



SETDA

National Educational Technology Trends: 2011

Transforming Education to Ensure All Students Are Successful in the 21st Century



Building a 21st
Century
Infrastructure



Supporting
Educator
Effectiveness



Developing
and Scaling
Innovative
Learning
Models



Preparing All
Students for
College and
21st Century
Careers

State Technology Leadership

A report from all 50 states and the District of Columbia featuring Title II Part D: Enhancing Education Through Technology programs and highlights from other state and district educational technology programs.

May 2011

www.setda.org

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Introduction

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 eighth annual report on select, national, educational technology activities. This annual report offers a unique perspective on innovative educational technology activities that inform teaching and learning, and includes state and district examples. SETDA collected the information and data in this report through a variety of mechanisms, including a detailed survey of states, personal interviews with state educational technology directors and their staff, analysis of state department of education websites, and reviews of public information and data.

In the sections that follow, this report:

- Describes how state level technology leadership is essential for advancing education goals and priorities;
- Provides numerous examples of innovative, educational technology programs underway in states and districts funded via a variety of federal, state, local, and private sources; and
- Provides detailed analysis of the federal technology grants awarded by the U.S. Department of Education (ED) to state educational agencies (SEAs) through the *Enhancing Education Through Technology* (EETT) grant program.

In addition to this report, SETDA produced 51 (including the District of Columbia) comprehensive, individual state profiles, including examples, based on each state's survey data. These profiles can be found online: <http://setda.org/web/quest/2011nationaltrends>. SETDA did not collect data and examples from the U.S. Virgin Islands, American Samoa, or the Bureau of Indian Affairs.

SETDA expresses its sincere appreciation to the state educational technology directors and other SEA staff who assisted in data collection and the production of this year's report.

Note: In this report, the District of Columbia is referred to as a state.

Acknowledgements

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Executive Summary

States in partnership with school districts all over the country continue to lead in transforming Pre K-12 education to meet the challenges and goals of the 21st century. State-level approaches, led by state educational technology directors, include identifying and developing innovations that effectively advance program goals; scaling up those innovations that prove to be effective across districts and states; coordinating educational technology investments with other state and federal funds; and ensuring that district investments are productive and effective.

Attention to four key strategies is necessary to achieve our nation's education goals if we are serious about preparing all students for citizenship, work, and life in our increasingly global world:

- **Building a 21st Century Infrastructure** — Building the 21st century education environment for equity, innovation, and improvement requires a technology infrastructure that includes access to devices and sufficient broadband; data systems, and interoperability standards; as well as content standards and high-quality assessments.
- **Supporting Educator Effectiveness** — Regardless of how the training is obtained or delivered – online or in person, peer-to-peer, or through technology specialists – high-quality professional development on how to use and incorporate technology into the curriculum is necessary in order to transform pedagogical practice. Education resource repositories, professional learning communities and communities of practice, technology coaches/mentors, and other methods of ongoing professional development support educator effectiveness.
- **Developing and Scaling Innovative Learning Models** — Developing and scaling innovative learning models helps address education priorities by employing novel approaches to meeting student learning needs. Innovative learning models include online and blended learning; high-access, technology-rich learning environments; and personalized learning models.
- **Preparing All Students for College and 21st Century Careers** — Students need higher order thinking skills to succeed in the 21st century global environment, whether they plan to attend college or start a career. Career and college readiness initiatives, science, technology, engineering, and mathematics (STEM), project-based collaborative learning, digital and open content, and dropout prevention programs support efforts to prepare students for life in the 21st century.

EETT Grant Program

Under Title II, Part D (Title II-D) of the *Elementary and Secondary Education Act* (ESEA) of 1965, as amended by the *No Child Left Behind Act* (NCLB) of 2001, the U.S. Department of Education (ED) provides state educational agencies (SEAs) with education technology grants through the Enhancing Education Through Technology (EETT) program. The primary legislative purpose of the EETT program is to:

- Improve student academic achievement using technology in K-12 schools;
- Assist every student in crossing the digital divide by ensuring that every student is technologically literate by the end of eighth grade; and
- Encourage the effective integration of technology with teacher training and curriculum development to establish successful research-based instructional methods.

FY09 EETT Findings

- The EETT program allocations to states ranged from a high of \$636.5 million in FY04 to a low of \$93 million in FY10.
- FY10 appropriations of \$93 million represent the lowest awarded to the EETT program since its inception.
- In Round 8 (FY09), 15 states exercised the option to award 100 percent of grant funds competitively. Three other states elected to award grant funds at a level between 51 percent and 100 percent competitively. The majority of the states (33) continued to split funds evenly between competitive grants and formula grants.
- States are allowed to transfer funds between programs. In Round 8 (FY09), states transferred \$4.4 million into EETT from other Title programs, for a net positive effect for the EETT program of \$3.9 million. These transferred funds become part of the formula allocation and allow districts to meet more of their technology needs.

FY09 Competitive Grant EETT Findings

- Of the 1,348 competitive grants awarded in Round 8 (FY09), 518 (38 percent) were continuation grants — allowing for full implementation and the transition to long-term sustainability.
- In FY09, states reported the primary and secondary educational strategies for their competitive grant competitions. States reported that *Enhancing Teacher Effectiveness* was the most common educational strategy (38 competitions as the primary strategy and 13 competitions as the secondary educational strategy). States also reported that in 14 competitions *Project Based Collaborative Learning* was the primary educational strategy and that in 12 competitions it was the secondary strategy.

FY09 Formula Grant EETT Findings

- In Round 8 (FY09), states awarded 10,116 grants through the formula grant program, 461 fewer grants (4 percent) than in Round 7 (FY08).
- The percentage of formula awards under \$5,000 slightly decreased from 77 percent in Round 6 (FY07) to 75 percent in Round 7 (FY08) to 73 percent in Round 8 (FY09).
- In Round 8 (FY09), only 1 percent of formula awards exceeded \$100,000, consistent with prior years.
- States reported that districts use formula funds primarily to purchase hardware (53 percent), provide professional development (55 percent), purchase software (37 percent), and increase access to technology tools (22 percent).

State Technology Leadership Essential for 21st Century Learning

State educational technology directors in partnership with school districts all over the country continue to lead in transforming Pre K-12 education to meet the challenges and goals of the 21st century.

Evidence shows that comprehensive, technology-rich education initiatives that include high-quality professional development, robust digital content aligned to standards, and attention to individual student needs results in improvements in student engagement and achievement, teacher effectiveness and retention, and increases college-going rates.¹ Through state leadership in educational technology,

investments of funds have been increasingly strategic and impactful, providing a valuable opportunity for economies of scale, efficacy of practice, and accountability. State-level approaches, led by state educational technology directors, include identifying and developing innovations that effectively advance program goals; scaling up those innovations that prove to be effective across districts and states; coordinating educational technology investments with other state and federal funds; and ensuring that district investments are productive and effective. These state leaders leverage federal, state, and local education programs by providing specific expertise in bridging technology with education reform priorities.

Transforming Education to Ensure All Students Are Successful in the 21st Century	
Key Strategies	Required Elements
Building a 21 st Century Infrastructure for Equity, Innovation, and Improvement	<ul style="list-style-type: none"> • Technology Infrastructure (broadband, networks, and devices) • Data Systems and Interoperability Standards • Content Standards and High-Quality Assessments
Supporting Educator Effectiveness	<ul style="list-style-type: none"> • Education Resource Repositories • Professional Learning Communities/Communities of Practice • Technology Coaches/Mentors • Ongoing Professional Development
Developing and Scaling Innovative Learning Models	<ul style="list-style-type: none"> • Online and Blended Learning • High-Access, Technology-Rich Learning Environment • Personalized Learning
Preparing All Students for College and 21 st Century Careers	<ul style="list-style-type: none"> • College and Career Readiness Initiatives • Science, Technology, Engineering, and Mathematics (STEM) • Deeper Learning/Project-Based Collaborative Learning • Digital and Open Content • Dropout Prevention/Credit Recovery

Attention to four key strategies is necessary to achieve our nation’s education goals if we are serious about preparing all students for citizenship, work, and life in our increasingly global world. The following sections present data and examples from select states and districts, supporting each of these key strategies and their required elements.

¹ Research findings from the U.S. Department of Education-funded Enhancing States through Educational Technology (ESTEP) grant program includes data on student achievement, teacher retention, professional development, and closing the achievement gap. Retrieved January 2011, from <http://setda.org/web/TAPP/home>

1. Building a 21st Century Infrastructure for Equity, Innovation, and Improvement

Building the 21st century education environment for educational innovation and improvement requires a technology infrastructure that includes access to devices and sufficient broadband. Without this access, many of the innovative models of teaching and learning, such as online learning and professional learning communities are not even possible for teachers and students. Not only does a 21st century education environment require the technology infrastructure, it also requires that data, standards and assessment flow across the system, providing transparency and accountability to stakeholders.

The following sections discuss these key infrastructure components.

- Technology infrastructure (i.e., broadband, networks, and devices)
- Data systems and interoperability standards
- Content standards and high-quality assessments

1.1 Technology Infrastructure (i.e., broadband, networks, and devices)

Building the 21st century education environment for equity, innovation, and improvement requires an infrastructure capable of handling the robust technology needs of administrators, teachers, and students. Access to devices, such as desktop computers, tablets, laptops, electronic readers, personal audio/video players, or smart phones provides students with the ability to learn in a technology-rich environment. Classroom devices, such as the interactive whiteboard and document cameras provide teachers with the resources to bring real-world learning to students on a daily basis. Unfortunately, today there is an average of 5.3 students to every classroom computer available for daily use in teaching and learning. With this level of access, half of all teachers report that they and their students use computers during instructional time in the classroom only sometimes or rarely, and 10 percent report never using computers for instruction.³ Educational technology leadership has been instrumental in getting us where we are today. It is critical that educational technology leaders continue to participate in the decision making process when states and districts are making technology investments.

Center for American Progress:

“State and federal governments should...provide educators with the tools, technology, and training required to succeed with limited school dollars.”²

Access to high-speed broadband is essential so that educators and students can utilize these resources to the fullest potential and access the many proven technology solutions that are scalable, flexible, and reliable. According to statistics compiled from the E-Rate program, 98 percent of schools have basic internet access. However, for many of these schools, access is often limited and at low speeds. The National Telecommunications and Information Administration (NTIA) report shows that two-thirds of surveyed schools subscribe to speeds lower than 25 Mbps.⁴ These speeds are insufficient to handle

² Center for American Progress. Retrieved March 9, 2011, from <http://www.americanprogress.org/>

³ Gray, L., N. Thomas, and L. Lewis. 2010. *Teachers' use of educational technology in U.S. public schools: 2009* (NCES 2010-040). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. Retrieved March 18, 2011, from <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2010040>

⁴ Federal Communications Commission. 2011. *2011 National Broadband Plan: Connecting America*. Washington, DC: Federal Communications Commission. Retrieved March 18, 2011, from http://ntia.doc.gov/press/2011/NationalBroadbandMap_02172011.html

current and emerging technology applications that demand ever-increasing bandwidth, such as video streaming, video conferencing, and online interactive learning. In a technology-rich learning environment, simply having connectivity is not enough. Without measurable upgrades in bandwidth to allow for greater speeds, or even to maintain current speeds as demand grows, teachers and students will be severely limited in the technology applications they can utilize. In 2008, SETDA recommended for a technology-rich learning environment over the next five to seven years, an external internet connection to an internet service provider of at least 100 Mbps per 1,000 students/staff, and internal wide area network connection from the district to each school and between

President Obama:

“This isn’t just about faster Internet or fewer dropped calls. It’s about connecting every part of America to the digital age. It’s about a rural community in Iowa or Alabama where farmers and small business owners will be able to sell their products all over the world. It’s about a firefighter who can download the design of a burning building onto a handheld device; a student who can take classes with a digital textbook; or a patient who can have face-to-face video chats with her doctor.”⁷

schools of at least 1 Gbps per 1,000 students/staff.⁵ These recommendations can be viewed as minimal for today as demands for bandwidth have grown significantly since that time. Even greater need is anticipated as school districts, states, and policymakers begin to implement the recommendations of the recently released National Broadband Plan. The plan makes three recommendations for broadband in education: improve opportunities for online learning; use data for innovation and transparency; and modernize the broadband infrastructure through changes to the E-rate program.⁶

1.2 Data Systems and Interoperability Standards

Data systems provide policymakers with the critical information necessary to make informed decisions about programs and initiatives. Over the past two decades, new federal and state laws are requiring the nation’s schools to focus more on accountability and assessment of student progress. Statewide longitudinal data systems have the capability to provide policymakers and educators with comparative data across district and state lines and to ensure all

10 Essential Elements of Statewide Longitudinal Data Systems

1. A unique statewide student identifier.
2. Student-level enrollment, demographic, and program participation information.
3. The ability to match individual students’ test records from year to year to measure academic growth.
4. Information on untested students.
5. A teacher identifier system with the ability to match teachers to students.
6. Student-level transcript information, including information on courses completed and grades earned.
7. Student-level college readiness test scores.
8. Student-level graduation and dropout data.
9. The ability to match student records between the P–12 and postsecondary systems.
10. A state data audit system accessing data quality, validity, and reliability.

⁵ State Educational Technology Association. June 2008. *High-Speed Broadband Access for All Kids: Breaking through the Barriers*. Retrieved February 16, 2011 from <http://setda.org/web/guest/2020/broadband>

⁶ Federal Communications Commission. 2011. *2011 National Broadband Plan: Connecting America*. Washington, DC: Federal Communications Commission. Retrieved March 18, 2011, from <http://broadband.gov/plan/11-education/>

⁷ State of the Union Address: *Winning the Future*. January 25, 2011. Retrieved February 15, 2011 from <http://whitehouse.gov/state-of-the-union-2011>

students are successful and receiving relevant instruction aligned to baseline academic standards. The Data Quality Campaign (DQC) identified the *10 Essential Elements of Statewide Longitudinal Data Systems* and the *10 State Actions to Ensure Effective Data Use*. DQC's *10 Essential Elements* provide the foundation for a statewide data system that has the capability to identify individual students, track student progress, including courses completed and college readiness scores, and match teachers to students. States have made significant progress in implementing the 10 essential elements of statewide longitudinal data systems, with 24 states reporting that all 10 elements are in place. By September 2011 every state will have all 10 essential elements in place.⁸ DQC's *10 State Actions to Ensure Effective Data Use* take data collection one step further and provide specific steps for states to leverage investments and ensure the capacity to use the data effectively. DQC's *10 State Actions to Ensure Effective Data Use* include the need to develop governance structures and to build state data repositories. States are working towards implementing the 10 state actions to ensure effective data use, however, currently, no state has full implementation.⁹ Effective data use, including linking data to key data points, is essential so that stakeholders can make informed decisions about policies and programs to improve student achievement.

1.3 Content Standards and High-Quality Assessments

Standards and assessment, whether national-, state-, or district-driven provide stakeholders with the knowledge that students are meeting basic requirements in key academic areas so that they are educated and prepared for life beyond K-12, whether for college or the workforce. The following section discusses some of the recent initiatives surrounding standards and assessment.

The National Governors Association (NGA) Center for Best Practices and the Council of Chief State School Officers (CCSSO) coordinated the development of the Common Core State Standards. The Common Core State Standards define the basic knowledge and skills students should acquire in their K-12 education, beginning with English language arts and mathematics, so that all students will graduate high school prepared to succeed in college and the workforce. NGA and CCSSO collaborated with teachers, school administrators, parents, and experts to develop this consistent framework.¹¹ To date, 43 states have adopted the Common Core Standards.

Common Core State Standards

Initiative:

"The standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that our young people need for success in college and careers."¹⁰

Authorized under the American Recovery and Reinvestment Act of 2009 (ARRA) through the Race to the Top Assessment Program competition, the U.S. Department of Education (ED) awarded a \$170 million grant to the Partnership for Assessment of Readiness for College and Careers (PARCC) and a \$160 million grant to the SMARTER Balanced Assessment Consortium (SBAC) to develop a new system

⁸ Data Quality Campaign. February 16, 2011. *In-depth analysis: States collect quality education data but do not support data use to improve student achievement*. Retrieved March 1, 2011, from http://dataqualitycampaign.org/files/Data4Action2010_PressRelease.pdf

⁹ Ibid.

¹⁰ Common Core State Standards Initiative. *Mission*. Retrieved January 18, 2011, from <http://corestandards.org/>

¹¹ Common Core State Standards Initiative. *About the standards*. Retrieved January 18, 2011, from <http://corestandards.org/about-the-standards>

of assessments. Currently, PARCC is a partnership between 26 states whose primary goal is to increase the number of students who graduate from high school prepared for college and a career. The consortium will create a computer-based assessment system for grades 3-12 that will help states reach these college and career ready goals, by expanding testing beyond the traditional multiple-choice format and test students' ability to complete research projects, for example. PARCC also plans to develop formative assessment tools for grades K-2. The new assessments will be ready for states to administer during the 2014-15 school year, with field testing starting in the 2011-12 school year.¹²

The SMARTER Balanced Assessment Consortium (SBAC) currently includes 31 states working together to create an assessment system for mathematics and English language arts with the goal of preparing all students for college and careers. The consortium plans to create online exams using open source technology and utilize adaptive technology during testing. The system will include summative exams, as well as tools for teachers to use in conducting ongoing formative assessments. The online system will provide assessment data to administrators and teachers to evaluate student progress for all students.¹³

2. Supporting Educator Effectiveness

In the 21st century, a highly effective teacher blends the use of modern tools, equipment, and content with innovative teaching approaches to support student learning. As well, good teachers understand just how vital educational technology is to that goal: 95 percent of teachers agree that educational technology engages “my students in learning” and 93 percent of teachers agree that educational technology helps “my students’ academic achievement.”¹⁴

Effective professional development is the lynchpin for ensuring that schools attract and retain a highly qualified, effective teacher for every classroom. Regardless of how the training is obtained or delivered — online or in person, peer-to-peer, or

New Mexico:

“New Mexico is the first state in the nation to create a statewide eLearning system that encompasses all aspects of learning from traditional public and higher education environments to teacher professional development, continuing education and workforce education.”¹⁵

through technology specialists — high-quality professional development on how to use and incorporate technology into the curriculum is necessary in order to transform pedagogical practice. Access to online courses, professional learning communities and communities of practice, and education resource repositories are effective modes of professional development and are particularly critical in rural and inner city areas where these opportunities are often limited. State leadership is essential in developing and promoting these professional development opportunities for all educators.

¹² Partnership for Assessment of Readiness for College and Careers (PARCC). Retrieved February 22, 2011, from <http://achieve.org/PARCC>

¹³ State of Washington Office of Superintendent of Public Instruction. *SMARTER Balanced Assessment Consortium (SBAC)*. Retrieved March 18, 2011, from <http://k12.wa.us/smarter/default.aspx>

¹⁴ Bill & Melinda Gates Foundation. 2010. *Primary Sources: America's Teachers on America's Schools*. A Project of Scholastic and the Bill & Melinda Gates Foundation. Retrieved March 18, 2011, from <http://scholastic.com/primarysources/download.asp>

¹⁵ Innovative Digital Education and Learning. 2011. *About IDEAL*. Retrieved on March 18, 2011, from http://ideal-nm.org/home/get-content/content/about_ideal-nm

The following sections highlight examples from four different categories of successful professional development projects in select states and districts:

- Education resources repositories
- Professional learning communities and communities of practice
- Technology coaches/mentors
- Ongoing professional development

2.1 Education Resources Repositories

Education resource repositories provide access to aggregate resources and online learning options for both students and teachers. Many states are developing statewide education resource repositories to help administrators, teachers, students, parents, and community members access relevant aggregated information about teaching and learning.

Arizona: Title I-Funded Statewide Program

IDEAL

IDEAL, a statewide education portal funded through Title I-School Improvement funds, provides teachers with rich digital resources and high-quality online courses. IDEAL also provides teachers with access to standards-aligned formative assessments and a learning resource database that includes digital content aligned to state standards. As well, IDEAL Home Edition offers family-oriented resources for furthering education at home. State portal usage showed typical unique monthly visits of approximately 22,000 educators with approximately 300,000 distinct page views. Some of the most popular IDEAL resources among educators include digital streaming video resources and the online professional development offered throughout the year. <https://ideal.azed.gov>

Utah: State-Funded Statewide Program

Pioneer Online Library

Pioneer is Utah's Online Library of electronic resources. It provides statewide access to newspaper articles, magazines, professional journals, encyclopedias, videos, photographs, maps, charts, and graphics. Utah Education Network's Digital Media Service is a digital media repository filled with video and other educational media free for Utah's educators, students, and citizen learners. The Digital Media Service allows the user to search for content, preview it, and then download the media for on-demand use. The digital repository includes videos licensed by the Utah Instructional Media Consortium, local programs from KUED-7, National PBS programs, and media from other trusted education partners.

Please see Appendix A for additional examples.

Highlighted states include: Arizona, Illinois, Maryland, Massachusetts, Rhode Island, and Vermont.

2.2 Professional Learning Communities and Communities of Practice

Professional learning communities and communities of practice provide the opportunity for educators to share resources and exchange relevant information and ideas about teaching and learning in an organized manner. Collaboration takes place in a nonthreatening, virtual environment. Educators can share and learn without regard to geographic location, reducing the financial burden on already

strained state and local education budgets. According to a draft of the report, “Connect and Inspire: Online Communities of Practice in Education,” from the ED, communities of practice have three core elements: 1) a shared area of interest to which members are committed and have a shared competence; 2) a community in which members engage in joint activities and discussions; and 3) a practice in which “members develop a repertoire of resources” that define the practice of their shared interest.¹⁶ Online communities of practice are critical, because as the report states, “Like countless other professions, education is increasingly a field in which people must nourish their knowledge and skills or risk seeing them go stale. Knowledge and skill-building expertise are distributed widely — up and down the vertical ladders of organizations; across geographic, disciplinary, demographic, industry, and time boundaries; and in physical and virtual spaces. Changes in professional practice and significant increases in impact depend on teams of people working together, people empowered with knowledge and skills that are complementary— and that go beyond what any one person alone can bring to the table.”¹⁷

Massachusetts: EETT Competitive District Program

Enhancing Mathematics Education Through Technology Project in Braintree Public Schools

The Enhancing Mathematics Education Through Technology Project provided collaborative professional development for K-12 educators to integrate technology into mathematics instruction. Participating teachers took the "Foundations for the 21st Century Teacher" online course, which focused on using appropriate technologies, including interactive whiteboards and web 2.0 tools, to teach K-12 mathematics skills. In addition, to support the success of students with diverse learning needs, a Universal Design for Learning strand was also included. A component of the course was also designed for administrators so they could model and evaluate effective use of technology. Following the course, teachers regularly met face-to-face and online to discuss how to train teachers in their own districts using the train-the-trainer model. Teachers implemented their new knowledge and also met at the end of the school year to refine their lessons and units and share their new knowledge with other educators throughout the state. There were 30 teachers in the original core group, which expanded to over 50 teachers. Teachers have also formed sub-groups of professional learning communities based on specific areas of interest. As a result, Braintree math standardized test scores in 2009 and 2010 increased in both elementary and middle schools. The average range of improvement for grades 3-6 was 9 percent and for grades 7-8 was 6 percent.

