SETDA

National Educational Technology Trends: 2012

State Leadership Empowers Educators, Transforms Teaching and Learning

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The State Educational Technology Directors Association (SETDA) — the principal association representing the technology leadership in all fifty states, the District of Columbia, the U.S. Virgin Islands, American Samoa, and the Bureau of Indian Affairs — presents its ninth annual report on select educational technology activities from across the nation. This one-of-a-kind report provides unique details related to these educational technology initiatives.

State leaders continue to work to leverage federal, state, and local education programs by providing specific expertise in bridging technology and education reform priorities. States are working with districts to scale-up successful programs, coordinate educational technology investments through multiple funding streams, and increase the use of program evaluation strategies to guide decision-making. If our nation is committed to preparing all students for our increasingly global world, education leaders must focus on the four key strategies outlined below. This trifold presents data and examples from select states and districts supporting each of these key strategies and their elements of success.

Transforming Education To Ensure Student Success	
KEY STRATEGIES	**ELEMENTS OF SUCCESS**
Innovative Learning Models	• High-Access, Technology-Rich Learning Environments • Personalized Learning • Online and Blended Learning • Digital and Open Content • Project-Based Collaborative Learning
College & Career Preparation	• Career and College Readiness Focus • Dropout Prevention/Credit Recovery • Science, Technology, Engineering, and Mathematics (STEM) Education
Educator Effectiveness	• Education Resource Repositories • Professional Learning Communities and Communities of Practice • Technology Coaches/Mentors
Ensuring an Infrastructure for Learning	• Technology Infrastructure • Data Systems and Interoperability Standards • Content Standards and High Quality Assessments

To access the full report please visit:
http://www.setda.org/web/guest/nationaltrends2012

Innovative Learning Models

Innovative learning models enable students to have greater access to resources, classes and experts than available in traditional classrooms. This increased access enables meaningful, personalized learning experience both inside and outside of school. The following section highlight examples of five types of innovative learning models.

High-Access, Technology-Rich Learning Environments

Oregon – *Canby 1-to-1 Program*

Canby School District's elementary 1-to-1 program provided access to engaging technology tools for the majority of the district's elementary students. The district has leveraged EETT, E-Rate, state, and local funds to provide all elementary schools in the district with handheld devices for all third and fourth grade students, and several schools have included second through sixth grade. Students use the devices as their primary learning tool. This program started as a way for students to practice reading and numeracy fluency but quickly became the method teachers used to develop personalized learning experiences that were not possible previously. State assessment data from a study completed in 2011 showed that students who had 1-to-1 access to the devices outperformed the state assessment average by as high as 21% in math and 19% in reading. *http://wiki.canby.k12.or.us/groups/ipodusergroup*

Personalized Learning

Indiana – *Power of U*

The goal of the Metropolitan School District's Power of U program was to increase mathematics achievement for urban middle school students by using digital content, ongoing progress monitoring, and curriculum materials personalized to a specific learning modality. Power of U provided 1-to-1 access to deliver relevant, personalized instruction to students. The program's impact came from incorporating the students' individual preferred learning modality and focused content into their learning experiences. The achievement data showed that previously failing students who participated in the Power of U program gained more points than their peers who did not participate, and were three times closer to a passing score on Indiana's standardized achievement test. Furthermore, at the beginning of the grant, 100% of teachers were delivering a lecture style of instruction; however, by the end of the grant, 100% of teachers were utilizing a flexible grouping approach to instruction while becoming more proficient at identifying and utilizing digital content. Other grade levels are now adopting this model. http://websites.msdpt.k12.in.U.S./staffd/powerofu/

Online and Blended Learning

Maryland – *World History Hybrid Course Development Process and Product*

The World History Hybrid Course Development Process and Product Consortium grant examined best practices and research-based strategies for hybrid course instruction and course development. A model hybrid course in World History was developed for use in grades 9 through 11 to augment face-to-face instruction. Currently over 750 World History students are using the online course. A process guide is being created on developing a blended/hybrid course, and course development findings will be outlined in an evaluation of the development process upon the grant's completion in September 2012. http://hcdppc.wikispaces.com/

