

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.

Wisconsin's EETT Competitive Grants

Wisconsin sought to increase student use of technology as a learning tool to improve student academic achievement within a learning environment where Wisconsin's Model Academic Standards for Information & Technology Literacy are embedded within the content curriculum. In addition, programs increased teachers' understanding of technology as a means to support student academic achievement.

Together—21st Century Learning Environment (ToTLE) Program School District of Janesville, Wisconsin July 2009-September 2011

The School District of Janesville's project, Together—21st Century Learning Environment (ToTLE), engaged teams of educators and their students to build teaching and learning strategies, assessment instruments to help personalize student learning, and technology-rich, 21st century classrooms. Teachers worked in teams to design, implement, and assess problem-based learning units.

Demographics

Janesville is a city of over 60,000 citizens located in southern Wisconsin, about 40 miles south of the state capital, Madison. Janesville was once a strong manufacturing community until General Motors shut down its plant in December 2008. Unfortunately, the unemployment rate of 10.2% in June 2011 is steadily growing. The School District of Janesville has approximately 10,400 prekindergarten through 12th grade students served by 21 schools. Washington Elementary School has approximately 500 students and 2 computer labs. They added 75 netbooks in mobile carts as a result of the grants.

Project Description

Janesville used multiple funding streams for this initiative to provide teacher training, online communities of practice, hardware and software, and upgrades to their internet access. Technology tools purchased included netbooks, interactive whiteboards, response systems, and video equipment. Teachers participated in ongoing professional development, which was comprised of workshops, common planning sessions, coaching, and online courses. Teams of teachers participated in the professional development even when not all teachers were able to receive all of the technology tools. Administrators encouraged this team approach so that all staff was cognizant of the power of integrating technology and in preparation for the additional technology tools to be added in future years.

The district initiated their ARRA 2009 Competitive Grant project in Washington Elementary School, which has a high percentage of free and reduced lunch students, and a need for improvement. Test

scores on Pearson's Developmental Reading Assessment (DRA) indicated the third grade students had high-level reading skills but the fourth grade students were scoring at significantly lower levels. The Wisconsin Knowledge and Concepts Exam and the Northwest Evaluation Association Measures of Academic Progress proficiency levels corroborated the findings from the DRA test scores. In addition, the students at Washington Elementary only had access to 2 computers labs with 28 computers in each lab. The initial ARRA grant provided with 2 carts of 15 netbooks each for the 4 grade 3 and 4 grade 4

ARRA EETT Grant Details	
Grant Focus	Problem-Based Collaborative Learning and Communities of Practice
Beginning/End Date of Grant	July 2009–September 2011
Locale	Rural
Funding	\$50,000 (Competitive ARRA EETT 1) \$80,000 (Competitive Grant ARRA EETT 2) \$27,000 (ARRA EETT Formula Grant) \$14,501 (Partial funds FY09 EETT Formula Grant) \$762,303 (Microsoft Program Vouchers) \$150,000 (Wisconsin Technology Initiative, TOSA Foundation) \$1,083,804 Total
Grade Level (s)	3-12
Number of Teachers Impacted	192
Number of Administrators Impacted	14
Number of Students Impacted	3,532

classrooms to share. Subsequent grants provided 4 additional carts for a total of 75 netbooks for use in classrooms. During the same year, the district provided wireless access for the school. Seventy-four percent of the initial ARRA grant funds were used for professional development, and the remaining funds were used for the hardware and infrastructure upgrades along with other funds. Teachers engaged in professional development through summer training, graduate coursework, and peer coaching to learn to collaborate on and create 21st century classrooms with technology tools. Washington Elementary became a model school for all other Janesville schools. In fact, teams from neighboring districts, Wisconsin's Department of Public Instruction, and even the Ukraine have visited this model site to observe.

A second ARRA award was granted in December 2009, which led to the continuation of the professional development program at Washington Elementary School plus two middle schools and five additional elementary schools. Some ARRA funds were used for the purchase of additional netbooks, video production equipment, and interactive whiteboards with projectors, but the majority of funds were used for professional development. In addition, other federal funds and private foundation funds were used to provide additional netbooks, iPads, interactive whiteboards with projectors, and student response systems. A third EETT grant was also awarded during the same time period to expand the entire program, once again on a larger scale that included two entire elementary buildings, additional grades at three elementary schools, one middle school, the two high schools, and one charter school.

Project Implementation

In the summer of 2009, a group of 12 teachers comprised of 3rd and 4th grade classroom teachers, school leaders in special education and English Language Learner (ELL), the library media specialist, the learning support teacher, and one administrator from Washington Elementary participated in a summer institute, which included instruction in collaboration strategies, Universal Design for Learning (UDL), problem-based learning, 21st learning standards, Web 2.0 tools, and digital resources. The technology was distributed to the classrooms in the fall and throughout the 2009-2010 school year. Professional development continued with monthly sessions.