New Jersey: EETT Competitive Multi District Program

Implementing New Curricular Learning with Universally Designed Experiences (INCLUDE)

The Implementing New Curricular Learning with Universally Designed Experiences (INCLUDE) project in several school districts was designed to ensure all fifth to eighth grade students in the general education classroom, including those with mild to severe disabilities, struggling students, gifted students, and English language learners, are provided the necessary accommodations in mathematics to increase math academic achievement. Each participating teacher used educational technology, the

¹⁶ U.S. Department of Education. 2010. *Connect and inspire: Online communities of practice in education*. Retrieved April 7, 2011, from <http://edcosp.org/report/>

¹⁷ Ibid

Universal Design for Learning (UDL) framework, and research-based instructional practices in mathematics that are grounded in instructional pedagogy. Teachers received professional development in these areas as well as in-class coaching, and actively participated in professional learning communities.

- The participating students in the Magnolia School District with special needs demonstrated a 43 percent gain in math scores between a mathematics assessment pretest and posttest; the general education students displayed a gain of 39 percent. All students showed gains, but the students with special needs demonstrated greater growth.
<http://magnoliaschools.org/1815101231123153423/site/default.asp>
- Students with special needs in the Edgewater Park School District demonstrated a 22 percent gain between a pre and posttest mathematics assessment, whereas the general education population gained 3 percent. Also, the students labeled as economically disadvantaged, a historically lower scoring population, demonstrated 10 percent growth compared to 1 percent for non-disadvantaged students. <http://65.211.78.226/index.htm>

Please see Appendix B for additional examples.

Highlighted states include: Alaska, Connecticut, Kentucky, Louisiana, New Hampshire, New York, Rhode Island, Pennsylvania, South Dakota, Utah, Vermont, Washington, and Wyoming.

2.3 Technology Coaches/Mentors

Instructional technology coaches or mentors in schools provide opportunities for collaborative planning and co-teaching to help teachers utilize new practices and resources. In a study conducted by Knight (2007), teachers who received instructional coaching were more likely to use the methods they were taught in professional development workshops than those who only attended the workshop. Knight noted, “The results from this study suggest that instructional coaching is one additional support that will increase the transfer of new teacher knowledge into practice.”¹⁸

California: EETT Competitive District Program

Santa Clara Unified School District — Increase Mathematics Achievement for Fifth Grade Students

Santa Clara Unified School District’s EETT-Competitive grant worked to increase mathematics achievement for fifth grade students who scored “below proficient” on the state standards test by using technology tools, including interactive whiteboards, student response systems, and digital content. Participating teachers received professional development in technology integration and differentiated instruction, with follow-up support from technology mentors/coaches. Positive changes were made and attributed to this program. At the beginning of the grant, 20 percent of the teachers were proficient in providing small group instruction, and by the end of the grant, 100 percent of teachers were providing small group instruction. Differentiated instruction increased from 60 percent to 100 percent of classroom time. Of the 129 Buchser Middle School student participants, 51 percent gained at least one level on the state standard test, and 77 percent improved their scaled score. Average scaled score improved 28 points in two years. At Cabrillo Middle School, 32 percent of the

¹⁸ Knight, J. 2007. *Instructional coaching: A partnership approach to improving instruction*. Thousand Oaks, CA: Corwin

students gained at least one level on the state standard test, and 62 percent improved their scaled score. Average scaled score improved 18 points in two years. The impact of EETT has been sustained since the funding ended, and teachers continue to address individual student needs at higher rates than prior to EETT.

Washington: EETT Competitive Statewide Program Enhanced Peer Coaching (EPC) Program

Seventy-five school districts, representing each geographic area of the state, participated in the Enhanced Peer Coaching (EPC) program in which teachers at all grade levels received training and then worked in pairs or teams within a school, sharing experiences, team teaching, observing, and developing technology proficiencies. Peer coaches worked in classrooms that served the full spectrum of children with learning challenges — special needs, ESL/ELL, gifted, and talented. Three hundred fifty-eight teachers received training as coaches, following the Microsoft Peer Coaching curriculum, and directly impacted their school environment in positive ways by integrating technology into the curriculum and increasing student engagement.

<http://k12.wa.us/EdTech/Grants/Competitive/PeerCoaching/>

Please see Appendix C for additional examples. Highlighted states include: Arizona, Delaware, Kentucky, Louisiana, Maine, Missouri, Montana, New Jersey, New York, Ohio, South Carolina, Texas, Vermont, Washington, and West Virginia.

2.4 Ongoing Professional Development

Sustainable professional development is essential for developing and retaining highly qualified teachers. Unfortunately, retaining highly qualified teachers is a significant problem in our schools. After just five years, between 40 and 50 percent of all beginning teachers leave their teaching careers.¹⁹ Effective professional development is not a quick two-hour or one-day workshop; instead it encompasses ongoing learning for teachers. Like business leaders, teachers need the opportunity for brainstorming and collaborating with peers and goal setting with superiors. Ongoing professional development that supports the growth of a teacher helps maximize the potential of each teacher and ultimately each student.

Teacher Professional Learning in the US: Case Studies of State Policies and Strategies:

“In sum, we found that access to high-quality professional learning is fostered by state policies and systems that create standards and a framework for accountable professional development, monitor quality, and create an infrastructure for professional development by orchestrating the work of intermediary organizations that offer expertise and build capacity at the local level.”²⁰

¹⁹ Ingersoll, R. September 2003. *Is there really a teacher shortage?* University of Pennsylvania, Philadelphia, PA.

²⁰ Jaquith, A., D. Mindich, R.C. Wei, and, L. Darling-Hammond. 2010. *Teacher professional learning in the United States: Case studies of state policies and strategies.* Oxford, OH: Learning Forward.

South Carolina: EETT Competitive District Program

Tie It All Together

As part of a one-to-one laptop initiative, the Tie It All Together project focused on professional development and collaboration as means of increasing student achievement and improving classroom teaching for twelve middle schools in rural Sumter County School District. Teachers participated in a graduate-level course, receiving instruction in the integration of wikis, blogs, podcasts, video editing, portfolios, internet safety, and interactive whiteboards. The program also provided a technology coach to work with teachers, students, and pre-service teachers. Teachers integrated technology into the core curriculum and changed teaching and learning. Results indicate standardized math test results improved for eighth grade students. The students showed a significant increase between pre and post technology assessments with an average preassessment score of 52.8 and the average post assessment score was 58.0. In addition, teachers performed at the mastery level in technology proficiency as measured by the state developed ePortfolio assessment. <http://sumter2.org>

Wisconsin: EETT Competitive District Consortia Program

Digital Literacy 2.0 Project

The Digital Literacy 2.0 project touched teams of educators and administrators from 21 east central Wisconsin districts focusing on digital literacy and problem based learning to answer the question: “How can teachers utilize the capacity of Web 2.0 resources to individualize instruction and open doorways for students?” Teams of educators, library media specialists, and administrators attended five days of professional development, acquiring knowledge, familiarity, and proficiency in the use of digital tools and project-based learning concepts, using local expertise and the Intel Thinking with Technology course. The project provided the initial funding to start the professional development program for district educator teams to learn effective technology integration and to mentor fellow educators in these best practices. Overall, project research findings showed that participants had increased their knowledge and proficiency in using educational technology to engage and enhance student content learning and student academic achievement. Participants also demonstrated coaching and mentoring techniques they took back to their districts to share content, curricular examples, and tools learned during the project. <http://startrekdigitalliteracy.pbworks.com/>

Please see Appendix D for additional examples.

Highlighted states include: Alabama, Alaska, Arizona, Colorado, Connecticut, Delaware, Idaho, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Missouri, New Hampshire, New Jersey, New York, Oklahoma, Rhode Island, South Carolina, South Dakota, Texas, Vermont, Washington, West Virginia, and Wyoming.

3. Developing and Scaling Innovative Learning Models

Developing and scaling innovative learning models helps address education priorities by employing novel approaches to meeting student learning needs where traditional approaches have fallen short. For instance, online and blended learning offers students with the opportunity to access a variety of courses and highly effective teachers regardless of zip code. High-access, technology-rich learning environments provide students with the latest technology devices and resources, consistent with how many students engage with technology in everyday life. The personalized learning model uses a student-centered approach, allowing students to progress at their own pace.

Scaling Up Innovation:

Districts from eleven states have scaled up the innovative project-based collaborative learning program, Enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS). The program blends high levels of technology and up to 250 hours of professional development with instructional strategies focusing on higher order thinking skills.

The following section highlights examples of these three types of innovative learning models:

- Online and Blended Learning
- High-Access, Technology-Rich Learning Environment
- Personalized Learning

3.1 Online and Blended Learning

Online learning provides students with a flexible learning environment and provides all students with the opportunity to have continuous access to a high-quality curriculum and highly qualified teachers from the classroom to the family room to the community center — regardless of socioeconomic or geographic barriers. Online learning provides students the opportunity to take honors and advanced placement classes to prepare for college and have access to highly qualified teachers certified in critical areas, such as science, engineering, mathematics, or foreign language. Struggling students can catch up through credit recovery and/or remediation. Online learning provides students with the opportunity to find the best learning environment for them, whether it is a full-time online program, or in many cases, online courses to supplement their traditional learning. According to iNACOL, in 2009, there were significant increases in the number of online programs, the number of students taking a single online course, and the number of students attending a full-time online school. State virtual schools now exist in 27 states, with an additional six states offering state-led online learning initiatives.²¹ The following examples highlight state and district programs in online learning environments.

Louisiana: State-Funded Statewide Program

The Algebra I Online Project

The Algebra I Online Project provided students, particularly rural and urban students without access to fully certified teachers, with a certified Algebra I instructor and a high-quality Algebra I curriculum in a web-based format. In addition, districts desiring to provide certified teachers access to pedagogy

²¹ iNACOL, November 2009. *Keeping Pace with K-12 Online Learning*. Retrieved July 27, 2010, from <http://kpk12.com/>

training and mentoring in order to build capacity for strong mathematics instruction also participated. Throughout this project, the in-class teacher engaged in face-to-face and online professional development opportunities designed to 1) assist with the facilitation of the in-class Algebra I learning activities of the students, 2) build capacity for strong mathematics instruction, and 3) support the teacher's efforts towards secondary mathematics certification. During the history of the program (2002-09), 14 percent of the participating teachers extended their areas of certification. Students performed better than the state average on end-of-course testing. In 2009, a majority (58 percent) of the students scored in the excellent and good range in the Algebra I Online course, compared to the state average (39 percent). Students noted that they enjoyed using technology to learn math, working with other students, and participating in a new experience.

<http://www.louisianavirtualschool.net/algebra.xml>

Tennessee: EETT Competitive Statewide Program

The e4TN and e4000 Online Learning Initiative

The e4TN and e4000 Online Learning Initiative is an online learning program that helps middle and high school students receive a fair and equitable education despite obstacles. In January 2006, Tennessee created the first statewide e-learning program. Through the “effective engaging e-learning environment (e4TN)” online learning initiative, students who were homebound due to illness, for example, enrolled in online classes and continued their education through virtual learning. Students who lived in rural areas where there were not enough teachers in specialized areas enrolled in courses such as physics, art history, and foreign language. Gifted and special needs students took courses to fit their individual needs. The e4TN course catalog currently contains 44 e4TN courses and 13 vendor courses for grades 9-12. Courses for middle grades are in the process of being developed. In 2009, 60 of Tennessee’s local education agencies (LEAs) received funds for the e4000 program to expand utilization of this online initiative; 61 percent of these districts serve students with special needs, 68 percent provide services to gifted students and 40 percent serve the ELL population. The e4TN program has expanded substantially in the last year to help meet the needs of Tennessee students. Groundbreaking ideas became realities in the form of new initiatives for e4TN, including new course development and design, online teacher pool expansion, technological infrastructure improvements, and professional development.

Please see Appendix E for additional examples.

Highlighted states include: Alabama, District of Columbia, Illinois, Kentucky, Louisiana, Maryland, Michigan, Missouri, New Hampshire, North Carolina, Tennessee, Texas, Utah, Vermont, Virginia, and West Virginia.

3.2 High-Access, Technology-Rich Learning Environment

High-access, technology-rich programs provide students and teachers with the latest technology devices and resources to transform the classroom into a 21st century learning environment. States are supporting one-to-one or other high-access, technology-rich learning environments as an educational improvement strategy. State and district programs vary from statewide initiatives in Maine and Michigan to district programs in California. The following examples highlight programs that support a one-to-one or high-access technology initiative.

**Maine Learning Technology Policy Director,
Jeff Mao:**

“The level of investment and commitment to effect change and opportunities to innovate in our schools would not have occurred were it not for significant leadership and vision that included the Governor, the Commissioner, the Maine Legislature, and the Ed Tech Director to work across all constituent groups in Maine. Change of this scale does not come easy, and requires champions.”

Maine: State-Funded Statewide Program *The Maine Learning Technology Initiative (MLTI)*

The Maine Learning Technology Initiative (MLTI) is a state funded program that also receives EETT funds in specific areas for professional development. MLTI provides one-to-one laptop computers to all middle school students, teachers, and administrators, 45 percent of high school students as well as providing professional development for teachers. The state offers professional development in the form of weekly webinars, school site visits, regional workshops, and podcasts (iTunes U). The program adheres to two professional development models that support teachers with curricular design, instructional practices, and assessment: Substitution Augmentation Modification Redefinition (SAMR) and Technological Pedagogical Content Knowledge (TPACK). MLTI employs a team of eight technology integration specialists and seven regional trainers provided by the MLTI EETT competitive grants. Research has indicated increased student achievement and engagement, and increased teacher use of the technology tools. <http://maine.gov/mlti/index.shtml>

North Carolina: EETT Competitive Multi-District Program *The IMPACT IV Program*

The IMPACT IV program, built on the lessons learned from the one-to-one, research-based IMPACT program, included 13 schools in the school districts of Thomasville, Asheboro, Kannapolis, and Northeast Consortium. The program focused on professional development. Heralding collaboration and leadership, the IMPACT IV guidelines for technology integration required the use of technology with the goal of improved student achievement. Teams, including the school administrators, teachers, technology facilitators, media coordinators, and the central office administrators, supported one another in the effort of to create a 21st century learning environment in which student learning is the focus. Teachers guided the decision-making process, creating more collaborative-environments and greater buy-in to the program. IMPACT IV students have shown an increase in math performance when matched to a comparison group and there is an increase in teacher retention up to 65 percent for IMPACT schools. http://it.ncwiseowl.org/resources/i_m_p_a_c_t/

Please see Appendix F for additional examples.

Highlighted states include: Alabama, Alaska, Connecticut, Delaware, Georgia, Illinois, Indiana, Kansas, Maine, Michigan, Missouri, New Mexico, North Carolina, Oklahoma, Pennsylvania, South Carolina, and Texas.

3.3 Personalized Learning

More than just differentiating and individualizing instruction, personalized learning relies on a student-centered approach, where students guide their own learning. As Gardner (2010) points out in a recent interview, individualization “means that each student should be taught and assessed in ways that are appropriate and comfortable for that child.” Gardner goes on to say that educators can reach more students through pluralization — teaching concepts with many different approaches.²³ Personalized learning provides opportunities to engage all students in a manner relevant to their ability, learning styles, and interest so that they can achieve their full potential. Although the personalized learning approach may come in many different forms, technology greatly accelerates the opportunity to personalize learning for all students through face-to-face, blended, and online environments and access to a wide variety of technology tools and resources to engage and personalize instruction.

National Ed Tech Plan:

“The challenge for our education system is to leverage the learning sciences and modern technology to create engaging, relevant, and personalized learning experiences for all learners that mirror students’ daily lives and the reality of their futures.”²²

States are increasingly investing in personalized learning approaches and districts are reporting increased academic achievement for students when teachers utilize this approach. The following examples highlight programs that include personalized learning as an educational strategy.

New York: EETT Competitive District Program Student Centered Active Learning Environments

In Rochester City middle and high schools, the EETT-SCALE (Student Centered Active Learning Environments) program helped to create model classrooms through high-quality, sustained teacher training and the integration of technology. Teachers learned to adapt their instructional delivery so that technology became a natural pedagogical component. As well, Student-Centered Active Learning Environments were constructed as teachers gained knowledge in both hardware and software. The Model Classroom Training and equipment deployment included teachers in grades 5-9, special education and ELL. Professional development included instruction in student portals, e-curriculum delivery, creation of teacher web pages, differentiated electronic learning opportunities, formative electronic assessment tools, and use of interactive technology to personalize instruction based on student needs. Model Classroom teachers were supported by Instructional Technology Lead Teachers. Based on the evaluation by the New York Institute for Educational Excellence, teachers equipped with

²² ED. *National Education Technology Plan 2010*. Retrieved March 8, 2011, from <http://www.ed.gov/technology/netp-2010>

²³ edReformer Staff. July 14, 2010. *Personalize and Deliver*. [Interview with Howard Gardner]. Retrieved January 20, 2011, from <http://edreformer.com/2010/07/personalize-learning-to-broaden-equity-and-knowledge/>

and trained in the use of technology have significant impact on student achievement, particularly at the middle school level.

Ohio: EETT Competitive District Program

Personalize Instruction with Web-Based Assessment Tools

Summit Academy used EETT grant funding to provide web-based tools for assessment and communication to help personalize instruction. Summit Academy is an urban, charter middle school specializing in working with students with high functioning autism, ADHD, Asperser's Disorder, and other related learning disorders. Teachers were trained in the use of hardware and software to integrate the technology with the instructional goals. With the correlation of the Learning Management System and the growth assessment software, teachers improved their instructional strategies to better meet the needs of students. An analysis of standardized testing indicated that two years of technology integration into the curriculum and changed teaching practices resulted in a statistically significant difference. Achievement gains were made in both reading and math, with an average 9.95 net gain in reading and 9.80 in math. <http://summitacademies.com/index.php>

Please see Appendix G for additional examples.

Highlighted states include: California, Connecticut, District of Columbia, Idaho, Illinois, Iowa, Massachusetts, Nebraska, Ohio, and Oklahoma.

4. Preparing All Students for College and 21st Century Careers

Students need higher order thinking skills to succeed in the 21st century global environment, whether they plan to attend college or start a career. The Center for American Progress states that “educating workers is crucial for America's success in the global innovation economy.”²⁵ Nobel Laureate economist Gary Becker stated that “the stock of education, training, skills and even the health of people constitutes about 75% of the wealth of a modern economy. Not diamonds, buildings or oil but things that we carry in our heads.”²⁶ Education reform and improvement strategies that employ technology can provide all students, especially those who lack access to technology at home, with opportunities to gain the critical technology skills and real-world knowledge that are fundamental for obtaining jobs in this global, information-technology-rich marketplace. Utilizing technology in the classroom and in everyday life

NGA Chair, Washington Governor, Chris Gregoire:

“In the future, more than two-thirds of jobs will require an advanced degree – whether it is a degree from a two-year community college, four-year university, technical program or other credential. We need to put the right policies in place to meet this workforce demand.”²⁴

²⁴ National Governors Association. February 28, 2011. Press Release. *Governors Emphasize the Importance of Education for Economic Competitiveness*. Retrieved April 2, 2011, from <http://nga.org/portal/site/nga/menuitem.6c9a8a9ebc6ae07eee28aca9501010a0/>

²⁵ Center for American Progress. March 10, 2011. *Idea of the day: Educating workers is crucial for America's success in the global innovation economy*. Retrieved on March 18, 2011, from <http://americanprogress.org/issues/ideas/2011/03/031011.html>

²⁶ *Ibid*

helps students develop higher order thinking skills. Students can engage in real-time discussions, utilizing online resources, furthering class discussions, and developing a deeper understanding of the topic area.

States are implementing educational technology programs in the following categories to prepare students for college and 21st century careers.

- Career and College Readiness Initiatives
- Science, Technology, Engineering, and Mathematics (STEM)
- Deeper Learning/Project Based Collaborative Learning
- Digital and Open Content
- Dropout Prevention/Credit Recovery

4.1 Career and College Readiness Initiatives

State education leaders are increasingly recognizing the importance of developing specific initiatives to ensure that students are well prepared for college and the workforce. The following examples highlight select state college/career readiness initiatives.

Alaska: State-Funded Statewide Program

The Alaska Career Ready Initiative

The Alaska Career Ready Initiative is a joint initiative between the Alaska Department of Labor and the Department of Education and Early Development. The purpose of the initiative is to ensure Alaska students and citizens are well prepared for the workforce. The initiative uses a national assessment, WorkKeys, to assess 11th graders on applied work-related academic skills that employers determined as necessary for successful employment. The state of Alaska provides web-based courseware with skill-building lessons in the nine WorkKeys subject areas, plus additional lessons in career exploration and employability skills. Alaska students will take assessments in the three areas of Applied Mathematics, Locating Information, and Reading for Information. The EETT competitive grant program included a component to provide training to teachers on the web-based coursework in Applied Mathematics, Reading for Information and Locating Information. Teachers from each grant were selected to pilot at least one of these formative web-based assessments with their students.

New York Department of Education, Deputy Chancellor, John White:

“If we want our kids to be prepared for life after high school in the 21st century, we need to consider technology a basic element of public education.”²⁷

Texas: State-Funded Statewide Program

The Texas College and Career Readiness (CCRS) Program

The Texas College and Career Readiness (CCRS) Program seeks to identify, define, and begin the implementation of college and career readiness standards across K-12 and higher education. In

²⁷ Otterman, S. March 30, 2011. New York Times. *City Schools: Online Surge Despite Cuts*. Retrieved April 5, 2011, from http://query.nytimes.com/gst/fullpage.html?res=9A04E1DE1530F933A05750C0A9679D8B63&partner=rssnyt&_r=1

addition to defining standards for the four core areas of English language arts, mathematics, social studies, and science, K-12 secondary and higher education institution faculty collaborated to define cross-disciplinary standards for success across all areas of study. Those students that demonstrate the foundational skills named in these cross-disciplinary standards are able to transfer and apply knowledge across the curriculum and to use technology to gather, organize, manage, analyze, communicate, and display information in a clear and coherent manner. A number of EETT educational technology programs currently underway specifically address both the key cognitive skills and the foundational skills identified as cross-disciplinary in the Texas CCRS. Through these programs, educators are provided with high-quality professional development and technology integration strategies, students are equipped with modern technology and digital resources designed to strengthen critical thinking skills, and model schools will be selected to demonstrate the transformative use of digital content in the classroom and at home. www.txccrs.org/

Please see Appendix H for additional examples.

Highlighted states include: Louisiana, Maine, Michigan, Missouri, New Mexico, Texas, Utah, and West Virginia.