Digital and Open Content

Georgia – E-Textbooks

The goal of the e-textbooks program in Thomasville High School in Thomas County, Georgia was to move from traditional textbooks to digital content as a means to increase student achievement by engaging students and differentiating instruction in grades 8 to 12. With this grant, a 1-to-1 netbook program was implemented for all students and teachers in Thomasville High School. Classrooms were supplied with projectors, whiteboards, interactive response systems, and subscriptions to interactive digital content in all content areas and e-textbooks for most core subjects. The on-site technology coordinator and media specialist provided professional development throughout the school year and summer to support teachers' shift to integrating the technology tools. In walking through classrooms, engagement was apparent as students interacted with the content for collaborative group work and accessed digital resources. The percentage of 9th and 10th grade students with proficient or advanced 21st century skills proficiency levels increased by 12% in one school year based on standardized assessments. http://tinyurl.com/thomasvilledigital

Deeper Learning/Project-Based Collaborative Learning

Ohio – *Lakewood High School 2.0*

Lakewood High School (LHS), located in a diverse suburb of Cleveland, built an academic program embracing technology, project-based learning, and a team teaching approach in the LHS 2.0 Program. Teachers received professional development through an online summer course and workshops – and through a technology coach who supported the integration of the technology tools and project-based learning. Students were provided with a netbook for school and home use. Tenth grade results of the 2011 Spring Ohio Graduation Tests showed higher scores in all five subject areas for all participating students compared to peers. Most significant was the increase in test scores for students with disabilities. Pass rates for special needs students were 22% higher in writing, 20% higher in math and 19% higher in reading as compared to special education students not participating in the program. *http://lakewoodcityschools.org/*

College and Career Preparation

States and school districts are focusing their efforts on the preparation of all students for college and 21st century careers. These efforts include supporting students who have not been successful in traditional schooling as well as those striving for graduate work and professional careers. A robust infrastructure, effectively trained educators, and innovative learning models support these important efforts.

Career and College Readiness Focus

California – *Digital Frontier Project*

Riverside Unified School District's (RUSD) Digital Frontier Project was developed to provide approximately 2,200 urban, 9th to 12th grade students with a student data dashboard and a device for use at home and school to help track progress toward being college and career ready. RUSD worked with the Riverside County Office of Education to focus on college and career readiness, student attributes, and best teaching practices. During fourth period class each week, students checked their data dashboard to work on their goals in preparation for college and career. In addition, students used their devices for reading novels, writing, and participating in direct vocabulary instruction in small groups. Riverside Unified started plans to re-designating Title I and Title II funds where appropriate to maintain and support the expansion of this program. *http://rusdit.ning.com*

Dropout Prevention/Credit Recovery

Louisiana – *HIGHTech*

The primary focus of the HIGHTech Project in Lincoln Parish was to provide professional development for Ruston High School and Bethel Christian School 9th through 12th grade teachers and administrators to integrate technology into the curriculum and help increase student achievement. Administrators and teachers completed workshops on Web 2.0 tools, digital content, productivity tools, learning management systems, best practices in the use of technology, and high-access integration. The outcomes indicated that over 2 years the teacher technology proficiency increased 15%, and student technology proficiency increased 10%. Most importantly, previously the junior classes measured 75.6% and 74.5% on track for graduation as compared with previous junior classes, which measured approximately 58% on track for graduation. *http://www.lincolnschools.org*

Science, Technology, Engineering, and Mathematics (STEM) Education

Connecticut – *Green-Green Wintergreen Program*

Wintergreen Interdistrict Magnet School's Green-Green Wintergreen Program engaged students in 21st century learning focused on the study of the environment. Teachers integrated environmental studies in all areas of the curriculum while transforming the school into a technologically and ecologically fluent community. Students learned about scientific theory and approaches to making a positive, sustainable change in the environment. Teachers participated in professional development opportunities that provided resources and instruction on connecting the curriculum to real-life science and using technology to help solve everyday problems. The grant funding also provided interactive whiteboards, science probes, birdhouses, video cameras to film the birds and plants, and one hydroponic garden per classroom. Teachers and students harvested greens and herbs from the hydroponic gardens to sell through the school store and at parent meetings. *http://aces.org/*

Educator Effectiveness

Effective professional development ensures that districts attract and retain qualified professionals for every classroom. The knowledge, understanding, and use of technology are critical in order to access appropriate resources needed to transform pedagogical practices. Teachers need access to a variety of support mechanisms to create and organize lessons that provide innovative teaching approaches to meet the needs of individual students.

