice during the school year by curriculum departments to observe classes and work with teachers. Bolton teachers also provided workshops for Northwood teachers. In addition, students and teachers received technical support from Bolton High School. As laptops needed to be serviced, they were sent to the technical staff at Bolton and a loaner laptop was made available so students were not without a computer.

Classroom Examples

- In an Algebra I class, students became travel agents and completed online research to develop three different travel packages for a family of four. Each seven-day vacation package was researched and planned to a different location. Students used their laptops and the internet for researching information for their different destinations. Research included exploring available transportation, entertainment, food, and lodging options, and average temperatures of each destination. Students graphed temperature data based on data collected from various weather-related websites. Students produced a one-page report of all costs associated with each vacation package. In addition, they presented their work via a brochure, slide show, or movie. Final products were presented at Technology Night, an open house for teachers, parents, students, and community leaders, focusing on student-created technology projects that showcased their technology skills.
- In American history class, students studied Christopher Columbus. In the past, students read and discussed general information about Christopher Columbus and his explorations. With the grant, students took their exploration of Columbus much further. Working in small groups, they researched Columbus's expeditions and outcomes. Each group created an electronic flipchart in which they explained and supported their opinions on whether Columbus's voyages should have been supported by Spain. After presenting their flipcharts to their classmates, each group scripted and filmed a video letter to the king and queen of Spain in which they either thanked them for paying for Columbus' expedition or told them why it was not a good decision on their part. The groups shared their videos with the rest of the student body at a "Video Breakfast." A

section of the school's cafeteria was set up with tall countertops, electrical outlets, and a large flat-screen television. Once a week during breakfast, the students were able to share their projects using their laptops and the television. All the students in the cafeteria were able to see video presentations.

Evaluating Effectiveness

At the beginning and end of the project, teacher and administrator technology proficiency was assessed using the Louisiana Department of Education Southwest Educational Development Laboratory survey, based on ISTE Educational Technology Standards and its performance indicators. Based on survey results, technology skills and student attitudes toward learning with technology improved.

> ### School Data
> - Teacher Proficiency: For the standard measuring of technology-rich learning environments, teacher proficiency increased from 64% to 85% based on pre- and post-grant assessments.
> - On-Target for Graduation: Previous junior classes measured approximately 58% on track for graduation; for the last two years the junior classes have improved to 75.6 and 74.5% on track for graduation.

Anecdotally, the changes to the curriculum and access to technology and the internet excited the students and provided new opportunities as they considered their futures. Teachers saw an increase in interest in pursuing higher education and/or technical careers.

Moving Forward

Near the beginning of this project, a local property tax millage to provide technology for the school district was implemented. This tax provides long-term sustainability for this project and has provided technology tools and training for the lower grades during this grant period. Ongoing, the local funds will support the maintenance and replacement of the high school's netbooks. Northwood will continue to receive support from district technology facilitators; however, the school-based technology facilitator was only provided during the grant cycle. The program allowed many teachers to become campus leaders and those leaders continue to support and educate the school community.

Resources

Northwood High School
http://rpsb.us/northwood/

Rapides Parish School District
http://rpsb.us/

Louisiana Department of Public Instruction
http://doe.louisiana.gov/
http://louisianaschools.net

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