4.2 Science Technology Engineering Math (STEM)

Science, technology, engineering, and math (STEM) education initiatives started as a way to promote education in these related areas in order to prepare students to study and/or major in these fields in college and pursue STEM-related careers. Workforce projections for 2014 by the U.S. Department of Labor show that 15 of the 20 fastest growing occupations require significant science or mathematics training.²⁸ However, as jobs requiring a solid background in STEM areas are growing, more students are choosing not to major in these fields. In the 2007-08 school year only 5 percent of all bachelor degrees awarded in the U.S were in engineering and 5 percent in biological and biomedical sciences.²⁹ Based upon data from the 1995-96 Beginning Postsecondary Students Longitudinal study, 47 percent of students who had entered college in STEM programs between 1995-96 and 2001 left STEM fields by either switching to a non-STEM field or did not obtain a degree at all from college.³⁰

STEM education has become a priority at the national, state, and local level. The America COMPETES Act passed by Congress and signed by the President in January 2011, establishes the National Technology Council Committee to coordinate and support STEM education.³¹ In March 2011, the National Science and Technology Council's Committee, which includes representatives from 11 federal agencies, convened for the first time to discuss how to develop a five-year strategic plan for STEM

²⁸ Bureau of Labor Statistics. December 8, 2010. *Fastest growing occupations*. Retrieved on March 18, 2011, from <http://bls.gov/emp/emptab21.html>

²⁹ National Center for Education Statistics. July 2010. *Status and Trends in the Education of Racial and Ethnic Minorities: Percentage of degrees awarded by degree-granting institutions in the most popular fields of study, by race/ethnicity and level of study: 2007-08*. Retrieved on March 18, 2011, from http://nces.ed.gov/pubs2010/2010015/tables/table_26_2.asp

³⁰ Chen, X. July 2009. *Students who study science, technology, engineering, and mathematics (STEM) in postsecondary education* (NCES 2009161). National Center for Education Statistics, ED. Washington, DC. Retrieved from March 18, 2011, from <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2009161>

³¹ The Library of Congress. 2009-2010. Bill Summary & Status, 111th Congress. H.R.5116, CRS Summary. Retrieved on April 15, 2011, from <http://thomas.loc.gov/cgi-bin/bdquery/z?d111:HR05116:@@D&summ2=m&>

education, including creating an inventory of current STEM programs.³² At the state level, the National Governor’s Association (NGA) supports 33 states in the STEM Network where the governors' policy staff share lessons learned and best practices. As part of the STEM Network, states also have access to the NGA Center STEM E-Portal.³³ State leadership is essential for continuing to promote the benefits of STEM education initiatives, whether through state or district led projects. The following examples highlight select state and district initiatives in STEM education.

Connecticut: EETT Competitive District Program
Connecticut Career Choices Bio21

The New Haven Public Schools, in collaboration with The Center for 21st Century Skills @ EDUCATION CONNECTION, implemented the Connecticut Career Choices “Bio21” biology course at Wilbur Cross High School as a means of providing students with cutting-edge technology and 21st century skills, as well as assisting teachers in the use of technology to achieve more effective instruction in science. Bio21 is a lab-intensive science course that covers the most exciting fundamentals of life science and biotechnology. Students gained techniques and knowledge that helped prepare them for careers in medicine, microbiology, molecular biology, forensics, and public health. The project trained teachers to use 21st century learning management systems. In addition, the project positively impacted school administrators by increasing their familiarity with classroom observations of blended learning pedagogy and online standardized assessments. <http://ctconline.org/>

Delaware: State-Funded Statewide Program
Career and Technology Education Pathways

Technology is a fundamental component of all Career and Technology Education pathways and the state’s STEM initiative. Career pathway is a term for all pathways meeting the Delaware graduation requirements. The STEM courses are connected so that the practical application of science and mathematics are acquired through technology and engineering. Pathway courses in science, agriculture, technology, engineering, or mathematics engage learners in inquiry investigations, conceptual and applied knowledge, and engineering design processes.

Please see Appendix I for additional examples.

Highlighted states include: Arkansas, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Louisiana, Massachusetts, Minnesota, and Utah.

4.3 Deeper Learning/Project Based Collaborative Learning

Project Based Learning (PBL) builds meaningful content understanding for students, increases academic achievement, and fosters student motivation, as evidenced by numerous research studies.³⁴ “In Project Based Learning (PBL), students go through an extended process of inquiry in response to a complex question, problem, or challenge. Rigorous projects help students learn key academic content

³² Gershuny, G. March 4, 2011. *New Science, Technology, Engineering, and Math Education Committee launched*. White House Office of Science and Technology Policy blog. Retrieved on March 18, 2011, from <http://whitehouse.gov/blog/2011/03/04/new-science-technology-engineering-and-math-education-committee-launched>

³³ National Governor’s Association (2011). *Science, Technology, Engineering, and Math Education*. Retrieved March,10, 2011, from <http://nga.org/portal/site/nga/menuitem.1f41d49be2d3d33eacdcbbeb501010a0/?vgnextoid=b1da18bd4bae0110VgnVCM1000001a01010aRCRD>

³⁴ Buck Institute for Education. 2011. *Project-based Learning for the 21st Century*. Retrieved on March 18, 2011, from <http://bie.org/>

and practice 21st Century Skills (such as collaboration, communication & critical thinking).”³⁵

Technology facilitates deeper learning and enhances PBL for students through participation in online, collaborative projects. Students have the opportunity to build group documents online and to participate in videoconferencing with peers or experts in other states or countries, which exposes students to different cultures and global perspectives. With project-based collaborative learning, students develop the skills necessary to prepare them for college and the workplace. Blogs, chats, digital portfolios, podcasting, and videoconferencing are just some of the many technology options available for students learning in a project based collaborative learning environment.

Many states are investing in projects whose aim is to support deeper, project-based collaborative learning for students. Both state and EETT funds supported these grant projects, which are highlighted below.

Alabama, Arkansas, Delaware, Illinois, Maine, Minnesota, Missouri, Nevada, New Jersey, Oklahoma, Texas, and Utah: EETT Competitive Multi-District Program

Districts from Missouri and 11 other states have been using the Enhancing Missouri’s Instructional Networked Teaching Strategies (eMINTS) project based collaborative learning program, which blends high levels of technology for students and teachers with up to 250 hours of professional development for teachers. Instructional strategies focus on inquiry-based teaching, higher order thinking skills and cooperative learning. Students in eMINTS classrooms consistently outperform students in schools with similar demographics who are not enrolled in these classrooms. An article published in the fall 2010 edition of the Journal of Research on Technology in Education showed evidence of positive long-term effects on student achievement for teachers who had completed eMINTS PD programs.³⁶ The eMINTS National Center was awarded one of 49 Investing in Innovation (i3) grants by the ED to conduct further research and to study the impact of eMINTS on seventh and eighth grade students and teachers in rural Missouri schools. Current results include:

- In a representative sample of Missouri classrooms with similar demographics, over the past 10 years, the student achievement in eMINTS classrooms was repeatedly more than 10 percent higher than in control classrooms.
- Maplewood Heights Middle School reported higher attendance rates and fewer discipline referrals in eMINTS classrooms than in other classrooms.
- North Harrison, MO school district had teacher retention rates go from 76 percent to 98 percent after the first year of eMINTS.
- At East Newton Elementary in MO, after 6 years, students in special education at a low income, Title I school have reduced the achievement gap by 50 percent in fourth grade mathematics scores.

³⁵ *Ibid*

³⁶ eMints. 2011. Retrieved on March 18, 2011, from <http://emints.org/> and <http://emints.org/evaluation/reports>.

- In Gasconade County, MO, Instructional Practices Inventory observations showed increases in instruction, technology integration, and technology literacy frequency and proficiency, with time spent on higher-level thinking increasing from 17 percent to 24 percent. A rigorous end-of-course writing assessment demonstrated high performance levels with no students scoring below basic and 80 percent of students were at/above proficiency. <http://hermann.k12.mo.us/Dann%20Maribeth/emints.html>
- After one year of eMINTS participation at Fairview Elementary School, DE, class scores increased in writing anywhere from 3 percent to 39 percent in grades two through four. <http://fvemintsteam.weebly.com/>
- In Delaware, both the reading and mathematics test performance levels of students in eMINTS classrooms were higher than those of students in non-eMINTS classrooms in the Red Clay District for middle school students and at the Thomas Edison Charter School in grades three through six. Percentage differences in performance levels of 7-25 percent were reported for eMINTS students when compared to non-eMINTS students.
- In Baldwin County Alabama, students eligible for Free and Reduced Lunch (FRL) in grades three through six who were in eMINTS classrooms received significantly higher scores in reading, mathematics, and writing than did FRL students in non-eMINTS classrooms in Year 1. In Year 2, FRL students in eMINTS classrooms received significantly higher mean scores in reading and writing than did FRL students in non-eMINTS classrooms. <http://tinyurl.com/3wkejvi>

Hawaii: EETT Competitive District Program

Digital Connection

Noelani and Pauoa Elementary Schools built technology literacy for students and teachers through a rich, technology-enabled curriculum and project-based instruction. Using innovative curriculum development and mentoring between the schools, students engaged in projects in robotics, demonstrated work using podcasts and documentaries, and participated in online programs. Teachers developed class websites, collaborative discussion sites, wikis, and blogs. The professional development component included a coaching model, focused on technology integration. Both schools attained modest gains on the state assessment, with the greatest gains made by the targeted Title I students. Reading improved from 55 percent to 60 percent, and math improved from 39 percent to 49 percent in 18 months. Writing proficiency increased from 36 percent to 74 percent at Noelani, and from 5 percent to 54 percent at Pauoa Elementary School.

New Mexico-EETT Competitive

Mathematics Software for Intervention, Remediation, Differentiation, and Exploration

Gadsden Independent School District's middle school adopted various mathematical software programs for intervention, remediation, differentiation, and exploration, along with purchasing laptops and interactive whiteboards, to help students develop 21st century life and career skills by providing opportunities for collaborative work, facilitating communication through in-depth classroom discussions, and interacting with mathematical concepts using critical thinking and problem-solving skills. During Saturday and summer workshops, teachers gathered to plan, collaborate, and familiarize themselves with technology and software. Teachers met weekly to collaborate on the use of

technology in their classrooms and used peer observation to increase their understanding of how to best use technology with their students. Classrooms using technology showed an increase in student engagement, and students were more excited about learning math and willing to participate in lessons.

Please see Appendix J for additional examples.

Highlighted states include: Alabama, Arkansas, Connecticut, Delaware, Florida, Hawaii, Kansas, Michigan, Minnesota, Missouri, Nevada, New Hampshire, New Jersey, New York, New Mexico, North Carolina, Oklahoma, Pennsylvania, South Carolina, South Dakota, Texas, Wisconsin, and Wyoming.

4.4 Digital and Open Content

The growth of the use of digital technology in schools has helped to redefine what content means.

Prior to digital technology, content meant a textbook and possibly a filmstrip or movie as the source of information for instruction.

Now, technology can engage the 21st century learner and promote creative, collaborative, interactive, student-centered learning. With technology, teachers and students can access rigorous, high-quality digital content and resources. In addition to accessing publisher-created content, technology provides the opportunity for teachers and students to be creators and sharers of

**Alabama Director of Strategic Initiatives,
Melinda Maddox:**

“State leadership has been instrumental in the development of digital content provided for our teachers and students, and to ensure the digital content is high-quality and directly tied to standards and assessment. Because of state leadership and funding, Alabama owns all the content (over 60 high school courses) and thus can now work with schools and teachers to provide this content in a blended environment.”

content. Students are already creating and sharing content in their everyday lives when they participate in social networking sites, share their iPod or MP3 player playlists, or create YouTube videos. In a school setting, students can create podcasts to help review their own understanding of concepts, as well as to teach other students. Through blogs or discussion boards, students can create and share knowledge by engaging in online conversations with classmates about current events.

Policymakers at all levels are seeing the power of digital content to engage students and encourage deeper learning and are changing policies to encourage more and greater use of digital content. Open Educational Resources (OER) is a concept that has gained momentum in higher education, but is rapidly moving into K-12. According to United Nations Educational, Scientific, and Cultural Organization (UNESCO), the term Open Educational Resources was coined in July 2002 at the UNESCO-hosted Forum on the Impact of Open Courseware for Higher Education in Developing Countries, and participants in the forum defined OER as "the open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for noncommercial purposes."³⁷ OER is almost always free and includes a license from Creative Commons (CC) (www.creativecommons.org) that further delineates its possible use. Practitioners often refer to the 4 R's of openness:

³⁷ United Nations Educational, Scientific and Cultural Organization. 2002. *Forum on the Impact of Open Courseware for Higher Education in Developing Countries*

- Reuse – the right to copy and use verbatim copies.
- Revise – the right to adapt, rework, and improve open work.
- Remix – the right to combine OER from different sources to combine it into new OER.
- Redistribute – the right to share copies.

At the federal level, the National Educational Technology Plan (NETP), "Transforming American Education: Learning Powered by Technology" has numerous references to digital content and open educational resources, as does "Connecting America: The National Broadband Plan." At the state level, policymakers in approximately a third of the states have changed the definition of textbooks to include digital content or have otherwise made the purchase and distribution of instructional materials more flexible and inclusive of digital resources.

Georgia: EETT Competitive District Program
Increasing Student Achievement with Digital Resources

Georgia awarded the Increasing Student Achievement with Digital Resources grant to 14 Georgia LEAs to provide new technology, digital resources, and a technology integration specialist to support the implementation of the Georgia Performance Standards mathematics curriculum. Each awarded LEA selected a middle school and high school (for a total of 28 participating schools) that had a vertical alignment in the mathematics grade feeder pattern so that the selected middle school had the greatest number of eighth grade students that fed into the ninth grade mathematics classes in the selected high school. Each grant school utilized technology tools and digital learning resources to enable formative assessment that informed differentiation in teaching and learning in a minimum of four mathematics classrooms at the sixth, seventh, and eighth grade level and a minimum of five mathematics classrooms at the ninth grade level. Each designated mathematics classroom was equipped with a mounted video projector, portable wireless interactive device, e.g., Slate, Airliner, etc., student response system, and a minimum of 15 computing devices – with the provision that the devices will be shared to establish as close to a two-to-one computing environment as possible. In addition to purchasing digital resources and equipment, grantees participated in professional development with the goal of improving student achievement in sixth to ninth grade math courses. The results, as measured by percent gain in standardized math test scores, showed that sixth grade participants in the program had a 12 percent gain in math CRCT scores over the grant period as compared to a state gain of 10 percent; seventh grade participants showed even greater growth with a 14 percent gain over the grant period as compared to a state growth of 10 percent. Eighth grade and ninth grade participants' performance also exceeded that of the state. <http://public.doe.k12.ga.us/it.aspx?PageReq=ITTitleIID09>

Maryland: State-Funded Statewide Program
The MDK12 Digital Library Project

The MDK12 Digital Library Project partnership of all public school districts and participating nonpublic schools formed a statewide purchasing consortium to ensure cost-effective access to appropriate electronic resources for all students. The project was originally financed with EETT funds and is currently state funded. One such electronic resource, Proquest/SIRS aligned content to state standards where possible, and school districts integrated the use of the databases for research, primary source material, reading packets, teacher planning, and for content that is included in a statewide hybrid

course in World History. The MDK12 project created a coalition for leveraging the group's collective resources to negotiate one single mutual contract with an online service provider to serve approximately 851,640 public school students and 42,000 nonpublic school students, as well as negotiate for other digital content that is placed on a buyer's list. To date, cost savings have amounted to over \$1 million. In 2009, SB235 was signed into law to sustain the project following the end of federal funding. <http://www.montgomeryschoolsmd.org/departments/media/mdk12/>

Please see Appendix J for additional examples.

Highlighted states include: Arizona, Connecticut, Florida, Georgia, Indiana, Maine, Maryland, Michigan, New Hampshire, New Mexico, Ohio, South Carolina, Utah, and Virginia.

4.5 Dropout Prevention/Credit Recovery

Current high school graduation rates are approximately 70 percent, meaning that 30 percent of our children are dropouts and lack the necessary skills to succeed in the workplace.³⁸ More than one-half of the nation's dropouts attend struggling schools dubbed "dropout factories." These schools are located in every state; in cities, towns, and rural areas; and in all sizes and types of schools. Nearly 50 percent of African American students and 40 percent of Latino students attend these failing high schools.

According to data from the Bureau of Labor Statistics, the unemployment rate for high school dropouts in July 2009 was 15 percent, compared to 9 percent for high school graduates, 8 percent for individuals with some college credits or an associate's degree, and 5 percent for individuals with bachelor's degree or higher. In 2009, if students who dropped out of high school, instead stayed in school and graduated, these students would generate an additional \$335 billion in wages, taxes, and productivity over the course of their lifetimes.³⁹

There is no single reason why students dropout of high school; however, a lack of student engagement, deficiencies in basic skills, and high teacher turnover influence many of these students' choices to leave school. State education leaders are implementing dropout prevention programs that seek to engage students, and provide alternative personalized learning paths, including opportunities for remediation and credit recovery.

Alabama: State-Funded Statewide Program

The Alabama Connecting Classrooms, Educators, and Students Statewide (ACCESS)

The Alabama Connecting Classrooms, Educators, and Students Statewide (ACCESS) distance learning program has served students in grades 6 through 12 statewide by delivering instruction via the web and interactive videoconferencing, thus helping students stay in school and graduate. State funds provided each state high school with a distance learning lab with tablets, videoconferencing equipment, interactive whiteboard, and other technologies in support of the program. ACCESS offers 101 unique courses, including 11 AP courses, all taught by teachers specifically trained for the program. Over 560 teachers were trained and are currently teaching for ACCESS. In 2009, ACCESS provided 26,197 student enrollments in courses needed to meet graduation requirements and 6,059

³⁸ Alliance for Excellent Education. 2011. *About the Crisis*. Retrieved February 16, 2011, from http://all4ed.org/about_the_crisis

³⁹ Bureau of Labor Statistics. July 2009. *Unemployment rates*. Retrieved September 18, 2010, from <http://bls.gov/>

additional enrollments in non-credit remediation modules for the state high school graduation exam. In 2007, the average freshman graduation rate was 67 percent, up from 62 percent in 2002. Ongoing evaluation indicates continued positive success rates. <http://accessdl.state.al.us/>

Michigan: EETT Competitive Statewide Program Dropout Challenge Program

EETT funding, including ARRA EETT funding, supports Michigan’s dropout prevention programs. Michigan’s superintendent created the “Dropout Challenge Program.” Over 1,300 schools signed up for Graduation Town, a professional learning community for building-level administrators for sharing data and best practices. Michigan has the Seat Time Waiver program, which provides flexibility for up to 100 percent online enrollment. The Seat Time Waiver program requires one-to-one and broadband connectivity to the home. Many of the 21 programs received EETT grants over the past two years to support efforts to engage dropout and at-risk students in alternative routes to traditional high school graduation. In one district, Westwood Community High School (metro Detroit), Michigan supported the launch of a cyber high school that has grown to 700 at-risk students. The Graduation Town professional learning community is hosted online with convening and professional development happening online.

*Please see Appendix J for additional examples.
Highlighted states include: Alabama, Illinois, Kentucky, Michigan,
Missouri, Texas, Utah, and West Virginia.*

FY09 EETT Grant Program

Under Title II, Part D (Title II-D) of ESEA of 1965, as amended by the NCLB of 2001, ED provides state educational agencies with education technology grants through the EETT program. The primary legislative purpose of the EETT program is to improve student academic achievement using technology in K-12 schools. Additionally, the program aims to assist every student in crossing the digital divide by ensuring that every student is technologically literate by the end of eighth grade. The program also encourages the effective integration of technology with teacher training and curriculum development to establish successful research-based instructional methods.

EETT Grant Program Facts

Funding History

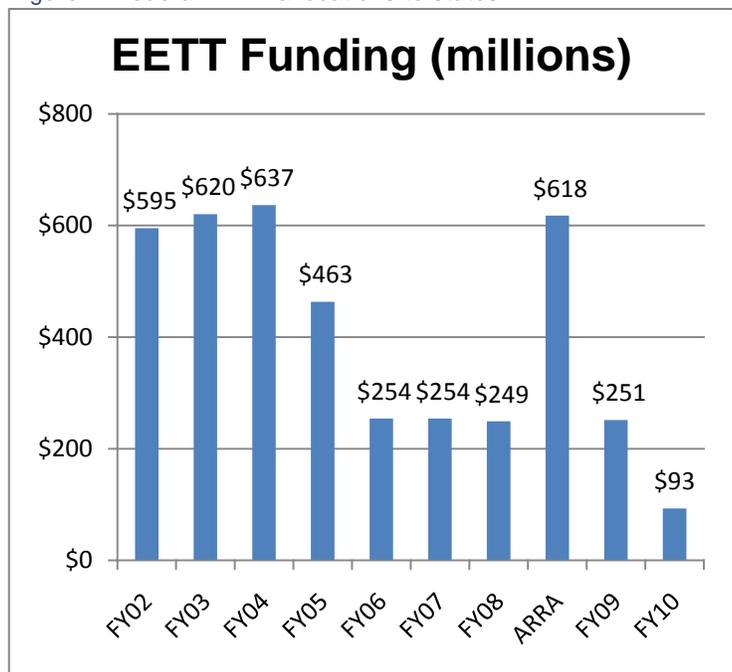
The EETT program allocations to states ranged from a high of \$636.5 million in FY04 to a low of \$93 million in FY10 as shown in Figure 1. Although this report only covers trends in state grant activities from FY02 through FY09, EETT funding for FY10, as well as the American Recovery and Reinvestment Act (ARRA) funds of FY09 are included in Figure 1 to show the large variation in funding across the years.

Program Structure

SEAs receive EETT funds based upon their proportionate share of funding under Title I, Part A. States may retain up to 5 percent of their allocations for state level administrative and technical assistance activities and must distribute the balance to local education agencies (LEAs) and other eligible local entities. State administrative funds support state level leadership in educational technology including grant program implementation and evaluation coordination. State educational technology administrators work with other state curriculum and professional development administrators to ensure that educational technology initiatives align with student achievement goals.

States award EETT allocations to LEAs through a combination of competitive grants and formula grants. Formula grants are noncompetitive grants that states award based upon a Title I formula. For competitive grants, states develop a request for proposal (RFP) and all interested, eligible local entities compete for these funds. Since it is a competitive process, not all entities that apply receive grant awards.

Figure 1: Federal EETT allocations to states



SOURCE: U.S. Department of Education, *Fiscal Year 2001-2009 State Tables*. Retrieved February 15, 2011, from <http://ed.gov/about/overview/budget/statetables/index.html>;

NOTE: National totals do not include data from outlying areas or national activities funds reserved by ED.

