Educational Service Unit 6

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.

Nebraska's EETT Competitive Grants

Nebraska's ARRA EETT grant goals included: to improve student academic achievement through the use of technology in elementary and secondary schools; to assist every student in crossing the digital divide by ensuring that every student is technologically literate by the time the student finishes the eighth grade, regardless of the student's race, ethnicity, gender, family income, geographic location, or disability; and to encourage the effective integration of technology.

Reading in Hand Program
Educational Service Unit 6, Nebraska
March 2010-September 2011

Reading in Hand sought to utilize proven, researched-based reading instruction, intervention, and assessment tools (i.e., Lexia, Accelerated Reader, DIBELS, and MAPS) on mobile computing devices (iPod Touches) to improve reading achievement and literacy skills for K-6 students in four rural Nebraska schools.

Demographics

In 1965, the Nebraska Legislature created educational service units (ESU) to provide supplemental support to district schools. ESUs offer services in the areas of administration, media, professional development, special education, and technology. ESU 6 is located in the southeast corner of the state, around Milford. The four rural schools participating in this program included Dorchester, Milford, York, and McCool Junction Elementary Schools.

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Project Description

ARRA EETT Grant Details	
Grant Focus	High-Access, Technology-Rich Learning Environment and Technology Infrastructure
Beginning/End Date of Grant	March 1, 2010-September 30, 2011
Locale	Rural
Funding	$300,057 ARRA EETT $40,000 FY10 EETT
Grade Level (s)	K-6
Number of Teachers Impacted	35
Number of Administrators Impacted	4
Number of Students Impacted	450

Reading in Hand program's goal was to improve literacy skills for students in grades K-6 among four rural Nebraska schools with a concentration of high-poverty students. Specifically, the project's primary goal was to move from 30-50% of students who were reading below grade level or benchmark (varied according to grade level), to achieving 100% of K-6 students reading at or above grade by the completion of the 2010-2011 academic year. This project also intended to show sustained reading growth among higher achieving K-6 students, as baseline data indicated that the majority of high-achieving students were actually declining in reading achievement under current practice. Data was collected from ESU 6 schools to document content areas where students were not reading at an acceptable level. Scores showed that the elementary students in the four targeted schools needed intervention to improve their reading skills. The two grade levels at each school with the lowest reading achievement scores from the previous school year were chosen to be a part of the program. Due to school sizes, this ranged from one to four classrooms at each grade level. Each teacher, including special education teachers, involved in the project worked with the ESU 6 literacy coach and technology integration specialist to receive training through large group, professional development, 1-to-1 coaching and webinars, live chat or instant messaging sessions, and other online learning environments. Each selected school received a cart of student iPod Touches to be shared between the two teachers per school. A laptop was made available on top of the cart to assist with the syncing of iPod Touches. Each member of the leadership team received a laptop, and each teacher received an iPod Touch. The wireless network infrastructure was improved to support the use of the wireless capabilities of the tools.

Project Implementation

The project leadership team, consisting of representatives from each school, the literacy coach, and technology specialist, played an instrumental role in the implementation of the

project. They met continuously throughout the project and planned the majority of the professional development. In June of 2010, participating teachers met all day for an introduction of the tools and an overview of apps. Each teacher received an iPod Touch to use over the summer with the intent to increase his or her comfort level. They were shown how to download free apps and podcasts, including resources from Nebraska Department of Education's iTunes U. Teachers and administrators gathered again in August for two days to receive training on literacy and reading fluency. Since research shows a strong correlation between fluency and comprehension, this training covered discussions on connecting fluency and comprehension in classroom activities. Also, during this training, the coaches outlined the logistics of the fluency/comprehension assessments to evaluate the students' reading levels.

During the 2010-2011 school year, participating teachers met three times individually with the project leadership team. In September, the literacy coach visited each classroom and modeled lessons for teachers. The lesson focused on using rubrics to teach students about reading fluency. Students learned how to record themselves on the iPod Touches in order to self-assess their fluency skills. Teachers debriefed with the coach after the modeled lesson to discuss and assist with lesson planning. The technology specialist was also on site during these days to help with integrating the technology into the lessons, to provide support and answer questions, and to offer any other technical assistance as needed. In October, the literacy coach observed teachers and met each teacher to design a personal teacher action plan. The action plan reflected reading and technology use, goals, and actions that the project leadership team needed to support the teachers. In January of 2011, coaching sessions were determined on an individual basis and included additional modeled lessons, co-taught lessons, observations, and/or planning sessions.

Teachers created portfolios of student fluency samples for each student during the fall. Teachers worked to complete analytic scoring of the samples in December, then continued the teaching, recording, and collecting process throughout the spring. Teachers came back together in late spring to do a second analytic scoring of the audio files, which showed universal gains in fluency. Teachers used the data to validate that grant activities were making a positive impact on student achievement. The data also helped indicate which students needed additional supports to reach benchmark fluency rates.