Education Resource Repositories

Minnesota – *Minnesota Online Resource Bank*

Minnesota Online Resource Bank's goal is to improve student achievement by training teachers to integrate online resources into the curriculum so they can personalize instruction. From January 2010 to June 2011, 148 teachers from 39 school districts across the state accessed and organized open educational resources (OER) using open source and Web 2.0 tools. Access to these tools facilitated participation in online communities where teachers were empowered to become producers rather than just consumers of content. Training modules and units were posted for public viewing. Content from this project has been viewed and downloaded consistently from all over the world. *http://bit.ly/287dev*

Professional Learning Communities/Communities of Practice

South Dakota – *Master Teacher Academy*

South Dakota's Master Teacher Academy provided professional development to lead teachers and administrators to assist in integrating 21st century skills into teaching. Teachers and administrators were recruited to engage in face-to-face and online training, a professional learning community (PLC), and to receive support in the classroom by instructional coaches. As part of the PLC, teachers created and shared a bank of lesson plans focusing on 21st century skills. Based on responses from the online collaborative community, participant feedback, and classroom observations, Master Teacher Academy participants indicated an increased awareness of how to integrate higher order thinking skills by 80% and increased awareness in incorporating 21st century skills by 90%. *http://sdmasterteachers.wikispaces.com/*

Technology Coaches/Mentors

Arizona – *iAchieve*

The iAchieve project in Creighton Elementary School District addressed specific academic needs by introducing an environment with 1-to-1 mobile devices to support instruction. The funding provided this urban area outside of Phoenix, which has a 94% low socio-economic status, with handheld devices for 18 3rd grade classrooms and 2 Spanish Immersion classrooms, impacting 700 students. Training was provided for the teachers to help integrate the tools and online content via workshops and the support of two technology coaches. The coaches provided real-time, hands-on support in the classroom and for lesson planning. Students used the handheld devices primarily for the practice and improvement of reading fluency through recordings. The tools also were used to create flashcards and digital stories and to access Internet resources and other apps. In 2011, iAchieve 3rd graders improved by 8% on the Arizona Instruction to Measure Standards (AIMS) reading assessment, while students in non-iPod classrooms improved by just 0.5%. Using capital funds, the district continues to support this program and is piloting the integration of 60 tablets at 2 additional schools. *http://tinyurl.com/74fztu5*

Ensuring an Infrastructure for Learning

A high quality infrastructure – technology, data systems and interoperability standards, and content standards and aligned assessments – are essential to providing every student and educator with clarity of expectations and the resources needed when and where they are required. It provides transparency and accountability to all stakeholders and is a pre-condition for many of the most powerful innovative learning models.

Technology Infrastructure

Nebraska – *Network Nebraska*

Network Nebraska's statewide network backbone is a telecommunications transport layer that supports shared network services and applications. Contracts with service providers are in place to provide high-speed bandwidth and allow for economies of scale as well as reconfiguration of existing networks for improved efficiencies. Through aggregation of demand, adoption of common standards, and collaboration with network services and applications, K-12 participants are achieving reduced network costs, interoperability of videoconferencing systems, increased K-20 educational collaboration, and new educational opportunities.
http://www.networknebraska.net

Data Systems and Interoperability Standards

Michigan – *Regional Data Initiatives*

Regional Data Initiatives (RDI) provided Michigan teachers with real-time access to student data at the classroom level to inform instructional decisions through the deployment of instructional data systems. The RDI project encompassed 97.5% of public school districts with over 40,000 PK-12 teachers and all 57 intermediate school districts (ISDs) participating. This program built upon the pre-existing state program under the same name. The ISDs deployed the data systems to address key educational issues and schools noted the value in fully funding the program after the grant cycle ended. *http://michigan.gov/edtech*

Content Standards and High Quality Assessments

Delaware - State – *Delaware Comprehensive Assessment System*

In the fall of 2010, the Delaware Department of Education introduced its first online assessment system, Delaware Comprehensive Assessment System (DCAS). Online tests provide teachers and students with immediate feedback about student performance. Teachers use the information to adjust instruction to meet students' needs. Students are tested in all subject areas, including mathematics, reading, science, and social studies. The online tests in reading, mathematics, and science are adaptive; every time a student answers a question, the response helps determine the next question that the student must answer. To support the online assessment, the Department of Technology and Infrastructure upgraded the network switches in all schools to allow for more consistent bandwidth. Additionally, bandwidth can be apportioned to give priority to test traffic, thus ensuring that the test-taking process is seamless for students. *http://de.portal.airast.org/*