Originally, the structure of the EETT program required that states award 50 percent of their funds available to LEAs through a formula allocation, and the remaining 50 percent through competitive grants. In FY05, Congress allowed the states to award up to 100 percent of their EETT funds through competitive grants. In Round 8 (FY09), 18 states exercised that option with 15 establishing the percentage of competitive grants at 100 percent and three others establishing that percentage at a level between 51 and 100 percent. The majority of the states (33) continued to split funds evenly between competitive grants and formula grants as shown in Figure 2.

Figure 2. State EETT Subgrants: Competition vs. formula distribution: Round 8 (FY09)

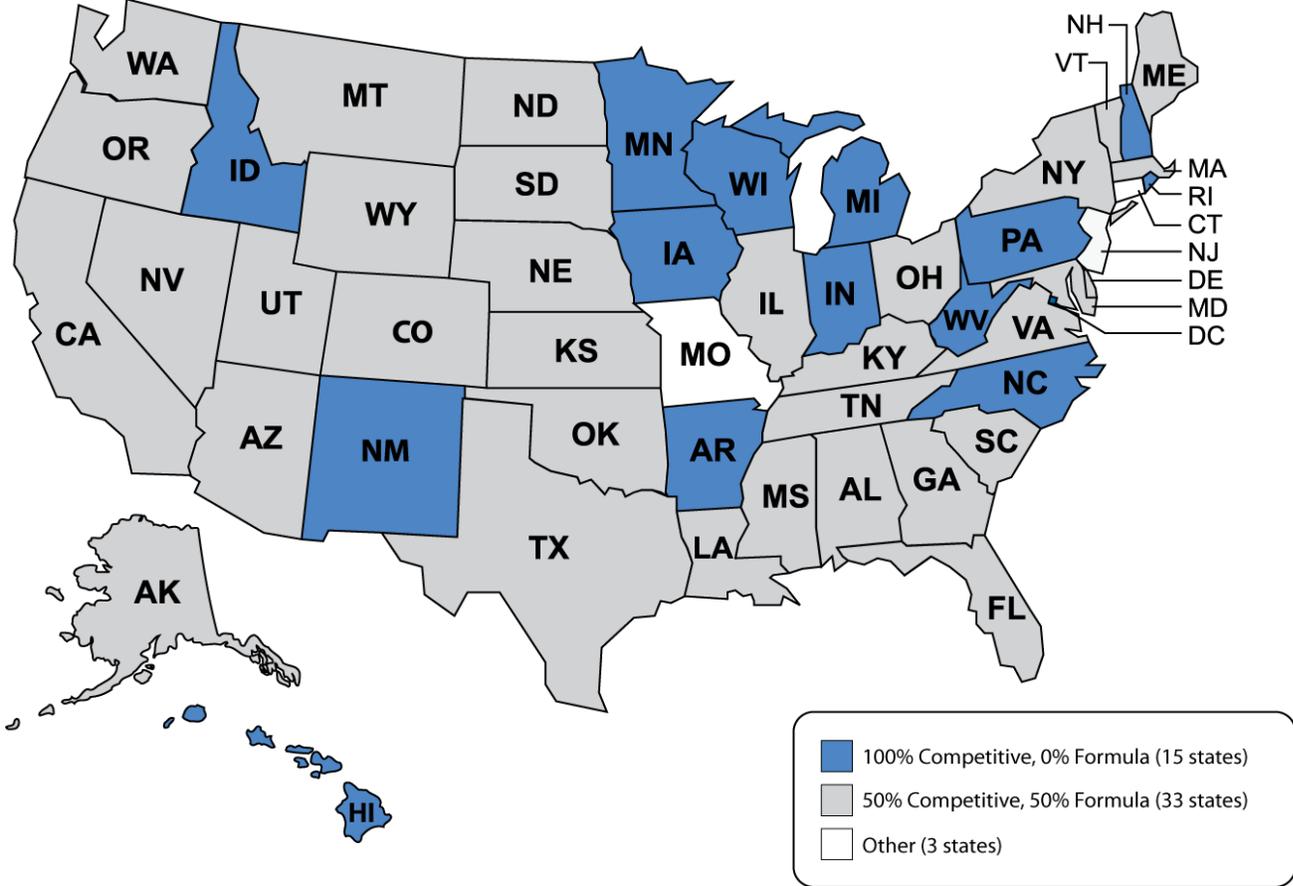


Table 1. EETT funding (in millions) for educational technology state grants

State	FY06	FY07	FY08	FY09	State	FY06	FY07	FY08	FY09
Alabama	\$4.1	\$3.9	\$4.0	\$4.2	Montana	1.3	1.3	1.3	1.3
Alaska	1.3	1.3	1.3	1.3	Nebraska	1.3	1.3	1.3	1.3
Arizona	5.3	5.3	4.8	5.1	Nevada	1.6	1.6	1.5	1.7
Arkansas	2.5	2.4	2.7	2.9	New Hampshire	1.3	1.3	1.3	1.3
California	35.0	32.8	30.6	29.1	New Jersey	5.3	5.0	5.2	4.9
Colorado	2.6	2.5	2.5	2.9	New Mexico	2.3	2.0	2.1	2.1
Connecticut	1.9	2.2	2.0	1.9	New York	24.6	24.6	21.8	22.6
Delaware	1.3	1.3	1.3	1.3	North Carolina	6.0	6.1	6.8	6.6
District of Columbia	1.3	1.3	1.3	1.3	North Dakota	1.3	1.3	1.3	1.3
Florida	13.4	11.7	12.4	12.3	Ohio	8.4	9.1	9.5	9.7
Georgia	8.4	8.3	8.2	9.0	Oklahoma	2.8	2.5	2.8	2.9
Hawaii	1.3	1.3	1.3	1.3	Oregon	2.7	2.4	2.6	2.4
Idaho	1.3	1.3	1.3	1.3	Pennsylvania	9.9	10.5	10.5	10.3
Illinois	11.0	12.0	10.2	10.8	Rhode Island	1.3	1.3	1.3	1.3
Indiana	3.8	4.7	4.5	4.4	South Carolina	3.7	3.8	3.9	3.7
Iowa	1.3	1.4	1.3	1.4	South Dakota	1.3	1.3	1.3	1.3
Kansas	1.6	1.8	1.8	1.8	Tennessee	4.2	4.2	4.5	5.0
Kentucky	3.7	3.7	3.9	4.0	Texas	24.1	23.4	23.8	24.2
Louisiana	5.7	5.6	5.5	4.9	Utah	1.3	1.3	1.3	1.3
Maine	1.3	1.3	1.3	1.3	Vermont	1.3	1.3	1.3	1.3
Maryland	3.5	3.8	3.5	3.5	Virginia	4.2	4.1	4.3	4.4
Massachusetts	3.9	4.2	4.3	4.3	Washington	3.6	3.7	3.5	3.5
Michigan	8.6	9.3	9.8	9.9	West Virginia	2.0	1.7	1.8	1.6
Minnesota	2.2	2.3	2.3	2.5	Wisconsin	3.1	4.1	3.4	3.7
Mississippi	3.4	3.5	3.4	3.5	Wyoming	1.3	1.3	1.3	1.3
Missouri	3.8	4.1	4.2	4.0	Total	254.1	254.2	249.2	251.4

SOURCE: U.S. Department of Education. *Fiscal Year 2001-2009 State Tables for the U.S. Department of Education*. Retrieved February 15, 2011 from <http://ed.gov/about/overview/budget/statetables/index.html>.

Competitive Grant Program Facts

States have more discretion in awarding competitive funds than formula funds because they can establish multiple-year grant programs (contingent upon federal funding), set funding levels, and include specific areas of focus in their requests for proposals (RFPs) or requests for applications (RFAs) such as specific academic subjects and/or specific grade levels. The following section provides an overview of the EETT competitive grant program, followed by an examination of the overall trends in grant priorities and activities among the participating states.

Facts and Figures

In Round 8 (FY09), states awarded 1,348 competitive grants, totaling approximately \$141.6 million.

Compared to the previous year (FY08), this represents an increase in the number of competitive grants awarded (1,198 in FY08 compared to 1,348 in FY09), and a slight decrease in the total amount awarded (\$143.2 million in FY08 compared to \$141.6 million in FY09).

As previously noted, Round 8 (FY09) marked the fourth year in which the states could award from 51 percent to 100 percent of their funds available for grants competitively. Fifteen states (Arkansas, District of Columbia, Hawaii, Idaho, Indiana, Iowa, Michigan, Minnesota, New Hampshire, New Mexico, North Carolina, Pennsylvania, Rhode Island, West Virginia, and Wisconsin) took advantage of this opportunity in FY09 and awarded 100 percent of grant funds as competitive grants.

The influx of the \$618 million in EETT

ARRA funds sparked some states to return to formula grant program for FY09. In addition, Connecticut, Missouri, and New Jersey, opted to award more than 50 percent, but less than 100 percent as shown in Table 2. Georgia and Missouri opted to award formula grants after three straight years at 100 percent competitive. South Carolina opted to award 50 percent competitive after awarding 86 percent competitive in Round 7 (FY08). The other 33 states continued to divide their funds evenly between formula and competitive grants.

Table 2: States awarding more than 50% of funds through competition

State	FY06	FY07	FY08	FY09
Arkansas	100%	100%	100%	100%
Connecticut	50%	70%	70%	58%
District of Columbia	50%	50%	50%	100%
Georgia	100%	100%	100%	50%
Hawaii	50%	50%	50%	100%
Idaho	100%	100%	100%	100%
Indiana	100%	100%	100%	100%
Iowa	100%	100%	100%	100%
Michigan	50%	54%	100%	100%
Minnesota	50%	100%	100%	100%
Missouri	100%	100%	100%	53%
New Hampshire	100%	100%	100%	100%
New Jersey	50%	68%	55%	55%
New Mexico	100%	100%	100%	100%
North Carolina	50%	50%	50%	100%
Pennsylvania	100%	100%	100%	100%
Rhode Island	100%	100%	100%	100%
South Carolina	50%	50%	86%	50%
West Virginia	100%	100%	100%	100%
Wisconsin	50%	50%	50%	100%

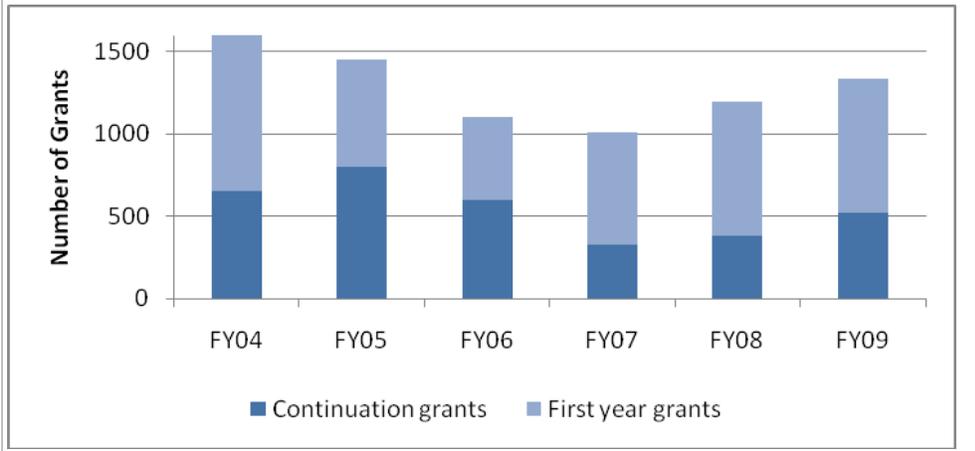
Overall, the total dollars (\$141.6 million) awarded through competitive grants in FY09 was slightly less than in FY08 as shown in Table 3.

Table 3. Competitive grant funding: Round 1 (FY02) – Round 8 (FY09) (In millions)

	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09
Competitive funding	\$282.7	\$294.1	\$301.6	\$219.5	\$148.3	\$135.0	\$143.2	\$141.6

Of the 1,348 competitive grants awarded in Round 8 (FY09), 518 (38 percent) were continuation grants as shown in Figure 3. The value of multi-year grants for some projects is that it allows for full implementation and a transition to long-term sustainability. In FY09, continuation grants slightly increased from the two prior years.

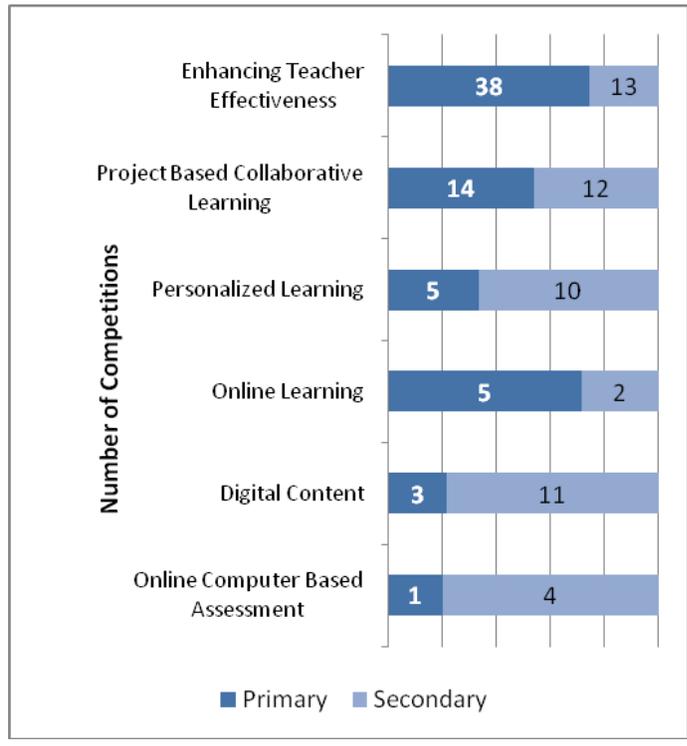
Figure 3. Number of competitive grants that states reported as continuation grants: Round 8 (FY09)



Focus of Competitive Grants

All states establish priorities in their EETT competitive grant competitions. As shown in Figure 4, in FY09, states reported primary and secondary educational strategies for their competitive grant competitions. States reported that *Enhancing Teacher Effectiveness* was the most common educational strategy (38 competitions as the primary strategy, 13 competitions as the secondary educational strategy). States reported using EETT funds for professional learning communities, education resource repositories, technology coaches, and ongoing professional development activities for teachers and administrators. States also reported that in 14 competitions *Project Based Collaborative Learning* was the primary educational strategy and that in 12 competitions, it was the secondary strategy.

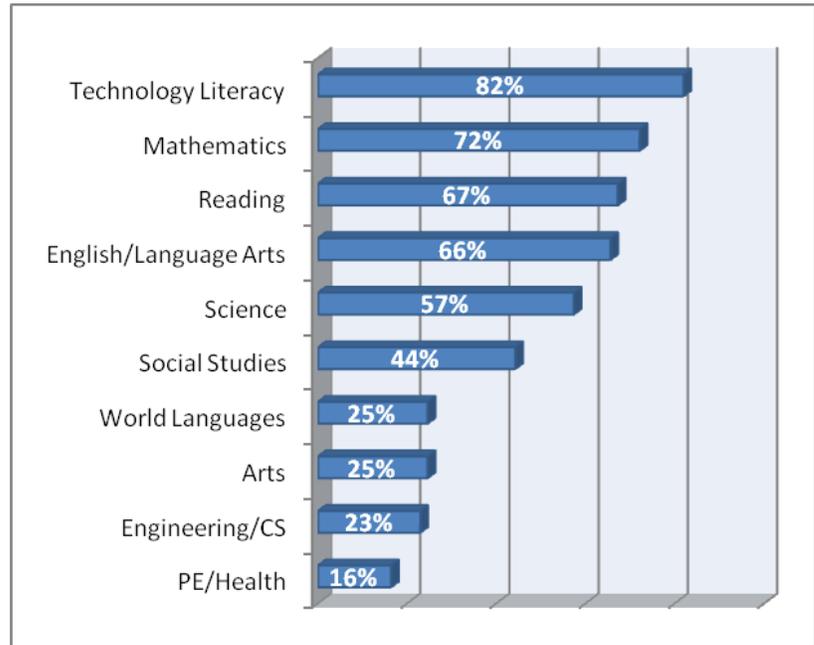
Figure 4: Educational strategies reported in state competitions (some states had more than one competition) Round 8 (FY09)



Academic Emphasis

In FY09, many states established multiple academic emphasis areas in their competitions. As shown in Figure 5, 82 percent of states reported that technology literacy was *one* of their academic focus areas in competitive grant competitions. States also reported that mathematics, reading, and language arts were included in competitions as areas of academic focus. Seventy-two percent of states reported that mathematics was one area of academic focus; 67 percent of states reported that reading was one area of academic focus; and 66 percent of states reported that English/language arts was one area of academic focus in state competitive grant competitions. It should be noted that ED holds states accountable for program expenditures by requiring states to report annually on student and teacher technology literacy. (Note: States could select multiple answers and some states held more than one competition.)

Figure 5: Academic emphasis area reported in state competitions for Round 8 (FY09). State could select multiple answers and some states had more than one competition.

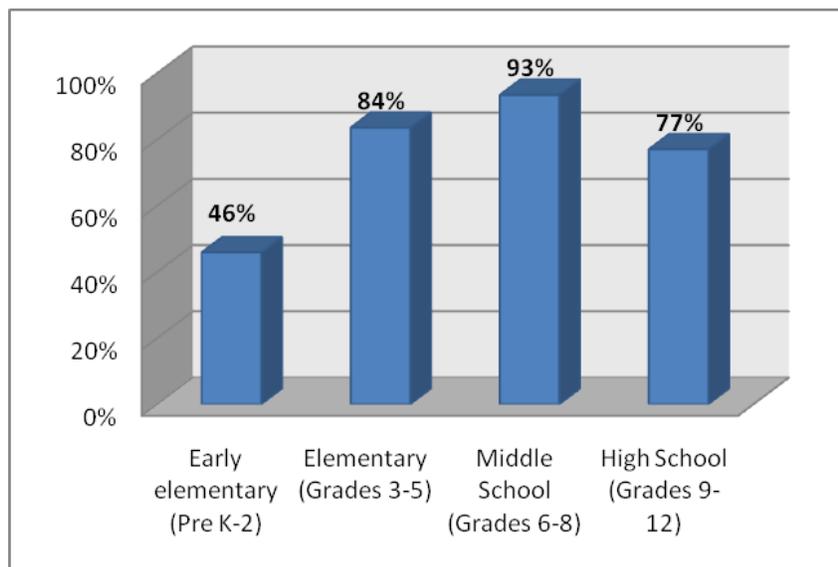


School Level Emphasis

States reported targeting their competitive grant competitions to at least one specific school level.

States tend to target EETT funds towards upper elementary and middle schools. As shown in Figure 6, of all state competitions, 93 percent of state competitions targeted middle school, 84 percent of state competitions targeted upper elementary school, and 77 percent of state competitions targeted high school. (Note: States could select multiple answers and some states held more than one competition.)

Figure 6: School level emphasis areas reported in state competitions for Round 8 (FY09). State could select multiple answers and some states had more than one competition.



Competitive Grant Summary

The flexibility of the competitive grant awards for EETT enables states to meet their goals by providing substantive, multi-year awards to high-need LEAs (or partnerships that include high-need LEAs) that have demonstrated commitment and capacity for results. The competitive grant process also allows states to set grant priorities that take into consideration state and local context while aligning to the federal EETT goals. Table 4 lists the number of competitive grants awarded, including continuation grants, and funding amounts.

Table 4: By state: Total Funds Awarded for EETT competitive funding allocations, number of competitive grants awarded, and number of continuation grants. Round 8 (FY09)

State	Funds	Grants	Continuation	State	Funds	Grants	Continuation
Alabama	\$2,050,000	10	0	Montana	\$620,277	5	0
Alaska	\$238,882	6	6	Nebraska	\$620,275	8	0
Arizona	\$2,461,913	7	7	Nevada	\$821,124	4	2
Arkansas	\$2,399,541	12	0	New Hampshire	\$1,289,710	40	0
California	\$13,995,526	33	0	New Jersey	\$3,150,000	12	12
Colorado	\$1,198,173	14	0	New Mexico	\$2,091,675	16	6
Connecticut	\$1,766,005	11	8	New York	\$12,023,446	21	21
Delaware	\$620,275	7	1	North Carolina	\$6,648,333	177	177
District of Columbia	\$1,240,551	5	2	North Dakota	\$598,017	8	5
Florida	\$5,836,849	9	0	Ohio	\$5,109,000	63	33
Georgia	\$3,918,548	14	0	Oklahoma	\$1,426,782	22	1
Hawaii	\$1,132,543	7	0	Oregon	\$813,066	22	0
Idaho	\$1,240,550	1	0	Pennsylvania	\$6,351,508	99	0
Illinois	\$6,000,000	17	17	Rhode Island	\$650,000	15	15
Indiana	\$2,874,410	12	0	South Carolina	\$1,800,000	12	0
Iowa	\$1,361,594	11	8	South Dakota	\$230,000	2	0
Kansas	\$196,000	7	7	Tennessee	\$3,522,723	72	8
Kentucky	\$1,914,045	34	34	Texas	\$11,570,935	25	0
Louisiana	\$2,348,241	12	0	Utah	\$500,000	1	0
Maine	\$620,275	8	8	Vermont	\$1,200,000	8	3
Maryland	\$1,622,838	8	0	Virginia	\$2,084,817	5	2
Massachusetts	\$3,969,765	22	22	Washington	\$1,611,000	358	96
Michigan	\$9,300,000	17	7	West Virginia	\$1,527,494	10	4
Minnesota	\$1,800,000	14	0	Wisconsin	\$1,300,000	19	3
Mississippi	\$1,643,221	9	0	Wyoming	\$620,275	7	0
Missouri	\$1,666,253	10	8	Total	\$141,596,455	1,348	518

Formula Grant Program Facts

The formula grants under EETT are noncompetitive awards based on a predetermined Title I formula. School eligibility, based on U.S. census data, identifies high-poverty schools. As previously mentioned, beginning with FY06, Congress granted states the flexibility to reserve up to 100 percent of their allocations for competitive awards to eligible local entities, overriding the provision that states use 50 percent of EETT grant funds available to LEAs for formula awards and 50 percent for competitive awards.

The majority of states still find the formula portion of EETT to be a valuable asset. It allows all districts in a state to participate in EETT planning teams and to continue to use and select technology as a tool for improving student achievement. It engages personnel to consider technology, as the planning teams search for ways to achieve outcomes. Even small grants are valuable to districts to fund staff development or train the trainer programs, or supplement their infrastructure needs. The following section provides an overview of the EETT formula grant program, followed by an examination of the overall trends in grant priorities and activities among the participating states.

Facts and Figures

The EETT program awards formula funds to high-poverty districts, and since the number of districts varies from state to state, so do the number of districts eligible for formula funding. In Round 8 (FY09), states awarded 10,116 grants through the formula grant program, 463 fewer grants (4 percent) than in Round 7 (FY08).