In addition to using the iPod Touches for literacy recordings, teachers downloaded appropriate apps for student use, such as Puppet Pals where students can choose puppets, animate, and record stories to create a puppet show. Teachers shared and evaluated apps using the Reading in Hand project website.

Classroom Examples

- In second grade, students completed a variety of fluency lessons utilizing the iPod Touches as recording devices to record, play back, and evaluate readings. To teach appropriate intonation while reading, students learned the importance of using punctuation as a guide. First, students, as a whole group, recited the alphabet or

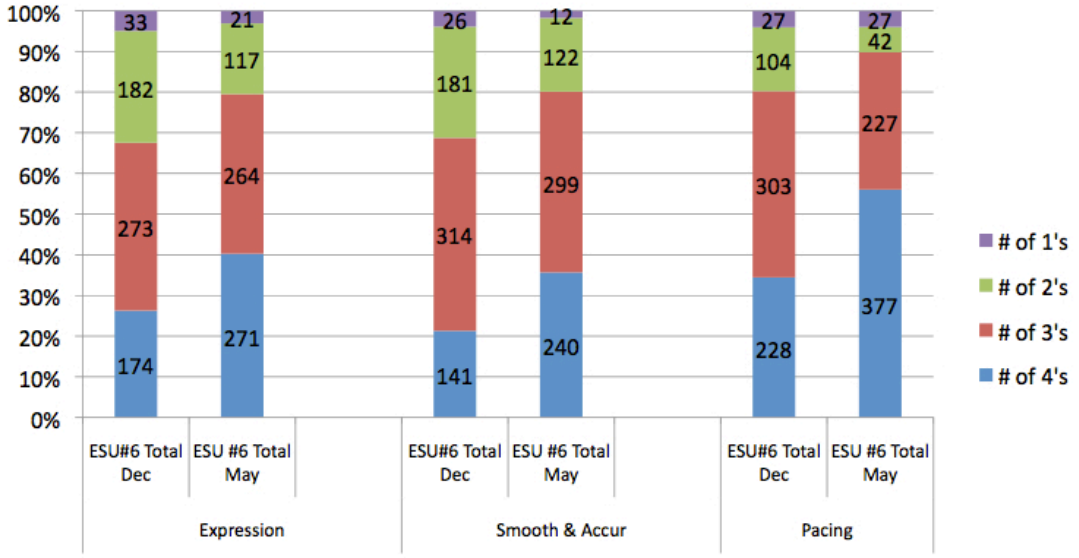
numbers as a conversation. For example, ABC? DE. FGH! I? JKL. MN? OPQ! RST! UV? WX. YZ! 123. 4! 567? 89. 10! Next, students recited a sentence using different end punctuation marks. For example, Cows moo. Cows moo? Cows moo! To practice placing the stress on different words in the same sentence, the teacher modeled reading the following sentences: ***I*** am sad. I ***am*** sad. I am ***sad***. Students then worked in pairs and practiced reading the sentences. Next, students recorded their readings, listened to the recordings, and evaluated themselves, using a provided rubric, with a partner or a teacher. Students worked to improve their reading based on self and peer evaluations. Prior to the grant, students had never recorded themselves or evaluated their own reading.

- To help students chunk text as they read, a participating teacher focused on grammar skills. Students learned to differentiate between a subject and a predicate as a means to help them chunk text based on these two main parts of a sentence. During one lesson, students were provided a paper copy of a short passage with the subject underlined once and the predicate underlined twice. In pairs, students underlined the provided texts. After practice and discussion, students worked with a new short passage. The teacher modeled how to use these phrase chunks to read fluently. After students practiced reading the passage, they recorded themselves on the iPod Touches and evaluated their own reading fluency. They were taught to evaluate their fluency and analyze the data to know their strengths and weaknesses as part of this grant program.

Evaluating Effectiveness

In December of 2010, participating teachers worked together to evaluate two audio files per student (total of 330 students). Students' recordings were evaluated for three reading traits; expression, smoothness/accuracy, and pacing using a detailed four-point scale rubric.

Comparing ESU #6—330 Students (December) to ESU #6—335 Students (May)



Reading Evaluation Data

- In December, 17% of students scored at level 1 or 2, 46% scored at level 3, and 37% scored at level 4.
- In May, 10% of students scored at level 1 or 2, 34% scored at level 3, and 56% scored at level 4 demonstrating significant gains.

Moving Forward

Many components of the Reading in Hand program will be continued. The literacy coach will be funded using state funds, and additional iPod Touches were purchased by individual schools. Additional applications and functionality is being utilized with the iPods, including iMovie on the newer iPods, and literacy apps. The participating teachers have served as models and advocates for the reading program and cannot imagine their classrooms without these powerful tools.

Resources

Reading in Hand Project Website
http://esu6rih.wikispaces.com

Nebraska Department of Education
http://www.education.ne.gov/

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