The meetings helped to establish a professional learning community that followed the Critical Friends Protocol, a professional learning community model designed by the Annenberg Institute for School Reform. Throughout the school year, teachers, library media specialists, and innovative learning specialists planned, implemented, and shared model lessons, student work samples, and assessments via a wiki.

The technology tools provided access to social networking sites such as Edmodo where students now converse and problem solve collaboratively. These are conversations that our students didn't have when they completed paper and pencil tasks. The online collaboration leads to higher level thinking and students make connections to their daily lives.

-Shelley Block, Innovative Learning Specialist, Adams and Washington Elementary Schools

During the summer of 2010, 104 classroom teachers, including grade level/content teachers, gifted and talented challenge teachers, special education teachers, ELL teachers, and library media specialists, formed professional learning teams to complete a 30-hour symposium. Teams developed problem-based learning activities and lessons aligned with the Common Core Standards for English/language arts and mathematics that followed the UDL model and targeted Partnership for 21st Century Skills (P21). Also, a total of seven cohorts of teachers took a two-credit graduate class through Viterbo University. The class offered instruction in UDL principles of design and assisted teachers in developing problem-based collaborative unit plans.

Ongoing systemic professional development continued throughout the school year from September 2010 until June 2011. By June 2011, a total of 206 additional social studies, science, mathematics, world language, language arts, art, and health educators from other elementary and secondary schools participated in at least 30 hours of professional development.

The sharing of model lessons including videos of classroom best practices continued via a Google site. A monthly online school newsletter included participant interviews highlighting professional activities. Articles and videos were featured on the district superintendent's "What's Right in Janesville Education" monthly blog. Face-to-face and online presentations at regional and state conferences provided the opportunity to model best practices and share performance assessments.

Throughout both school years, team members learned to be "Critical Friends" and mutual peer coaches. Critical Friends reviewed one another's lesson designs, studied student work samples, and helped to revise lessons. Teachers learned to support each other as they grew to become the class guide and facilitator for their own students by challenging them, posing higher level information questions, and creating problem-based learning opportunities within a technology-rich learning community. Together these teams also built common formative assessments for each lesson, which guided future lesson design and delivery working toward higher levels of thinking and content proficiency. Each team developed a minimum of three digital-age common assessments based on targeted P21 skills: collaboration, information inquiry, critical thinking, problem solving, communication, and technology literacy.

Classroom Examples

- In fourth grade science, students studied the food chain. Working within their collaborative teacher teams, teachers created a new unit employing UDL principles with the guiding question of what would happen to food chains and webs if a disaster occurred. Students researched and participated in online discussions about organism food chains, and the flow of energy and interdependence of organisms within a food chain. Next, students worked with their teachers and the media specialist to research food chains online from one of three biomes and created a

slideshow on how a natural disaster might affect their food chain. Students used the Big 6 research model to plan and conduct their research, and they used a storyboard to plan and complete their final product. Assessment tools included a checklist, formal rubric, and student reflection journal entry. Students also paired to evaluate one another as part of the process for preparation of presenting the finished projects at the spring technology fair.

- In studying civil rights, eighth grade social studies students addressed the essential question of why and how people have struggled for social justice. The class explored questions about social justice in teams and then students chose a civil rights leader to research via online and traditional research tools. Students then completed a Glogster (an online poster) sharing details about their leader. They presented their Glogster to the class and published it online. As a culminating activity in the Technology Education class, students created a graphic design representing civil rights and printed it out to be ironed on a T-shirt.

Evaluating Effectiveness

Baseline data for Washington Elementary School, the school impacted by the first ARRA award, showed 3rd and 4th graders scoring well below the minimal score of 80.5 in reading and 68.5 in math on Pearson's Developmental Reading Assessment (DRA) for meeting Adequate Yearly Progress. One year later, students showed marked improvement.

Washington Elementary School Data

- 2009-2010 third graders:
 - ✓ 96% significantly increased their reading comprehension to minimal or above as measured by the DRA.
 - ✓ 98% reached their growth target on the *Measures of Academic Progress* (MAP) assessment.
- 2009-2010 fourth graders:
 - ✓ 100% increased their reading comprehension to proficient as measured by the DRA test.
- 2010-2011 eighth graders:
 - ✓ Students scoring proficient or advanced on the baseline Next Generation Assessment for Student Information and Technology Literacy increased by 9.96%.

Moving Forward

Funding from a private foundation continues to support Janesville's 21st Century Learning Environment program. Future plans include a focus on continual improvement of the coursework offered to educators to reflect changing technologies. Also, building on their experiences, Janesville is adopting Moodle as a content learning management system for

the district in 2012. Local funds and federal EETT funds will support continued staff development including online courses for teachers and transforming the ToTLE symposium into a hybrid-learning environment.

Currently, library media specialists and innovative learning specialists continue to coach and team teach lessons as a way of mentoring and offering additional support to teachers through the process.

Resources

School District of Janesville
<http://janesville.k12.wi.us/>

Wisconsin Department of Public Instruction
<http://dpi.wi.gov/>

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