Table 5: Formula grants awarded Round 8 (FY09).

Alabama	126
Alaska	52
Arizona	217
California	1,011
Colorado	174
Connecticut	105
Delaware	31
Florida	69
Georgia	183
Illinois	613
Kansas	293
Kentucky	174
Louisiana	90
Maine	168
Maryland	24
Massachusetts	282
Mississippi	150
Missouri	549
Montana	299
Nebraska	250
Nevada	17
New Jersey	519
New York	795
North Dakota	169
Ohio	914
Oklahoma	533
Oregon	170
South Carolina	86
South Dakota	153
Tennessee	141
Texas	1,172
Utah	73
Vermont	59
Virginia	131
Washington	277
Wyoming	47
Total	10,116

Focus of Formula Grants

New York City Public Schools received the largest formula grant in Round 8 (FY09) of \$7.6 million, followed by Los Angeles Unified School District with \$3.4 million, Chicago Public Schools with \$2.2 million, Memphis Public Schools with \$1.9 million, and Miami-Dade School District with \$1.1 million (Table 6).

Table 6: Five largest single formula grants awarded to a district: Round 8 (FY09)

Local education agency	City	State	Largest award amount
NYC Department of Education	New York	NY	\$7,600,000
Los Angeles Unified School District	Los Angeles	CA	\$3,425,066
Chicago Public Schools	Chicago	IL	\$2,150,664
Memphis City Schools	Memphis	TN	\$1,898,100
Miami-Dade School District	Miami	FL	\$1,142,314

The percent of formula awards under \$5,000 slightly decreased from 77 percent in Round 6 (FY07) to 75 percent in Round 7 (FY08) to 73 percent in Round 8 (FY09), perhaps due to the increased number of eligible school districts that chose not to apply. As shown in Table 7, as in Round 8 (FY09), only 1 percent of formula awards exceeded \$100,000, consistent with prior years.

Table 7: Distribution of formula grants to LEAs: Round 8 (FY09)

	Formula grant amounts					Total
	\$1-\$999	\$1,000-\$4,999	\$5,000-\$19,999	\$20,001-\$99,999	Over \$100,000	
Total number of formula grants awarded	3,402	3,996	1,887	695	136	10,116
Percent of total formula grants awarded	34%	39%	19%	7%	1%	100%

NOTE: N=36 states.

Transfers

Under EETT, states and school districts have the flexibility to “transfer a portion of the funding they receive by formula under certain federal programs to their allocations under other programs so they can address more effectively their unique needs.”

An indicator of the value of formula funding is the significant amount of funds transferred from other ESEA Titles into EETT by districts. Any funds transferred become part of the formula allocation and allow districts to increase the size of the EETT formula grant to meet some of their technology needs.

In FY09, states transferred \$544,172 out of EETT into other Title programs, and states transferred \$4.4 million into EETT from other Title programs, for a net positive effect for the EETT program of \$3,847,689, as shown in both Table 9 and Table 8. As with past years, the transfers in and out were within 5 percent of the total dollars awarded.

Table 8: Overall fund transfers between Title programs and EETT: Round 1 (FY02)–Round 8 (FY09)

Year	Dollars Transferred OUT OF EETT	Dollars Transferred INTO EETT	Net Gain/Loss From Transfers
FY02	(\$1,934,431)	\$4,257,733	\$2,323,303
FY03	(\$3,096,308)	\$3,087,476	(\$8,831)
FY04	(\$2,783,732)	\$6,070,630	\$3,286,898
FY05	(\$9,663,246)	\$8,724,420	(\$938,826)
FY06	(\$2,934,109)	\$3,208,243	\$274,134
FY07	(\$405,973)	\$4,961,075	\$4,555,102
FY08	(\$668,539)	\$3,935,515	\$3,266,977
FY09	(\$544,172)	\$4,391,861	\$3,847,689

NOTE: Negative numbers in the last column indicate that more money was moved out of EETT than moved into it.

Table 9: Title program fund transfer: Round 8 (FY09)

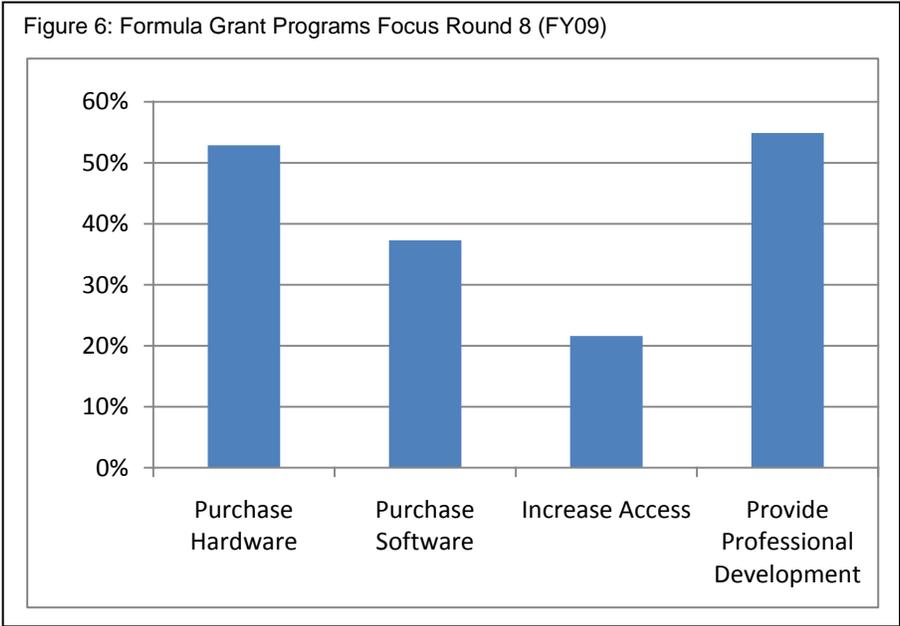
Title Program	Dollars Transferred OUT OF EETT	Dollars Transferred INTO EETT	Net Gain/Loss From Transfers
Title I, Part A Improving the Achievement of Disadvantaged Children	(\$425,576)		(\$425,576)
Title II, Part A Improving Teacher Quality State Grants	(\$53,928)	\$3,652,018	\$3,598,090
Title IV, Part A Safe and Drug-Free Schools and Communities	(\$51,113)	\$739,843	\$688,730
Title V, Part A State Grants for Innovative Programs	(\$13,555)		(\$13,555)
Total	(\$544,172)	\$4,391,861	\$3,847,689

NOTE: Negative numbers in the total column indicate that more money was moved out of a program than moved into that program.

Formula Grant Summary

The state technology directors that have opted to continue with EETT formula grant programs report that this program enables school districts that do not have sufficient resources to compete successfully for grants to supplement their technology needs.

With limited state and local funding for technology, the formula funds provide a supplemental resource for training or small projects. These funds can help supplement other existing technology-based programs. Formula funds have a significant effect on how districts look at using technology to enhance



teaching and learning, often enabling state leaders to engage with districts through the educational technology planning process, promoting the opportunity to use technology as a tool for improving student achievement. As shown in Figure 6, states reported that districts use formula funds primarily to purchase hardware (53 percent), provide professional development (55 percent), purchase software (37 percent), and increase access to technology tools (22 percent). States could select multiple options for the uses of formula funds.

Appendices – State Examples

Appendix A - Education Resources Repository

Alabama - ACCESS Distance Learning

Direct State Funding - \$18,500,000

The Alabama Connecting Classrooms, Educators, and Students Statewide (ACCESS) distance learning program has served students in grades 6 through 12 statewide by delivering instruction via the web and interactive videoconferencing, thus helping students stay in school and graduate. State funds provided each state high school with a distance learning lab with tablets, videoconferencing equipment, interactive whiteboard, and other technologies in support of the program. ACCESS offers 101 unique courses, including 11 AP courses, all taught by teachers specifically trained for the program. Over 560 teachers were trained and are currently teaching for ACCESS. In 2009, ACCESS provided 26,197 student enrollments in courses needed to meet graduation requirements and 6,059 additional enrollments in non-credit remediation modules for the state high school graduation exam. In 2007, the average freshman graduation rate was 67 percent, up from 62 percent in 2002. Ongoing evaluation indicates continued positive success rates. <http://accessdl.state.al.us/>

Arizona - Statewide Instructional Technology Project

EETT Competitive Grant - \$1,013,145

The Statewide Instructional Technology (SIT) project provided ongoing professional development to K-12 teachers and helped to carry out state educational technology initiatives. The major focus of the SIT project was to support academic achievement by helping teachers integrate technology into the curriculum through the use of a shared repository of resources, peer coaches and training opportunities. Each county was served by a Technology Integration Specialist (TIS) who offered a wide array of training and/or worked directly with teachers in their classrooms, providing long-term support and training to enhance teachers' effectiveness. Technology mentor teachers were also developed through the grant in order to support ongoing capacity within schools that were impacted by the grant. <https://www.azed.gov/technology/sit/>

Arizona – IDEAL

Other Federal Funds - \$2,346,261

IDEAL, a statewide education portal funded through Title I-School Improvement funds, provides teachers with rich digital resources and high-quality online courses. IDEAL also provides teachers with access to standards-aligned formative assessments and a learning resource database that includes digital content aligned to state standards. As well, IDEAL Home Edition offers family-oriented resources for furthering education at home. State portal usage showed typical unique monthly visits of approximately 22,000 educators with approximately 300,000 distinct page views. Some of the most popular IDEAL resources among educators include digital streaming video resources and the online professional development offered throughout the year. <https://ideal.azed.gov>

Illinois - Illinois Virtual School

Direct State Funding - \$1,250,000

The Illinois Virtual School (IVS) recently received state funds to create and expand many initiatives of the virtual school, including the creation of a statewide Learning Object Repository (LOR) for housing online content, the expansion of middle school courses, and the expansion of professional

development opportunities through the partnership of state and regional professional development organizations. In addition, IVS is due to receive federal funds to build a self-paced credit recovery refreshing all IVS courses. Currently, IVS supplements state schools with online, instructor-led courses for grades 5-12. There are 131 courses including AP, electives and Middle School courses in Business and Economics, Career Planning, Computer Science and Information, Fine Arts, Language Arts, Mathematics, Science, Social Studies, and Study Skills.

<http://ilvirtual.org/>

Maryland - MDK12 Digital Library

General State Aid - \$19,000,000

The MDK12 Digital Library Project partnership of all public school districts and participating nonpublic schools formed a statewide purchasing consortium to ensure cost-effective access to appropriate electronic resources for all students. The project was originally financed with EETT funds and is currently state funded. One such electronic resource, Proquest/SIRS aligned content to state standards where possible, and school districts integrated the use of the databases for research, primary source material, reading packets, teacher planning, and for content that is included in a statewide hybrid course in World History. The MDK12 project created a coalition for leveraging the group's collective resources to negotiate one single mutual contract with an online service provider to serve approximately 851,640 public school students and 42,000 nonpublic school students, as well as negotiate for other digital content that is placed on a buyer's list. To date, cost savings have amounted to over \$1 million. In 2009, SB235 was signed into law to sustain the project following the end of federal funding. <http://www.montgomeryschoolsmd.org/departments/media/mdk12/>

Massachusetts - Enhancing Mathematics Education through Technology

EETT Competitive Grant - \$226,287

This Enhancing Mathematics Education through Technology Project in Brockton Public Schools and Braintree Public Schools provided collaborative professional development for K-12 educators to integrate technology into mathematics instruction. Participating teachers took the "Foundations for the 21st Century Teacher" course, which focused on using appropriate technologies, including interactive whiteboards and Web 2.0 tools, to teach K-12 mathematics skills. In addition, to support the success of students with diverse learning needs, a Universal Design for Learning strand was also included. A component of the course was also designed for administrators so they could model and evaluate effective use of technology. Following the course, teachers implemented their new knowledge and then came together again at the end of the school year to refine their lessons and units and share with other teachers throughout the state. As a result, Braintree math standardized test scores in 2009 and 2010 increased in both the elementary and middle schools. The average range of improvement for 3-6 grades was 9 percent and for 7-8 grades was 6 percent.

Rhode Island - E2T2 Model Classroom Grant 2010

EETT Competitive Grant - \$905,205

Thirty-one schools from multiple school districts participated in the E2T2 Model Classroom Grant 2010 program focusing on professional development. Teachers focused on integrating technology into the curriculum and aligning technology use with state standards. Participation in a rigorous summer program allowed teachers the opportunity to collaborate with colleagues across the state as they learned technology and integration skills. Participating teachers were required to develop lessons

aligned with state standards, which were added to an accessible online repository. At the end of the session, survey results indicated that 99.6 percent of participants agreed/strongly agreed that the course, content, format and materials focused on objectives that were useful to their teaching.

Utah - Pioneer Online Library -Statewide Program

Direct State Funding

Pioneer is Utah's Online Library of electronic resources. It provides statewide access to newspaper articles, magazines, professional journals, encyclopedias, videos, photographs, maps, charts, and graphics. Utah Education Network's Digital Media Service is a digital media repository filled with video and other educational media free for Utah's educators, students, and citizen learners. The Digital Media Service allows the user to search for content, preview it, and then download the media for on-demand use. The digital repository includes videos licensed by the Utah Instructional Media Consortium, local programs from KUED-7, National PBS programs, and media from other trusted education partners.

Vermont - Connecting the DOTS--21st Century Classrooms

EETT Competitive Grant - \$300,000

Connecting the DOTS--21st Century Classrooms, a statewide program led by Burlington School District, provided professional development to small groups of teachers in the areas of curriculum development, technology integration, and Web 2.0 tools to over forty schools across Vermont. There were three phases of this professional development program including regional meetings, focus on NETS-T standards, and a repository of shared units. Students receiving instruction from these teachers experienced teaching that was enhanced with web-based tools, and the teachers served as leaders in their schools, modeling strong teaching and offering professional development.

Appendix B - Professional Learning Communities - Communities of Practice

Alaska - Technology Teacher Leader (TTL)

EETT Formula Grant - \$115,000

The Technology Teacher Leader (TTL) program in the Anchorage School District sprang from a need to cultivate a cadre of mentors and models who examined the role of technology in the teaching and learning process. The program had two components or pillars. The first pillar involved intensive professional development held primarily during the Anchorage School District Summer Academy (ASDSA), and the second pillar involved support for a project implemented throughout the school year by school-based teams of two to four teachers. Through a comprehensive staff development model, TTLs developed skills that powerfully impacted their own classrooms as well as shared awareness with other teachers within their school regarding the role technology can play in increasing student learning. The TTL Program provided face-to-face and synchronous online training in order to help TTLs learn how to use their professional development tools, understand the state and national technology standards, and guide technology integration. Participants across the district learned from one another by sharing ideas and collaborating. The average results of the Standards Based Assessment (SBA) for students in TTL teacher classrooms increased 8 percent in both Reading and Writing at Clark Middle School. While at South High School in TTL teachers' classrooms, the average increase in a student's ability to understand the research process was 6 percent.

http://www.asdk12.org/depts/EdTech/initiatives_projects.asp

Connecticut - Moving Beyond the Textbook: Digital Content in a 21st Century Middle School Environment

EETT Competitive Grant - \$139,961

The Moving Beyond the Textbook: Digital Content in a 21st Century Middle School Environment program transformed classroom instruction in two rural middle schools. Teachers and students used a variety of technology tools, such as personal media devices, cell phones, interactive whiteboards, laptops, digital cameras, and videoconferencing to restructure classrooms to project-based learning. Teachers learned to facilitate the learning, and to use data in planning and developing teaching strategies. Laptops enabled both teachers and students to connect to a wealth of content and communicate it with each other. Teachers received professional development and support through professional learning communities, mentoring, and training. Project-based learning and interdisciplinary strategies provided students with a well-rounded concepts where discovery, participation and interaction were encouraged. This program started in September of 2010, although it is too early to provide feedback on student achievement the technologies and professional development has created a level of excitement and collaboration that is encouraging.

Connecticut - E-Commerce

Other Federal Funds - \$35,000

Offered in fourteen high schools across the state, the E-Commerce Entrepreneurship (ECE) course in the Connecticut Career Choices (CCC) Program, funded by Carl D. Perkins, prepared students for success in 21st Century careers through participation in the E-Business Challenge, a project-based assignment aligned with state standards that engaged students in a collaborative, real world learning environment. During the two-semester course, students first developed an individual e-business and then joined with classmates to form an entrepreneurial team of departments specializing in product development, financial analysis, marketing, and website development. Teachers learned to support

these students through developing the standards-aligned curriculum, which included web-based resources such as podcasts, video, and text, and assignments such as journal writing, blogging, inter-district discussions, discussion forums, and an ePortfolio tool that allowed them to capture evidence of skills and artifacts developed during the program.

Kentucky - Kentucky Virtual School

Direct State Funding

The Kentucky Virtual High School (KVHS) was founded in 2000 to provide equity of access to high quality curriculum to all Kentucky students and has seen growth to include robust learning opportunities for adults and teachers through additional state funding. More than 7,000 educators have taken online professional development courses in the past nine years. Today the Kentucky Virtual Schools are composed of the Kentucky Virtual School providing P-12 services and e-Learning Kentucky (ELK) providing services to adults. Online Professional development provided through eLearning Kentucky (ELK) is high quality, media-rich, facilitated, and interactive. Courses reflect the needs of Kentucky teachers/administrators and range from technology integration to training for School Based Decision Making council members. In addition online professional learning communities are being provided to over 3,000 educators. Recent research from a federal Ready to Teach grant indicates that Kentucky educators like online professional development and would readily refer courses to colleagues. They also report after having participated in online professional development to using technology more with their students and their students being more engaged. <http://www.kvhs.org>

Louisiana - Connected Tech 2009-10

EETT Competitive Grant – \$100,000

In Franklin Parish, a rural school district, the Connected Tech 2009-10 award worked to improve high school mathematics skills and integrate 21st Century skills through focused professional development, acquisition of technology tools including graphing calculators, computers with calculator software, and classroom management software. Teachers worked in collaboration with University of Louisiana in Monroe faculty for training and established an online community for communication and sharing of lesson plans. The December 2009 and spring 2010 combined Algebra I End of Course Test resulted in a 7 percent positive gain. <http://fpsb.us/index.html>

Louisiana - Webster Parish Teaching, Learning, and Technology Center

EETT Competitive Grant - \$250,000

The Region VII Teaching, Learning and Technology Center (TLTC) works as one of one of eight regional centers around the state serving as an extension of the Department of Education, providing best practices in K-12 instruction, and promoting technology integration. The TLTC grant provided professional development opportunities for teachers, administrators, support staff, central office personnel, Assistive Technology Center staff, and the general public. Facilitators of the center provided training in the effective use of technology online, at the center, and on-site at schools. As a result of the efforts of this center, the percentage of teachers qualified to effectively use technology for instruction has increased. Also, the number of students who utilized technology and used appropriate technology research tools to locate, evaluate, and collect information from a variety of resources increased. <http://region7.webster.k12.la.us/aboutus.html>

Massachusetts- Enhancing Mathematics Education through Technology Project

EETT Competitive- \$226,287

This Enhancing Mathematics Education through Technology Project in Brockton Public Schools and Braintree Public Schools provided collaborative professional development for K-12 educators to integrate technology into mathematics instruction. Participating teachers took the "Foundations for the 21st Century Teacher" course, which focused on using appropriate technologies, including interactive whiteboards and Web 2.0 tools, to teach K-12 mathematics skills. In addition, to support the success of students with diverse learning needs, a Universal Design for Learning strand was also included. A component of the course was also designed for administrators so they could model and evaluate effective use of technology. Following the course, teachers implemented their new knowledge and then came together again at the end of the school year to refine their lessons and units and share with other teachers throughout the state. As a result, Braintree math standardized test scores in 2009 and 2010 increased in both the elementary and middle schools. The average range of improvement for 3-6 grades was 9 percent and for 7-8 grades was 6 percent.

New Hampshire - Technology Leadership Cohort (TLC) Program

EETT Competitive Grant - \$570,000

New Hampshire's Technology Leadership Cohort Program (TLC) was designed as a professional development program for a statewide cadre of teachers and administrators to enhance teacher and leader effectiveness. Participants interacted through a state-created online collaborative space with an array of digital content which included open educational resources and teaching strategies for creating 21st century learning environments. Online study was supplemented by the use of an iPod Touch for each educator and a series of face-to-face activities, including training modules and conference attendance on teaching 21st century learners. A total of 44 school teams, comprised of two teachers and one supporting principal, from elementary, middle, and high schools across the state were involved in the 2009-10 program. Teams were organized into four consortia sponsored by the lead districts and professional development centers of Keene, Exeter, Penacook, and Gorham, where TLC activities were hosted periodically during the grant period. Course post-surveys indicated that most participants rated the overall quality of the program (online, on-site, and special tools and events) and the intended outcomes as very good to excellent. Participants found that new subject area content, different approaches to teaching, technology use skills, and the use of technology with their students increased as a result of their participation in the program. <http://nheon.org/oet/nclb/2009-10/TLCProgram.htm>

New Hampshire - OPEN NH Project

Other Federal Funds

E-Learning for Educators, funded by the federal Ready to Teach Program, through Alabama Public Television, designed to help states meet critical requirements for improving student achievement through providing high quality online professional development content is currently in a carryover grant year. Upon grant completion, New Hampshire plans to continue to offer this powerful professional development program to districts through partnerships and alternate funding sources. The needs of students in high-poverty, low-achieving schools were met by offering cost effective, high quality professional development to support teachers in these schools. The NH e-Learning for Educators program offers online professional development courses. OPEN NH also supports educators by providing online collaborative spaces, and the development and delivery of personalized professional development programs designed to satisfy specific needs of districts. This is accomplished

by selecting and training online professional development facilitators and course developers, designing online courses specifically tied to the needs of NH schools and educators, and evaluating effective online professional development. An authentic course project is developed throughout the seven weeks of the course which can be used directly in classrooms or schools by the educators. OPEN NH also offers additional online collaborative spaces to groups connected with other statewide projects that need an online space for collaboration and sharing between educators and districts. The project is also exploring the options of self paced tutorials, which can be enhanced by more rigorous, facilitated coursework, if desired. <http://www.opennh.org>

New Jersey- INCLUDE-Multi District EETT Competitive-Multiple District Grants

Implementing New Curricular Learning with Universally Designed Experiences (INCLUDE)

The Implementing New Curricular Learning with Universally Designed Experiences (INCLUDE) project in several school districts was designed to ensure all fifth to eighth grade students in the general education classroom, including those with mild to severe disabilities, struggling students, gifted students, and English language learners, are provided the necessary accommodations in mathematics to increase math academic achievement. Each participating teacher used educational technology, the Universal Design for Learning (UDL) framework, and research-based instructional practices in mathematics that are grounded in instructional pedagogy. Teachers received professional development in these areas as well as in-class coaching, and actively participated in professional learning communities.

- The participating students in the Magnolia School District with special needs demonstrated a 43 percent gain in math scores between a mathematics assessment pretest and posttest; the general education students displayed a gain of 39 percent. All students showed gains, but the students with special needs demonstrated greater growth. <http://magnoliaschools.org/1815101231123153423/site/default.asp>
- Students with special needs in the Edgewater Park School District demonstrated a 22 percent gain between a pre and posttest mathematics assessment, whereas the general education population gained 3 percent. Also, the students labeled as economically disadvantaged, a historically lower scoring population, demonstrated 10 percent growth compared to 1 percent for non-disadvantaged students. <http://65.211.78.226/index.htm>

New York - Enhancing Education Through Technology-SCALE Student Centered Active Learning Environments

EETT Competitive Grant - \$700,000

In Rochester City middle and high schools, the EETT-SCALE (Student Centered Active Learning Environments) program helped to create model classrooms through high-quality, sustained teacher training and the integration of technology. Teachers learned to adapt their instructional delivery so that technology became a natural pedagogical component. As well, Student-Centered Active Learning Environments were constructed as teachers gained knowledge in both hardware and software. The Model Classroom Training and equipment deployment included teachers in grades 5-9, special education and ELL. Professional development included instruction in student portals, e-curriculum delivery, creation of teacher web pages, differentiated electronic learning opportunities, formative electronic assessment tools, and use of interactive technology to personalize instruction based on student needs. Model Classroom teachers were supported by Instructional Technology Lead Teachers.

Based on the evaluation by the New York Institute for Educational Excellence, teachers equipped with and trained in the use of technology have significant impact on student achievement, particularly at the middle school level.

Pennsylvania - Enhancing Education Through Technology

EETT Competitive Grant - \$102,200

One Central Greene School District high school shifted from teacher-centered to student-centered classrooms through the integration of technology in the mathematics and social studies curriculum. Teachers collaborated with one another and received support from technology coaches to integrate videoconferencing and virtual learning opportunities into their curriculum. The professional development for participating teachers included Saturday training sessions, opportunities to share resources, and summer workshops. As a result of infusing 21st Century tools and practices, the learning environment revealed an increase in student engagement and time on task, fewer discipline issues, better attendance, more cooperative learning activities, and improved student attitudes.

Rhode Island - E2T2 Model Classroom Grant 2010

EETT Competitive Grant - \$905,205

Thirty-one schools from multiple school districts participated in the E2T2 Model Classroom Grant 2010 program focusing on professional development. Teachers focused on integrating technology into the curriculum and aligning technology use with state standards. Participation in a rigorous summer program allowed teachers the opportunity to collaborate with colleagues across the state as they learned technology and integration skills. Participating teachers were required to develop lessons aligned with state standards, which were added to an accessible online repository providing the opportunity for continued sharing and communication for participants. At the end of the session, survey results indicated that 99.6 percent of participants agreed/strongly agreed that the course, content, format and materials focused on objectives that were useful to their teaching.

South Dakota - Power Up 21

EETT Competitive Grant - \$809,000

The Power Up 21 program at the Black Hills Special Services Cooperative trained K-12 teachers to incorporate 21st Century skills, project-based learning, blogs, wikis, podcasts, and other Web 2.0 tools into the core curriculum. Professional development included face-to-face instruction, online learning communities and the development of a teacher network. Teachers collaborate on individualize projects through online learning communities. Impact data is still pending.

Utah - Enhancing Fourth Grade Math Education through Distance Learning Technology (EMED)

EETT Competitive Grant - \$1,000,000

Enhancing Fourth Grade Math Education through Distance Learning Technology (EMED) provided the opportunity for fourth grade teachers in 25 high need (poverty), low achieving, and low access (substantial need for access to technology) schools the opportunity to create effective, research-based math podcast lessons. Participating teachers received up-to-date math and educational technology instruction through access to professional development learning communities. These teachers then created research-based, instructionally sound podcasts concentrating on critical fourth grade math standards to share statewide. Teachers' understanding of how technology enhanced the learning process will be qualitatively evaluated using the Teacher Technology Survey Instrument developed by Northwest Regional Laboratory. Pre-and post measures in experimental and control groups compared the effect of project implementation on teachers' ability to provide technology-enhanced instruction.

In relation to student performance, the goal of the program was to decrease the number of fourth grade students not proficient in mathematics by 10 percent through the implementation of research-based instructional practices and integrating effective technology solutions. Results are still pending.

<http://emed.nucenter.org/groups/emed/>

Vermont - Connecting the DOTS-21st Century Classrooms

EETT Competitive Grant - \$300,000

Connecting the DOTS--21st Century Classrooms, a statewide program led by Burlington School District, provided professional development to small groups of teachers in the areas of curriculum development, technology integration, and Web 2.0 tools to over forty schools across Vermont. There were three phases of this professional development program including regional meetings, focus on NETS-T standards, and a repository of shared units. Students receiving instruction from these teachers experienced teaching that was enhanced with web-based tools, and the teachers served as leaders in their schools, modeling strong teaching and offering professional development.

Washington - Enhanced Peer Coaching

EETT Competitive Grant - \$2,790,000

Seventy-five school districts, representing each geographic area of the state, participated in the Enhanced Peer Coaching (EPC) program in which teachers at all grade levels received training and then worked in pairs or teams within a school, sharing experiences, team teaching, observing, and developing technology proficiencies. Peer coaches worked in classrooms that served the full spectrum of children with learning challenges — special needs, ESL/ELL, gifted, and talented. Three hundred fifty-eight teachers received training as coaches, following the Microsoft Peer Coaching curriculum, and directly impacted their school environment in positive ways by integrating technology into the curriculum and increasing student engagement.

<http://k12.wa.us/EdTech/Grants/Competitive/PeerCoaching/>

Wyoming - Digital Educator Leadership Team (DELT)

EETT Competitive Grant - \$124,990

The Digital Educator Leadership Team (DELT) Program trained teachers of the Hot Springs County School District in an effort to build a professional learning community surrounding technology integration K-12. The program provided in-house training and digital assessment tools which were adopted by grade level teams (1-6) and subject area teams (7-12) as common assessment tools. The project encouraged teacher empowerment and autonomy as Digital Educators became leaders in technology integration for their schools. The Digital Educator project was popular in the district, with teachers and administrators requesting an expansion to the program.

Appendix C - Technology Coaches/Mentors

Arizona - Northern Arizona Technology Integration Coaching Consortium (NATICC)

EETT Competitive Grant - \$271,600

The Northern Arizona Technology Integration Coaching Consortium (NATICC) implemented in the Flagstaff Unified District used the Peer Coaching program and provided technology hardware, such as document cameras, digital cameras, and interactive whiteboards to develop 30 technology-enhanced model classrooms (TEMC) across all grade levels. Building off of the research-based eMints model, NATICC was developed with the understanding that updated and easily accessible hardware, professional development and peer coaching are vital to the effective integration of technology. Two project facilitators supported all grant project activities including, but not limited to, training for technology coaches, data collection and analysis, modeling of effective technology integration strategies, budget and purchasing oversight, and just-in-time assistance.

<http://content.fusd1.org/naticc/>

Arizona - Statewide Instructional Technology Project

EETT Competitive Grant - \$1,013,145

The Statewide Instructional Technology (SIT) project provided ongoing professional development to K-12 teachers and helped to carry out state educational technology initiatives. The major focus of the SIT project was to support academic achievement by helping teachers integrate technology into the curriculum through the use of a shared repository of resources, peer coaches and training opportunities. Each county was served by a Technology Integration Specialist (TIS) who offered a wide array of training and/or worked directly with teachers in their classrooms, providing long-term support and training to enhance teachers' effectiveness. Technology mentor teachers were also developed through the grant in order to support ongoing capacity within schools that were impacted by the grant.

<https://www.azed.gov/technology/sit/>

California- Santa Clara Unified School District - Increase Mathematics Achievement for 5th Grade Students

EETT Competitive- \$245,188

Santa Clara Unified School District's EETT-Competitive grant worked to increase mathematics achievement for fifth grade students who scored "below proficient" on the state standards test by using technology tools, including interactive whiteboards, student response systems, and digital content. Participating teachers received professional development in technology integration and differentiated instruction, with follow-up support from technology mentors/coaches. Positive changes were made and attributed to this program. At the beginning of the grant, 20 percent of the teachers were proficient in providing small group instruction, and by the end of the grant, 100 percent of teachers were providing small group instruction. Differentiated instruction increased from 60 percent to 100 percent of classroom time. Of the 129 Buchser Middle School student participants, 51 percent gained at least one level on the state standard test, and 77 percent improved their scaled score. Average scaled score improved 28 points in two years. At Cabrillo Middle School, 32 percent of the students gained at least one level on the state standard test, and 62 percent improved their scaled score. Average scaled score improved 18 points in two years. The impact of EETT has been sustained since the funding ended, and teachers continue to address individual student needs at higher rates than prior to EETT.

Delaware - eMINTS Fairview Elementary EETT Competitive Grant - \$349,758

Fairview Elementary school implemented the established eMINTS program, which focuses on high levels of technology for students and teachers. This implementation of the eMINTS program included 90 - 200 contact hours of professional development training and a strong program evaluation and research component for participating teachers. Through the use of a trained mentor and coach, eMINTS included professional development in inquiry-based teaching, teaching of higher order thinking skills, cooperative learning skills, and constructivist learning. This unique blend of technology, training, and teaching practices raised student achievement and improved teacher pedagogy through best-practice instruction and integration of technology. After one year of eMINTS participation, class scores increased in writing anywhere from 3 percent to 39 percent in grades two through four. Teacher growth in integration of technology has varied. <http://fvemintsteam.weebly.com/>

Delaware - eMINTS Kuumba Academy EETT Competitive Grant - \$425,873

Kuumba Academy (K-5) implemented the research based, eMINTS program, which includes high levels of technology integration for students and teachers. Teachers participated in 90 - 200 contact hours of professional development training. Through the use of an in-house mentor and coach, eMINTS professional development includes instruction in inquiry-based teaching, higher order thinking skills for students, cooperative learning, constructivist learning, and teacher technology skills. As a result of the implementation, students showed an increase of up to 23 percent in math scores across all four strands of their standardized assessment and 80 percent of parents participated in technology literacy and awareness sessions. <http://www.emints.org/about/participants/delaware.shtml/delaware.shtml>

Kentucky - Kentucky Virtual Schools Direct State Funding

The Kentucky Virtual High School (KVHS) was founded in 2000 to provide equity of access to high quality curriculum to all Kentucky students and has seen growth to include robust learning opportunities for adults and teachers through additional state funding. More than 7,000 educators have taken online professional development courses in the past nine years. Today the Kentucky Virtual Schools are composed of the Kentucky Virtual School providing P-12 services and e-Learning Kentucky (ELK) providing services to adults. Online Professional development provided through eLearning Kentucky (ELK) is high quality, media-rich, facilitated, and interactive. Courses reflect the needs of Kentucky teachers/administrators and range from technology integration to training for School Based Decision Making council members. In addition online professional learning communities are being provided to over 3,000 educators. Recent research from a federal Ready to Teach grant indicates that Kentucky educators like online professional development and would readily refer courses to colleagues. They also report after having participated in online professional development to using technology more with their students and their students being more engaged. <http://www.kvhs.org>

Kentucky - Technology Integration Specialists EETT Competitive Grant - \$46,684

In the rural area of Whitley County, the Technology Integration Specialist assisted teachers in creating technology integrated content activities to improve student achievement in mathematics and technology literacy. In addition, this Technology Integration Specialist helped to create technology-enriched content activities to be added to the elementary technology curriculum, including the move

of keyboarding tutorial from the middle grades to the lower grades so more advanced objectives and activities can be integrated in the middle grades. As a result, the percentage of seventh and eighth grade students below technology proficiency standards decreased from 46 percent to only 29 percent. The percentage of sixth grade students below technology proficiency standards decreased from 51 percent to only 35 percent. Whitley County Middle School Math Kentucky Core Content Test (KCCT) Index increased from 53.59 (in 2009) to 64.31 (in 2010).

Kentucky - Technology Integration Specialist

EETT Competitive Grant - \$31,123

The Technology Integration program in the Jackson County school district focused on improving middle and high school reading, math, and special education classroom instruction by incorporating cutting edge technology integration strategies supported by intense professional development. Several initiatives were implemented including the employment of a District Technology Resource Teacher who served the high school and middle school, as well a revision of the district's technology curriculum integrating 21st Century skills. In addition, ten teachers participated in the District Technology Academy receiving training in Web 2.0 tools, interactive whiteboards, and more. Teachers used a wiki to collaborate and share resources. Both the district and the middle school achieved gains in mathematics and special education. Surveys indicated that 90 percent of teachers received adequate support to integrate technology into lessons. There was a 21 percent increase in the number of 8th grade students who scored proficient on a technology assessment.

Louisiana - Algebra I Online

Direct State Funding - \$280,000

The Algebra I Online Project provided students, particularly rural and urban students without access to fully certified teachers, with a certified Algebra I instructor and a high-quality Algebra I curriculum in a web-based format. In addition, districts desiring to provide certified teachers access to pedagogy training and mentoring in order to build capacity for strong mathematics instruction also participated. Throughout this project, the in-class teacher engaged in face-to-face and online professional development opportunities designed to 1) assist with the facilitation of the in-class Algebra I learning activities of the students, 2) build capacity for strong mathematics instruction, and 3) support the teacher's efforts towards secondary mathematics certification. During the history of the program (2002-09), 14 percent of the participating teachers extended their areas of certification. Students performed better than the state average on end-of-course testing. In 2009, a majority (58 percent) of the students scored in the excellent and good range in the Algebra I Online course, compared to the state average (39 percent). Students noted that they enjoyed using technology to learn math, working with other students, and participating in a new experience.

<http://www.louisianavirtualschool.net/algebra.xml>

Maine - Maine Learning Technology Initiative Regional Trainer/Mentor

EETT Competitive Grant - \$90,000

The Maine Learning Technology Initiative Regional Trainer/Mentor program assigned a regional trainer/mentor to provide support across grade levels and content areas to state teachers supporting state goals, including increasing college and career readiness, implementing Universal Design for Learning principles, and encouraging project-based work. The trainer/mentors supported and facilitated professional communities in eligible schools through face-to-face training sessions as well as online learning environments. <http://www.maine.gov/education/nclb/tiid/compgrant/index.html>

Missouri - Enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS)

EETT Competitive Grant - \$494,000

The enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS) Program, which has a presence in eleven states and New South Wales, Australia, served an additional 150 Missouri teachers in twelve schools in ten districts. eMINTS professional development was provided through interactive group sessions and in-classroom coaching/mentoring to help teachers integrate technology into their teaching using an instructional model that promoted inquiry-based learning, supported high quality lesson design, built community among students and teachers and created technology-rich learning environments. eMINTS taught teachers to implement strategies in their classrooms that created effective student-centered, technology-rich classrooms. Since its inception in 1999, program evaluation has indicated that students in eMINTS classrooms consistently outscore their peers in non-eMINTS classrooms in statewide assessments of language arts and mathematics in grades 4-8 in Missouri, Utah and Delaware implementations. Teachers completing eMINTS professional development showed mastery of ISTE's NETS-T standards on electronic portfolios.

<http://www.emints.org>

Montana – Peer Coaching for Technology Integration

EETT Competitive Grant - \$620,277

Five school districts implemented the Peer Coaching program, designed to help schools implement a professional development model enhancing standards-based instruction by assisting teachers in engaging students in technology-rich, learning activities. The peer coaching model professionally developed teacher leaders to serve as peer coaches for their colleagues. As coaches, these teachers assisted their peers in identifying ways that technology can strengthen classroom curriculum and enhance students' academic achievement. Further, they helped their colleagues to develop the necessary technology skills and instructional strategies needed to integrate technology into teaching and learning. The professional development program included eight sessions delivered in blended learning environments, including face-to-face sessions, digital synchronous and asynchronous approaches. http://www.psctl.org/tl/peer_coaching_program.html

New Jersey - The Implementing New Curricular Learning with Universally Designed Experiences (INCLUDE) grant

EETT Competitive Grant - \$240,000

In the urban, diversely populated school district of Edgewater Park, the goal of the Implementing New Curricular Learning with Universally Designed Experiences (INCLUDE) grant was to increase academic achievement in mathematics by using research-based instructional practices in conjunction with the effective integration of educational technology practices. The INCLUDE grant provided the needed funding to support teachers as they improved their classroom skills and revised the mathematics curricula using the Universal Design for Learning (UDL) framework. Teachers learned to meet each student's needs by implementing the UDL framework along with educational technology best practices and collaborating with in-class coaches. Students with special needs demonstrated a 22 percent gain between a pre and posttest mathematics assessment, whereas the general education population gained 3 percent. Also, the students labeled as economically disadvantaged, an historically lower scoring population, demonstrated 10 percent growth compared to 1 percent for non-disadvantaged students. <http://65.211.78.226/index.htm>

New Jersey - The Implementing New Curricular Learning with Universally Designed Experiences (INCLUDE) grant

EETT Competitive Grant - \$240,000

The Implementing New Curricular Learning with Universally Designed Experiences (INCLUDE) project in the Magnolia School District was designed to ensure all 5-8 grade students in the general education classroom, including those with mild to severe disabilities, struggling students, gifted students and English language learners, are provided the necessary accommodations in the mathematics classroom to increase math academic achievement. Each participating teacher used educational technology, the Universal Design for Learning (UDL) framework, and research-based instructional practices in mathematics that are grounded in instructional pedagogy. Teachers received professional development in these areas as well as in-class coaching and actively participated in professional learning communities. The participating students with special needs demonstrated a 43 percent gain in math scores between a mathematics assessment pretest and posttest; the general education students posted a gain of 39 percent. All students showed gains, but the students with special needs demonstrated greater growth.

<http://www.magnoliaschools.org/1815101231123153423/site/default.asp>

New York - Enhancing Education Through Technology-SCALE Student Centered Active Learning Environments

EETT Competitive Grant - \$700,000

In Rochester City middle and high schools, the EETT-SCALE (Student Centered Active Learning Environments) program helped to create model classrooms through high-quality, sustained teacher training and the integration of technology. Teachers learned to adapt their instructional delivery so that technology became a natural pedagogical component. As well, Student-Centered Active Learning Environments were constructed as teachers gained knowledge in both hardware and software. The Model Classroom Training and equipment deployment included teachers in grades 5-9, special education and ELL. Professional development included instruction in student portals, e-curriculum delivery, creation of teacher web pages, differentiated electronic learning opportunities, formative electronic assessment tools, and use of interactive technology to personalize instruction based on student needs. Model Classroom teachers were supported by Instructional Technology Lead Teachers. Based on the evaluation by the New York Institute for Educational Excellence, teachers equipped with and trained in the use of technology have significant impact on student achievement, particularly at the middle school level.

Ohio - ONEplan

EETT Competitive Grant - \$152,000

The ONEplan Project at Cincinnati Public Schools-Ethel Taylor Academy, serving students at the elementary and middle level, set forth two main goals: to implement an academic program that effectively integrates technology as a means of helping students meet or exceed state standards in reading and math, and to provide access for all teachers and students to technology and resources. Through the installation of computers in each classroom, integration of software to enhance instruction, and the use of Technologists in Residence (TIR), teachers and students gained greater access and support in reaching the program goals. A self-assessment survey showed that teachers increased their technology literacy skills as well as increased their comfort level in use of 21st Century tools and resources. <http://taylorhawks.cps-k12.org/>

South Carolina - South Carolina Department of Education and Verizon Thinkfinity Partnership Foundation or other sources - \$25,000

The South Carolina Department of Education (SCDE) has partnered with the Verizon Foundation to roll out Verizon Thinkfinity to provide 21st century learning resources for South Carolina educators and students. Thinkfinity.org seeks to improve student achievement in traditional classroom settings and beyond by providing high-quality content and extensive professional development training. Through a grant from the Verizon Foundation, Thinkfinity South Carolina is offering Verizon Thinkfinity Professional Development to educators throughout the state through the SCDE Office of eLearning's Instructional Technology Coach program. The South Carolina Department of Education is supporting the development of Field Trainers. Field Trainers are used by local districts to work directly with classroom teachers. <http://scde.mrooms.org/index.php?page=1394>

Texas – Eastland ISD - Vision 2020 Grant EETT Competitive Grant - \$488,716

The Vision 2020 Grant enabled an elementary school in the Eastland Independent School District to provide continuous innovation with technology leading to improved student achievement. This was accomplished through the increased availability of technology tools, including laptops, interactive white boards, and student response systems, and focused on professional development as a means to improving teaching and learning. Teachers attended training sessions and received support from the on-site technology coordinator or coach as well as instruction from vendors on integrated technologies. Teachers also had access to online courses. As a result, informal reporting indicated students were more engaged and focused when interactive technologies were in use and indicated a decrease in discipline referrals. Comparisons of standardized test scores from 2008 (baseline), 2009 (program year 1), and 2010 (program year 2) revealed improvements in several areas.

http://www.tea.state.tx.us/index2.aspx?id=4843&menu_id=2147483665

Vermont - Connecting the DOTS--21st Century Classrooms EETT Competitive Grant - \$300,000

Connecting the DOTS--21st Century Classrooms, a statewide program led by Burlington School District, provided professional development to small groups of teachers in the areas of curriculum development, technology integration, and Web 2.0 tools to over forty schools across Vermont. There were three phases of this professional development program including regional meetings, focus on NETS-T standards, and a repository of shared units. Students receiving instruction from these teachers experienced teaching that was enhanced with web-based tools, and the teachers served as leaders in their schools, modeling strong teaching and offering professional development.

Washington - Enhanced Peer Coaching EETT Competitive Grant - \$2,790,000

Seventy-five school districts, representing each geographic area of the state, participated in the Enhanced Peer Coaching (EPC) program in which teachers at all grade levels received training and then worked in pairs or teams within a school, sharing experiences, team teaching, observing, and developing technology proficiencies. Peer coaches worked in classrooms that served the full spectrum of children with learning challenges — special needs, ESL/ELL, gifted, and talented. Three hundred fifty-eight teachers received training as coaches, following the Microsoft Peer Coaching curriculum, and directly impacted their school environment in positive ways by integrating technology into the

curriculum and increasing student engagement.

<http://k12.wa.us/EdTech/Grants/Competitive/PeerCoaching/>

West Virginia - Bridge Street Middle School a Technology Model School--Where digital literacy is a destination

EETT Competitive Grant - \$158,062

Bridge Street Middle School, a technology model school, funded a full-time Technology Integration Specialist and planned effective professional development for all classroom teachers. The Technology Integration Specialist mentored teachers on a one-to-one basis and provided professional development in podcasting, blogging, wikis, streaming video and Web 2.0 tools. All classroom teachers completed at least four techStep lessons per student. These techSteps activities developed technology literacy skills and aligned with EETT requirement for student literacy at the 8th grade level (<http://www.techsteps.com/wv/techStepsK-8.htm>). As a result of the efforts made by the Technology Integration Specialist and classroom teachers, students were more engaged in classroom activities, and technology integration into the curriculum had an effective impact on student achievement.

West Virginia - CREATIT program (Collaboration for Real Educational Achievement Through Instructional Technology)

EETT Competitive Grant - \$158,938

The CREATIT program (Collaboration for Real Educational Achievement Through Instructional Technology) at Spring Valley High School teamed students and teachers together to develop innovative methods of teaching and learning throughout the school. Teachers worked in teams along with a technology coach to plan integrated lessons. Student partners called Tech Wolves worked closely with teachers to help with technology use and to develop multimedia materials for the classroom. Several teachers created hybrid courses for students utilizing a content management system. The technology integration specialist played an instrumental role in this program providing training to the teachers as well as the students as they gained confidence in fulfilling the role of technology facilitator in the classrooms. Spring Valley High School ranked fourth out of sixteen schools on overall teacher survey components, which is indicative of higher positive attitudes towards learning technology, higher levels of computer knowledge and highly favorable attitudes toward 21st century teaching and learning.

Appendix D - Ongoing Professional Development

Alabama - ACCESS Distance Learning

The Alabama Connecting Classrooms, Educators, and Students Statewide (ACCESS) distance learning program has served students in grades 6 through 12 statewide by delivering instruction via the web and interactive videoconferencing, thus helping students stay in school and graduate. State funds provided each state high school with a distance learning lab with tablets, videoconferencing equipment, interactive whiteboard, and other technologies in support of the program. ACCESS offers 101 unique courses, including 11 AP courses, all taught by teachers specifically trained for the program. Over 560 teachers were trained and are currently teaching for ACCESS. In 2009, ACCESS provided 26,197 student enrollments in courses needed to meet graduation requirements and 6,059 additional enrollments in non-credit remediation modules for the state high school graduation exam. In 2007, the average freshman graduation rate was 67 percent, up from 62 percent in 2002. Ongoing evaluation indicates continued positive success rates. <http://accessdl.state.al.us/>

Alaska - Technology Teacher Leader (TTL)

EETT Formula Grant - \$115,000

The Technology Teacher Leader (TTL) program in the Anchorage School District sprang from a need to cultivate a cadre of mentors and models who examined the role of technology in the teaching and learning process. The program had two components or pillars. The first pillar involved intensive professional development held primarily during the Anchorage School District Summer Academy (ASDSA), and the second pillar involved support for a project implemented throughout the school year by school-based teams of two to four teachers. Through a comprehensive staff development model, TTLs developed skills that powerfully impacted their own classrooms as well as shared awareness with other teachers within their school regarding the role technology can play in increasing student learning. The TTL Program provided face-to-face and synchronous online training in order to help TTLs learn how to use their professional development tools, understand the state and national technology standards, and guide technology integration. The average results of the Standards Based Assessment (SBA) for students in TTL teacher classrooms increased 8 percent in both Reading and Writing at Clark Middle School. While at South High School in TTL teachers' classrooms, the average increase in a student's ability to understand the research process was 6 percent.

http://www.asdk12.org/depts/EdTech/initiatives_projects.asp

Alaska - E2T2 Wave VI

EETT Competitive Grant - \$238,882

The Enhancing Education Through Technology (E2T2) Wave VI Competitive Grant trained teachers in an effort to create model classrooms that could be replicated statewide; eleven districts were awarded, including five "high-need" districts with a total 50 teachers, 9 technology support personnel, and 11 project coordinators. The grant provided district teams the opportunity to receive professional development on the updated national student and teacher technology standards, assessments, and classroom technology integration to improve student academic achievement and promote 21st century skills. The professional development was delivered in four phases: (1) The 2009 Alaska Society and Technology Education (ASTE) conference including a follow-up credit course; (2) spring standards and assessment work; (3) a summer credit course in classroom technology integration; and (4) fall

follow-up collaborative work on technology integration in the classroom. Impact of the program can be found in the program evaluation posted at <http://www.eed.state.ak.us/EdTech>. <http://www.aste.org>

Alaska - Consortium for Digital Learning

Direct State Funding - \$7,500,000

The Association of Alaska School Boards' Consortium for Digital Learning initiative (AASB-CDL) was launched to further expand the school board's efforts to improve statewide student achievement. The program provided each student with a laptop with wireless capability, enabling communication and collaboration among peers and teachers, extending the learning day, and more closely connecting parents to the educational process. State funds supported 18 school district projects, providing two-thirds of the initial costs, including initial technology hardware, ongoing staff training, and technical assistance over the four-year project. As a result of one-to-one learning, district testimonials included an increase in student engagement, a decrease in behavioral issues and improvement in student writing. http://web.mac.com/aasb.cdl/Consortium_for_Digital_Learning/Home_Page.html

Arizona - Northern Arizona Technology Integration Coaching Consortium (NATICC)

EETT Competitive Grant - \$271,600

The Northern Arizona Technology Integration Coaching Consortium (NATICC) implemented in the Flagstaff Unified District used the Peer Coaching program and provided technology hardware, such as document cameras, digital cameras, and interactive whiteboards to develop 30 technology-enhanced model classrooms (TEMC) across all grade levels. Building off of the research-based eMints model, NATICC was developed with the understanding that updated and easily accessible hardware, professional development and peer coaching are vital to the effective integration of technology. Two project facilitators supported all grant project activities including, but not limited to, training for technology coaches, data collection and analysis, modeling of effective technology integration strategies, budget and purchasing oversight, and just-in-time assistance.

<http://content.fusd1.org/naticc/>

Arizona - Statewide Instructional Technology Project

EETT Competitive Grant - \$1,013,145

The Statewide Instructional Technology (SIT) project provided ongoing professional development to K-12 teachers and helped to carry out state educational technology initiatives. The major focus of the SIT project was to support academic achievement by helping teachers integrate technology into the curriculum through the use of a shared repository of resources, peer coaches and training opportunities. Each county was served by a Technology Integration Specialist (TIS) who offered a wide array of training and/or worked directly with teachers in their classrooms, providing long-term support and training to enhance teachers' effectiveness. Technology mentor teachers were also developed through the grant in order to support ongoing capacity within schools that were impacted by the grant.

<https://www.azed.gov/technology/sit/>

Colorado - Powering Up 8th Grade Writers

EETT Competitive Grant - \$189,918

The Powering Up 8th Grade Writers program in ten urban middle schools provided professional development to teachers and netbooks to students in an effort to improve writing achievement through the use of 21st Century writing tools and techniques. By connecting the use of netbook computers with effective pedagogy as the method for exploring the content standards assigned to the grade level, teachers became equipped to teach writing in a 21st Century context.

Connecticut - Bio 21: 21st Century Biology Education

EETT Competitive Grant - \$139,968

The New Haven Public Schools, in collaboration with The Center for 21st Century Skills @ EDUCATION CONNECTION, implemented the Connecticut Career Choices “Bio21” biology course at Wilbur Cross High School as a means of providing students with cutting-edge technology and 21st century skills, as well as assisting teachers in the use of technology to achieve more effective instruction in science. Bio21 is a lab-intensive science course that covers the most exciting fundamentals of life science and biotechnology. Students gained techniques and knowledge that helped prepare them for careers in medicine, microbiology, molecular biology, forensics, and public health. The project trained teachers to use 21st century learning management systems. In addition, the project positively impacted school administrators by increasing their familiarity with classroom observations of blended learning pedagogy and online standardized assessments. <http://ctcconline.org/>

Connecticut - Moving Beyond the Textbook: Digital Content in a 21st Century Middle School Environment

EETT Competitive Grant - \$139,961

The Moving Beyond the Textbook: Digital Content in a 21st Century Middle School Environment program transformed classroom instruction in two rural middle schools. Teachers and students used a variety of technology tools, such as personal media devices, cell phones, interactive whiteboards, laptops, digital cameras, and videoconferencing to restructure classrooms to project-based learning. Teachers learned to facilitate the learning, and to use data in planning and developing teaching strategies. Laptops enabled both teachers and students to connect to a wealth of content and communicate it with each other. Teachers received professional development and support through professional learning communities, mentoring, and training. Project-based learning and interdisciplinary strategies provided students with a well-rounded concepts where discovery, participation and interaction were encouraged. This program started in September of 2010, although it is too early to provide feedback on student achievement the technologies and professional development has created a level of excitement and collaboration that is encouraging.

Delaware - eMINTS Fairview Elementary

EETT Competitive Grant - \$349,758

Fairview Elementary school implemented the established eMINTS program, which focuses on high levels of technology for students and teachers. This implementation of the eMINTS program included 90 - 200 contact hours of professional development training and a strong program evaluation and research component for participating teachers. Through the use of a trained mentor and coach, eMINTS included professional development in inquiry-based teaching, teaching of higher order thinking skills, cooperative learning skills, and constructivist learning. This unique blend of technology, training, and teaching practices raised student achievement and improved teacher pedagogy through best-practice instruction and integration of technology. After one year of eMINTS participation, class scores increased in writing anywhere from 3 percent to 39 percent in grades two through four. Teacher growth in integration of technology has varied. <http://fvemintsteam.weebly.com/>

Delaware - eMINTS Kuumba Academy

EETT Competitive Grant - \$425,873

Kuumba Academy (K-5) implemented the research based, eMINTS program, which includes high levels of technology integration for students and teachers. Teachers participated in 90 - 200 contact hours of professional development training. Through the use of an in-house mentor and coach, eMINTS

professional development includes instruction in inquiry-based teaching, higher order thinking skills for students, cooperative learning, constructivist learning, and teacher technology skills. As a result of the implementation, students showed an increase of up to 23 percent in math scores across all four strands of their standardized assessment and 80 percent of parents participated in technology literacy and awareness sessions. <http://www.emints.org/about/participants/delaware.shtml/delaware.shtml>

Idaho - Creating 21st Century Classrooms

EETT Competitive Grant - \$50,000

Creating 21st Century Classrooms initiative in the Twin Falls School District enhanced the development of 21st Century middle school classrooms by successfully merging the acquisition of learner response systems, interactive whiteboards, and classroom projectors, with a long term, systematic technology professional development program. This effort utilized new technology to improve math, reading and language scores, as well as technology to target the populations of students with disabilities and limited English proficiency students with robust instructional interventions. Professional development included training in specific technologies, International Society of Technology in Education (ISTE) standards, district specific software programs, and best practices. Results are still pending.

Idaho - Classroom of 21st Century

EETT Competitive Grant - \$50,000

The Classroom of 21st Century project in rural Gooding's school district provided the targeted schools with interactive white boards, display projectors, Apple iPod Touches, and a professional learning community for teachers. Ongoing professional development was provided to teachers which was also supported by Title II-A funds. The district built a culture of inquiry by regularly sharing best practices through a variety of delivery systems, all of which focused on modeling and mentoring and continued professional development. This multi-year grant is currently still in progress and, therefore, has not produced sufficient evaluative data to report findings, conclusions and recommendations.

Kentucky - Kentucky Virtual Schools

Direct State Funding

The Kentucky Virtual High School (KVHS) was founded in 2000 to provide equity of access to high quality curriculum to all Kentucky students and has seen growth to include robust learning opportunities for adults and teachers through additional state funding. More than 7,000 educators have taken online professional development courses in the past nine years. Today the Kentucky Virtual Schools are composed of the Kentucky Virtual School providing P-12 services and e-Learning Kentucky (ELK) providing services to adults. Online Professional development provided through eLearning Kentucky (ELK) is high quality, media-rich, facilitated, and interactive. Courses reflect the needs of Kentucky teachers/administrators and range from technology integration to training for School Based Decision Making council members. In addition online professional learning communities are being provided to over 3,000 educators. Recent research from a federal Ready to Teach grant indicates that Kentucky educators like online professional development and would readily refer courses to colleagues. They also report after having participated in online professional development to using technology more with their students and their students being more engaged. <http://www.kvhs.org>

Louisiana - Webster Parish Teaching, Learning, and Technology Center

EETT Competitive Grant - \$250,000

The Region VII Teaching, Learning and Technology Center (TLTC) works as one of one of eight regional centers around the state serving as an extension of the Department of Education, providing best

practices in K-12 instruction, and promoting technology integration. The TLTC grant provided professional development opportunities for teachers, administrators, support staff, central office personnel, Assistive Technology Center staff, and the general public. Facilitators of the center provided training in the effective use of technology online, at the center, and on-site at schools. As a result of the efforts of this center, the percentage of teachers qualified to effectively use technology for instruction has increased. Also, the number of students who utilized technology and used appropriate technology research tools to locate, evaluate, and collect information from a variety of resources increased. <http://region7.webster.k12.la.us/aboutus.html>

Louisiana - Algebra I Online

Direct State Funding - \$280,000

The Algebra I Online Project provided students, particularly rural and urban students without access to fully certified teachers, with a certified Algebra I instructor and a high-quality Algebra I curriculum in a web-based format. In addition, districts desiring to provide certified teachers access to pedagogy training and mentoring in order to build capacity for strong mathematics instruction also participated. Throughout this project, the in-class teacher engaged in face-to-face and online professional development opportunities designed to 1) assist with the facilitation of the in-class Algebra I learning activities of the students, 2) build capacity for strong mathematics instruction, and 3) support the teacher's efforts towards secondary mathematics certification. During the history of the program (2002-09), 14 percent of the participating teachers extended their areas of certification. Students performed better than the state average on end-of-course testing. In 2009, a majority (58 percent) of the students scored in the excellent and good range in the Algebra I Online course, compared to the state average (39 percent). Students noted that they enjoyed using technology to learn math, working with other students, and participating in a new experience.

<http://www.louisianavirtualschool.net/algebra.xml>

Maine - Maine Learning Technology Initiative

Direct State Funding - \$19,000,000

The Maine Learning Technology Initiative (MLTI) is a state funded program that also receives EETT funds in specific areas for professional development. MLTI provides one-to-one laptop computers to all middle school students, teachers, and administrators, 45 percent of high school students as well as providing professional development for teachers. The state offers professional development in the form of weekly webinars, school site visits, regional workshops, and podcasts (iTunes U). The program adheres to two professional development models that support teachers with curricular design, instructional practices, and assessment: Substitution Augmentation Modification Redefinition (SAMR) and Technological Pedagogical Content Knowledge (TPACK). MLTI employs a team of eight technology integration specialists and seven regional trainers provided by the MLTI EETT competitive grants. Research has indicated increased student achievement and engagement, and increased teacher use of the technology tools. <http://maine.gov/mlti/index.shtml>

Maryland - Maryland Technology Proficiency Partnership

EETT Competitive Grant - \$783,516

The Maryland Technology Proficiency Partnership created professional development resources for teachers and administrators using analyzed data from the first and second administrations of the Maryland technology measures. This is an ongoing statewide effort, with all 24 school systems participating, to create professional development resources and online course modules for teachers

and administrators. All resources are aligned to either the Maryland Teacher Technology Standards (MTTS) or the Maryland Technology Standards for School Administrators (MTSSA), both of which are aligned to the International Society for Technology in Education (ISTE) standards. One online course module, Social and Ethical Issues, was developed and piloted during the summer of 2010, and was highly successful. Five other modules are currently being developed. Principals from around the state are working with the Maryland Society for Educational Technology (MSET) on developing the resources that will become part of the Maryland Technology Leadership Toolkit for School Administrators. Resources will be available for all school systems as an ongoing program to use in their educator professional development initiatives.

Massachusetts - Enhancing Mathematics Education through Technology

EETT Competitive Grant - \$226,287

This Enhancing Mathematics Education through Technology Project in Brockton Public Schools and Braintree Public Schools provided collaborative professional development for K-12 educators to integrate technology into mathematics instruction. Participating teachers took the "Foundations for the 21st Century Teacher" course, which focused on using appropriate technologies, including interactive whiteboards and Web 2.0 tools, to teach K-12 mathematics skills. In addition, to support the success of students with diverse learning needs, a Universal Design for Learning strand was also included. A component of the course was also designed for administrators so they could model and evaluate effective use of technology. Following the course, teachers implemented their new knowledge and then came together again at the end of the school year to refine their lessons and units and share with other teachers throughout the state. As a result, Braintree math standardized test scores in 2009 and 2010 increased in both the elementary and middle schools. The average range of improvement for 3-6 grades was 9 percent and for 7-8 grades was 6 percent.

Massachusetts - Online Writing Assistance for All

Other Federal Funds - \$400,000

The MassONE Writer Program or Online Writing Assistance for All was a federally funded program, from the U. S. Department of Education's Office of Special Education and Rehabilitative Services, offering middle school students and their teachers with an online tool to improve students' writing in five middle schools in the Springfield, Taunton, and Everett school districts. Students were able to access assistance, models, checklists, and writing strategies with the help of animated characters. The tool also supported collaborative writing by allowing groups of peers to read and comment on each others' work. To support the teachers, the MassONE Writer Program included progress monitoring tools and easy-to-use assessment tools to determine appropriate instructional interventions. The MassONE Writer was used with nearly 300 students and 16 teachers over a three-year period.

Teachers most often cited the step-by-step nature of the tool and the supports it provided, which allowed students to work more independently than ever before. The comparison of pre- and post-study scores demonstrated significant gains. <http://www.cast.org/research/projects/MassOne.html>

Minnesota - Enhancing Education Through Technology, Round V, Part 2

EETT Competitive Grant - \$170,000

Duluth Public Schools trained 150 K-12 teachers to effectively integrate technology into their classroom instruction including interactive whiteboard training. This grant affected up to 7500 students as teachers integrated technology into their content and aligned it to the state standards. The

goal of the program was to motivate and engage students when using technology within the learning curriculum and to demonstrate student achievement gains in the classroom. Results are still pending.

Missouri - Project eASE (eMINTS: All Students Engaged)

EETT Competitive Grant - \$355,155

This eMINTS project expanded the researched-based eMINTS program from the middle school to the high school in the Gasconade County R-I school district. Teachers participated in NETS-aligned eMINTS training, which included a minimum of 75 hours of professional development. Teachers collaborated within and across the content areas to develop lessons that focused on higher-level thinking supported with educational technologies. Teachers increased use of research-based instructional strategies and technology integration throughout the curriculum with a particular focus on communication arts.

Instructional Practices Inventory observations showed increases in instruction, technology integration, and technology literacy frequency and proficiency, with time spent on higher-level thinking increasing from 17 percent to 24 percent. Surveys found significant increases in student technology use and literacy. A rigorous end-of-course writing assessment demonstrated high performance levels with no students scoring below basic and 80 percent of students were at/above proficiency.

<http://www.hermann.k12.mo.us/Dann%20Maribeth/emints.html>

New Hampshire - Technology Leadership Cohort (TLC) Program

EETT Competitive Grant - \$570,000

New Hampshire's Technology Leadership Cohort Program (TLC) was designed as a professional development program for a statewide cadre of teachers and administrators to enhance teacher and leader effectiveness. Participants interacted through a state-created online collaborative space with an array of digital content which included open educational resources and teaching strategies for creating 21st century learning environments. Online study was supplemented by the use of an iPod Touch for each educator and a series of face-to-face activities, including training modules and conference attendance on teaching 21st century learners. A total of 44 school teams, comprised of two teachers and one supporting principal, from elementary, middle, and high schools across the state were involved in the 2009-10 program. Teams were organized into four consortia sponsored by the lead districts and professional development centers of Keene, Exeter, Penacook, and Gorham, where TLC activities were hosted periodically during the grant period. Course post-surveys indicated that most participants rated the overall quality of the program (online, on-site, and special tools and events) and the intended outcomes as very good to excellent. Participants found that new subject area content, different approaches to teaching, technology use skills, and the use of technology with their students increased as a result of their participation in the program. [http://nheon.org/oet/nclb/2009-](http://nheon.org/oet/nclb/2009-10/TLCProgram.htm)

[10/TLCProgram.htm](http://nheon.org/oet/nclb/2009-10/TLCProgram.htm)

New Jersey - The Implementing New Curricular Learning with Universally Designed Experiences (INCLUDE) grant

EETT Competitive Grant - \$240,000

In the urban, diversely populated school district of Edgewater Park, the goal of the Implementing New Curricular Learning with Universally Designed Experiences (INCLUDE) grant was to increase academic achievement in mathematics by using research-based instructional practices in conjunction with the effective integration of educational technology practices. The INCLUDE grant provided the needed funding to support teachers as they improved their classroom skills and revised the mathematics curricula using the Universal Design for Learning (UDL) framework. Teachers learned to meet each

student's needs by implementing the UDL framework along with educational technology best practices and collaborating with in-class coaches. Students with special needs demonstrated a 22 percent gain between a pre and posttest mathematics assessment, whereas the general education population gained 3 percent. Also, the students labeled as economically disadvantaged, an historically lower scoring population, demonstrated 10 percent growth compared to 1 percent for non-disadvantaged students. <http://65.211.78.226/index.htm>

New Jersey - The Implementing New Curricular Learning with Universally Designed Experiences (INCLUDE) grant

EETT Competitive Grant - \$240,000

The Implementing New Curricular Learning with Universally Designed Experiences (INCLUDE) project in the Magnolia School District was designed to ensure all 5-8 grade students in the general education classroom, including those with mild to severe disabilities, struggling students, gifted students and English language learners, are provided the necessary accommodations in the mathematics classroom to increase math academic achievement. Each participating teacher used educational technology, the Universal Design for Learning (UDL) framework, and research-based instructional practices in mathematics that are grounded in instructional pedagogy. Teachers received professional development in these areas as well as in-class coaching and actively participated in professional learning communities. The participating students with special needs demonstrated a 43 percent gain in math scores between a mathematics assessment pretest and posttest; the general education students posted a gain of 39 percent. All students showed gains, but the students with special needs demonstrated greater growth.

<http://www.magnoliaschools.org/1815101231123153423/site/default.asp>

New York - Enhancing Education Through Technology-SCALE Student Centered Active Learning Environments

EETT Competitive Grant - \$700,000

In Rochester City middle and high schools, the EETT-SCALE (Student Centered Active Learning Environments) program helped to create model classrooms through high-quality, sustained teacher training and the integration of technology. Teachers learned to adapt their instructional delivery so that technology became a natural pedagogical component. As well, Student-Centered Active Learning Environments were constructed as teachers gained knowledge in both hardware and software. The Model Classroom Training and equipment deployment included teachers in grades 5-9, special education and ELL. Professional development included instruction in student portals, e-curriculum delivery, creation of teacher web pages, differentiated electronic learning opportunities, formative electronic assessment tools, and use of interactive technology to personalize instruction based on student needs. Model Classroom teachers were supported by Instructional Technology Lead Teachers. Based on the evaluation by the New York Institute for Educational Excellence, teachers equipped with and trained in the use of technology have significant impact on student achievement, particularly at the middle school level.

Oklahoma - BC tech Project

EETT Competitive Grant - \$52,700

The BC Tech Project, in Boise City School District, a high-minority and sparsely populated school district, focused on instruction and student learning by adopting new technologies and effectively integrating into the curriculum in both a middle and high school. In this program, three key educational

principles were adopted by the district: to focus on presenting information in multiple formats, to offer students multiple ways to demonstrate learning, and to provide multiple entry points to engage student interest and motivate learning. New technologies allowed for flexibility and individualized opportunities to improve student learning. Teachers received professional development in new learning strategies. As a result, survey and interview data revealed positive changes, and analysis of pre-tests of ninth-grade Algebra I students indicated that participating students scored significantly higher than peers from previous years.

Rhode Island - E2T2 Model Classroom Grant 2010 EETT Competitive Grant - \$905,205

Thirty-one schools from multiple school districts participated in the E2T2 Model Classroom Grant 2010 program focusing on professional development. Teachers focused on integrating technology into the curriculum and aligning technology use with state standards. Participation in a rigorous summer program allowed teachers the opportunity to collaborate with colleagues across the state as they learned technology and integration skills. Participating teachers were required to develop lessons aligned with state standards, which were added to an accessible online repository. At the end of the session, survey results indicated that 99.6 percent of participants agreed/strongly agreed that the course, content, format and materials focused on objectives that were useful to their teaching.

South Carolina - South Carolina Department of Education and Verizon Thinkfinity Partnership Foundation or other sources - \$25,000

The South Carolina Department of Education (SCDE) has partnered with the Verizon Foundation to roll out Verizon Thinkfinity to provide 21st century learning resources for South Carolina educators and students. Thinkfinity.org seeks to improve student achievement in traditional classroom settings and beyond by providing high-quality content and extensive professional development training. Through a grant from the Verizon Foundation, Thinkfinity South Carolina is offering Verizon Thinkfinity Professional Development to educators throughout the state through the SCDE Office of eLearning's Instructional Technology Coach program. The South Carolina Department of Education is supporting the development of Field Trainers. Field Trainers are now available to be used by local districts.

<http://scde.mrooms.org/index.php?page=1394>

South Carolina-Tie it All Together EETT Competitive- \$255,000

As part of a one-to-one laptop initiative, the Tie It All Together project focused on professional development and collaboration as means of increasing student achievement and improving classroom teaching for twelve middle schools in rural Sumter County School District. Teachers participated in a graduate-level course, receiving instruction in the integration of wikis, blogs, podcasts, video editing, portfolios, internet safety, and interactive whiteboards. The program also provided a technology coach to work with teachers, students, and pre-service teachers. Teachers integrated technology into the core curriculum and changed teaching and learning. Results indicate standardized math test results improved for eighth grade students. The students showed a significant increase between pre and post technology assessments with an average preassessment score of 52.8 and the average post assessment score was 58.0. In addition, teachers performed at the mastery level in technology proficiency as measured by the state developed ePortfolio assessment. <http://sumter2.org>

South Dakota - Master Teacher Academy

EETT Competitive Grant - \$481,000

The Master Teacher Academy in seventy schools of the East Dakota Educational Cooperative provided teachers and administrators professional development in better understanding and implementing 21st Century skills and technology integration. Teachers and administrators deepened their understanding of 21st Century skills, effectively used appropriate technologies, and implemented newly developed lessons through professional learning experiences.

South Dakota - Power Up 21

EETT Competitive Grant - \$809,000

The Power Up 21 program at the Black Hills Special Services Cooperative trained K-12 teachers to incorporate 21st Century skills, project-based learning, blogs, wikis, podcasts, and other Web 2.0 tools into the core curriculum. Professional development included face-to-face instruction, online learning communities and the development of a teacher network. Teachers collaborate on individualize projects through online learning communities. Impact data is still pending.

Texas - Eastland ISD - Vision 2020 Grant

EETT Competitive Grant - \$488,716

The Vision 2020 Grant enabled an elementary school in the Eastland Independent School District to provide continuous innovation with technology leading to improved student achievement. This was accomplished through the increased availability of technology tools, including laptops, interactive white boards, and student response systems, and focused on professional development as a means to improving teaching and learning. Teachers attended training sessions and received support from the on-site technology coordinator as well as instruction from vendors on integrated technologies. Teachers also had access to online courses. As a result, informal reporting indicated students were more engaged and focused when interactive technologies were in use and indicated a decrease in discipline referrals. Comparisons of standardized test scores from 2008 (baseline), 2009 (program year 1), and 2010 (program year 2) revealed improvements in several areas.

http://www.tea.state.tx.us/index2.aspx?id=4843&menu_id=2147483665

Texas - Atlanta ISD-Vision 2020 Grant

EETT Competitive Grant - \$500,000

Atlanta ISD's successful grant programs creates a more engaging, relevant and personalized student learning environment for grades 8 and 9 based on the six critical components of technology immersion, as identified by the Texas Technology Immersion Project: 1) students and faculty were assigned a laptop for access to available resources; 2) professional development provided teachers and campus leaders the technology skills and integration strategies for success in a one-to-one computing classroom; 3) participants were introduced to digital productivity, communication and presentation tools to promote higher-order thinking and problem solving skills; 4) educators were given online instructional resources aligned with state standards and integrated into daily lessons; 5) diagnosis and response to problem areas was made possible by assessment and reporting tools in software and by online formative assessment; and 6) ongoing technical support to students and teachers. The focus of the grant was to ensure equitable access to technology across a diverse student population. The district has reported increased student engagement and a transition to student-centered, project-based learning techniques. Standardized test results showed improved performance within one year

among minority students in the areas of math and science.

http://www.tea.state.tx.us/index2.aspx?id=4843&menu_id=2147483665

Vermont - Connecting the DOTS--21st Century Classrooms

EETT Competitive Grant - \$300,000

Connecting the DOTS--21st Century Classrooms, a statewide program led by Burlington School District, provided professional development to small groups of teachers in the areas of curriculum development, technology integration, and Web 2.0 tools to over forty schools across Vermont. There were three phases of this professional development program including regional meetings, focus on NETS-T standards, and a repository of shared units. Students receiving instruction from these teachers experienced teaching that was enhanced with web-based tools, and the teachers served as leaders in their schools, modeling strong teaching and offering professional development.

Washington - Enhanced Peer Coaching

EETT Competitive Grant - \$2,790,000

Seventy-five school districts, representing each geographic area of the state, participated in the Enhanced Peer Coaching (EPC) program in which teachers at all grade levels received training and then worked in pairs or teams within a school, sharing experiences, team teaching, observing, and developing technology proficiencies. Peer coaches worked in classrooms that served the full spectrum of children with learning challenges — special needs, ESL/ELL, gifted, and talented. Three hundred fifty-eight teachers received training as coaches, following the Microsoft Peer Coaching curriculum, and directly impacted their school environment in positive ways by integrating technology into the curriculum and increasing student engagement.

<http://k12.wa.us/EdTech/Grants/Competitive/PeerCoaching/>

West Virginia - Bridge Street Middle School a Technology Model School--Where digital literacy is a destination

EETT Competitive Grant - \$158,062

Bridge Street Middle School, a technology model school, funded a full-time Technology Integration Specialist and planned effective professional development for all classroom teachers. The Technology Integration Specialist mentored teachers on a one-to-one basis and provided professional development in podcasting, blogging, wikis, streaming video and Web 2.0 tools. All classroom teachers completed at least four techStep lessons per student. These techSteps activities developed technology literacy skills and aligned with EETT requirement for student literacy at the 8th grade level (<http://www.techsteps.com/wv/techStepsK-8.htm>). As a result of the efforts made by the Technology Integration Specialist and classroom teachers, students were more engaged in classroom activities, and technology integration into the curriculum had an effective impact on student achievement.

West Virginia - CREATIT program (Collaboration for Real Educational Achievement Through Instructional Technology)

EETT Competitive Grant - \$158,938

The CREATIT program (Collaboration for Real Educational Achievement Through Instructional Technology) at Spring Valley High School teamed students and teachers together to develop innovative methods of teaching and learning throughout the school. Teachers worked in teams along with a technology coach to plan integrated lessons. Student partners called Tech Wolves worked closely with teachers to help with technology use and to develop multimedia materials for the classroom. Several teachers created hybrid courses for students utilizing a content management system. The technology

integration specialist played an instrumental role in this program providing training to the teachers as well as the students as they gained confidence in fulfilling the role of technology facilitator in the classrooms. Spring Valley High School ranked fourth out of sixteen schools on overall teacher survey components, which is indicative of higher positive attitudes towards learning technology, higher levels of computer knowledge and highly favorable attitudes toward 21st century teaching and learning.

Wyoming - Sheltered Instruction Observation Protocol (SIOP)

EETT Competitive Grant - \$75,000

The Sheltered Instruction Observation Protocol (SIOP) Initiative in the Big Horn County School District sought to enhance teacher effectiveness by providing professional development opportunities in the area of technology integration to better meet the needs of a diverse student population and improve student achievement at all grade levels. This initiative combined a technology-rich environment with a research-based instructional training of Sheltered Instruction Observation Protocol. Sheltered instruction is an approach for teaching content to English language learners in strategic ways that makes the subject matter concepts comprehensible while promoting English language development. Through professional development and the use of technology, the Sheltered Instruction Protocol initiative sought to improve Response to Intervention (RTI) strategies as a means to improve student achievement.

Wisconsin – Digital Literacy 2.0

EETT Competitive Grant - \$120,000

The Digital Literacy 2.0 project touched teams of educators and administrators from 21 east central Wisconsin districts focusing on digital literacy and problem based learning to answer the question: “How can teachers utilize the capacity of Web 2.0 resources to individualize instruction and open doorways for students?” Teams of educators, library media specialists, and administrators attended five days of professional development, acquiring knowledge, familiarity, and proficiency in the use of digital tools and project-based learning concepts, using local expertise and the Intel Thinking with Technology course. The project provided the initial funding to start the professional development program for district educator teams to learn effective technology integration and to mentor fellow educators in these best practices. Overall, project research findings showed that participants had increased their knowledge and proficiency in using educational technology to engage and enhance student content learning and student academic achievement. Participants also demonstrated coaching and mentoring techniques they took back to their districts to share content, curricular examples, and tools learned during the project. <http://startrekdigitalliteracy.pbworks.com/>

Appendix E - Online and Blended Learning

Alabama - ACCESS Distance Learning

Direct State Funding - \$18,500,000

The Alabama Connecting Classrooms, Educators, and Students Statewide (ACCESS) distance learning program has served students in grades 6 through 12 statewide by delivering instruction via the web and interactive videoconferencing, thus helping students stay in school and graduate. State funds provided each state high school with a distance learning lab with tablets, videoconferencing equipment, interactive whiteboard, and other technologies in support of the program. ACCESS offers 101 unique courses, including 11 AP courses, all taught by teachers specifically trained for the program. Over 560 teachers were trained and are currently teaching for ACCESS. In 2009, ACCESS provided 26,197 student enrollments in courses needed to meet graduation requirements and 6,059 additional enrollments in non-credit remediation modules for the state high school graduation exam. In 2007, the average freshman graduation rate was 67 percent, up from 62 percent in 2002. Ongoing evaluation indicates continued positive success rates. <http://accessdl.state.al.us/>

District of Columbia - Online College and Career Prep (OCCP) Reform Program

EETT Competitive Grant - \$68,4474.56

The Online College and Career Prep (OCCP) reform program used technology to engage high school students in two urban high schools in meeting challenging academic standards that drives toward postsecondary success. Classrooms were reformed to improve student achievement through a three core approach: online credit recovery and Advanced Placement (AP) courses, research-proven instructional strategies that involve the Teaching and Learning Framework (T&LF) including technology integration, and improved access in each school's library media center to support online instruction. Teachers were involved in ongoing professional development and even had the opportunity to participate in the students' online courses as a means of improving their pedagogy. The outcomes are still being assessed.

Illinois - Illinois Virtual School

Direct State Funding - \$1,250,000

The Illinois Virtual School (IVS) recently received state funds to create and expand many initiatives of the virtual school, including the creation of a statewide Learning Object Repository (LOR) for housing online content, the expansion of middle school courses, and the expansion of professional development opportunities through the partnership of state and regional professional development organizations. In addition, IVS is due to receive federal funds to build a self-paced credit recovery refreshing all IVS courses. Currently, IVS supplements state schools with online, instructor-led courses for grades 5-12. There are 131 courses including AP, electives and Middle School courses in Business and Economics, Career Planning, Computer Science and Information, Fine Arts, Language Arts, Mathematics, Science, Social Studies, and Study Skills. <http://ilvirtual.org>

Kentucky - Kentucky Virtual Schools

Direct State Funding - \$750,000

The Kentucky Virtual High School (KVHS) was founded in 2000 to provide equity of access to high quality curriculum to all Kentucky students and has seen growth to include robust learning opportunities for adults and teachers through additional state funding. More than 7,000 educators have taken online professional development courses in the past nine years. Today the Kentucky Virtual Schools are composed of the Kentucky Virtual School providing P-12 services and e-Learning Kentucky

(ELK) providing services to adults. Online Professional development provided through eLearning Kentucky (ELK) is high quality, media-rich, facilitated, and interactive. Courses reflect the needs of Kentucky teachers/administrators and range from technology integration to training for School Based Decision Making council members. In addition online professional learning communities are being provided to over 3,000 educators. Recent research from a federal Ready to Teach grant indicates that Kentucky educators like online professional development and would readily refer courses to colleagues. They also report after having participated in online professional development to using technology more with their students and their students being more engaged. <http://www.kvhs.org>

Louisiana - Algebra I Online

Direct State Funding - \$280,000

The Algebra I Online Project provided students, particularly rural and urban students without access to fully certified teachers, with a certified Algebra I instructor and a high-quality Algebra I curriculum in a web-based format. In addition, districts desiring to provide certified teachers access to pedagogy training and mentoring in order to build capacity for strong mathematics instruction also participated. Throughout this project, the in-class teacher engaged in face-to-face and online professional development opportunities designed to 1) assist with the facilitation of the in-class Algebra I learning activities of the students, 2) build capacity for strong mathematics instruction, and 3) support the teacher's efforts towards secondary mathematics certification. During the history of the program (2002-09), 14 percent of the participating teachers extended their areas of certification. Students performed better than the state average on end-of-course testing. In 2009, a majority (58 percent) of the students scored in the excellent and good range in the Algebra I Online course, compared to the state average (39 percent). Students noted that they enjoyed using technology to learn math, working with other students, and participating in a new experience.

<http://www.louisianavirtualschool.net/algebra.xml>

Maryland - Hybrid Course Development and Process and Product Consortium

EETT Competitive Grant - \$428,887

In this statewide online learning initiative, members of the Hybrid Course Development and Process and Product Consortium, led by administrators and teachers in Cecil County partnering with seven other counties and Baltimore City, developed a high school World History hybrid course to serve as a model for hybrid course development and implementation throughout the state. In developing the model course, best practices and research-based strategies were examined, and Universal Design for Learning elements and accessibility features were incorporated. This course development process included a professional development component, and teachers will eventually be trained to implement the course. Preliminary results are pending. <http://hcdppc.wikispaces.com>

Michigan - Seat Time Waiver Program

State Funding - \$18,000,000

In 2007, Superintendent of Public Instruction Michael Flanagan initiated the Seat Time Waivers (STW) program as a means of stimulating instructional innovation in Michigan public schools, which is funded through per-pupil state funds. The goal of the initiative is to develop innovative, proficiency-based models in public schools for assisting students in completing Michigan Merit Curriculum requirements and graduating college and career-ready. The program seeks to challenge the traditional model of rewarding schools for non-academic measures (i.e. seat time) by providing flexibility to help all students succeed. This flexibility has been provided primarily through online learning models of

delivery. To date, more than 2,500 students have enrolled. Existing Seat Time Waiver programs have primarily focused on marginalized students, i.e., dropouts, those at-risk of dropping out, and previously un-enrolled (i.e., home school). The new computer and connectivity requirements provided consistent technology access to all students in participating districts. The STW program has the potential of facilitating major change in teaching and learning.

<http://www.michigan.gov/mde/0,1607,7-140--22360--,00.html>

Missouri - Missouri's Virtual Instructional Program (MoVIP)

Direct State Funding - \$750,000

The Missouri Virtual Instruction Program (MoVIP) was created through state legislation and received state funding as a way to offer all state students, in grades Kindergarten through twelfth, public, private, or home schooled students, an opportunity to participate in online learning either full or part-time. MoVIP offered 172 courses, with multiple start dates to accommodate student schedules. The appropriation included funds to offer free MoVIP classes to medically fragile students who are unable to attend school. Other tuition courses were made available for schools/students where there are no qualified teachers to teach the course because of teacher shortage, increased demand, or not enough students at a school to assign teachers to teach the course; for students who have schedules preventing them from taking a course when it is offered; or for students in alternative settings because of failure to achieve in regular courses and in need of additional time and/or support. MoVIP students were provided special education, counseling services and technical support. The program utilized online professional development opportunities available within the state. <http://www.movip.org>

New Hampshire - Technology Leadership Cohort (TLC) Program

EETT Competitive Grant - \$570,000

New Hampshire's Technology Leadership Cohort Program (TLC) was designed as a professional development program for a statewide cadre of teachers and administrators to enhance teacher and leader effectiveness. Participants interacted through a state-created online collaborative space with an array of digital content which included open educational resources and teaching strategies for creating 21st century learning environments. Online study was supplemented by the use of an iPod Touch for each educator and a series of face-to-face activities, including training modules and conference attendance on teaching 21st century learners. A total of 44 school teams, comprised of two teachers and one supporting principal, from elementary, middle, and high schools across the state were involved in the 2009-10 program. Teams were organized into four consortia sponsored by the lead districts and professional development centers of Keene, Exeter, Penacook, and Gorham, where TLC activities were hosted periodically during the grant period. Course post-surveys indicated that most participants rated the overall quality of the program (online, on-site, and special tools and events) and the intended outcomes as very good to excellent. Participants found that new subject area content, different approaches to teaching, technology use skills, and the use of technology with their students increased as a result of their participation in the program. <http://nheon.org/oet/nclb/2009-10/TLCProgram.htm>

New Hampshire - OPEN NH Project

Other Federal Funds

E-Learning for Educators, funded by the federal Ready to Teach Program, through Alabama Public Television, designed to help states meet critical requirements for improving student achievement through providing high quality online professional development content is currently in a carryover

grant year. Upon grant completion, New Hampshire plans to continue to offer this powerful professional development program to districts through partnerships and alternate funding sources. The needs of students in high-poverty, low-achieving schools were met by offering cost effective, high quality professional development to support teachers in these schools. The NH e-Learning for Educators program offers online professional development courses. OPEN NH also supports educators by providing online collaborative spaces, and the development and delivery of personalized professional development programs designed to satisfy specific needs of districts. This is accomplished by selecting and training online professional development facilitators and course developers, designing online courses specifically tied to the needs of NH schools and educators, and evaluating effective online professional development. An authentic course project is developed throughout the seven weeks of the course which can be used directly in classrooms or schools by the educators. OPEN NH also offers additional online collaborative spaces to groups connected with other statewide projects that need an online space for collaboration and sharing between educators and districts. The project is also exploring the options of self paced tutorials, which can be enhanced by more rigorous, facilitated coursework, if desired. <http://www.opennh.org>

North Carolina - Cloud Computing

RttT - \$34,000,000

The NC Education Cloud is a service delivery platform for modern instructional and administration support systems. Part of North Carolina's Race to the Top \$400m grant award, the NC Education Cloud will establish PK-12 education technology "cloud" infrastructure to provide cost-effective and robust networking infrastructure for LEAs and provide digital tools and resources to support all RttT initiatives.

Tennessee - Tennessee's e4TN/e4000 Online Learning Initiative

EETT Competitive Grant - \$6,129,182.50

The e4TN and e4000 Online Learning Initiative is an online learning program that helps middle and high school students receive a fair and equitable education despite obstacles. In January 2006, Tennessee created the first statewide e-learning program. Through the "effective engaging e-learning environment (e4TN)" online learning initiative, students who were homebound due to illness, for example, enrolled in online classes and continued their education through virtual learning. Students who lived in rural areas where there were not enough teachers in specialized areas enrolled in courses such as physics, art history, and foreign language. Gifted and special needs students took courses to fit their individual needs. The e4TN course catalog currently contains 44 e4TN courses and 13 vendor courses for grades 9-12. Courses for middle grades are in the process of being developed. In 2009, 60 of Tennessee's local education agencies (LEAs) received funds for the e4000 program to expand utilization of this online initiative; 61 percent of these districts serve students with special needs, 68 percent provide services to gifted students and 40 percent serve the ELL population. The e4TN program has expanded substantially in the last year to help meet the needs of Tennessee students. Groundbreaking ideas became realities in the form of new initiatives for e4TN, including new course development and design, online teacher pool expansion, technological infrastructure improvements, and professional development.

Texas - Texas Virtual School Network (TxVSN)

Direct State Funding/State Allotment - \$10,150,000

The Texas Virtual School Network (TxVSN) was established by the Texas Legislature to provide Texas students with equitable access to quality, supplemental online courses. The TxVSN offers a statewide catalog for high school and dual credit courses provided by eligible Texas school districts, open enrollment charter schools, education service centers, and public or private institutions of higher education. TxVSN Provider Districts submit courses for inclusion in the statewide catalog and are responsible for instruction. Each course in the catalog is reviewed for alignment to course Texas Essential Knowledge and Skills (TEKS) and the International Association for K-12 Online Learning's (iNACOL) National Standards of Quality for Online Courses. Since its inception in January 2009, the TxVSN has provided Texas high school students and schools with a valuable avenue for interactive, collaborative, instructor-led online courses taught by state certified and appropriately-credentialed teachers. The Texas Legislature created a "state virtual school allotment" used to provide funding for online courses. Districts and open-enrollment charter school participation in the TxVSN is growing rapidly each semester. All Texas districts can participate in this state-led resource.

<http://www.txvsn.org/>

Utah - Electronic High School

Direct State Funding/State Allotment

The Electronic High School (EHS), Utah's first and largest online high school, celebrated its sixteenth anniversary this past October. EHS is a public school, under the auspices of the State Office of Education and is one of the largest public online schools. Last year almost 8,000 students turned to EHS classes to make up failed classes or to move ahead toward early graduation. Students who want to take extra electives, advanced placement, or concurrent enrollment college classes can make room in their schedules by taking some required courses online with EHS. Most EHS classes require no textbooks, and one school district and one charter are already using EHS curriculum for local classes. The curriculum is tailored for Utah's Core Curriculum. Currently, along with ongoing projects to improve course material and add more classes, the EHS is looking ahead to the day students will want to access their classes from their cell phones or other portable devices.

<http://www.schools.utah.gov/ehs/>

Vermont - Vermont Virtual Learning Cooperative

EETT Competitive Grant - \$540,000

The Vermont Virtual Learning Cooperative (VTVLC) was begun as a program to offer schools flexibility in their course offerings for students. VTVLC offers a range of online courses for High School students this first year and will expand into middle school curriculum in FY10. Schools become partners, committing a teacher to facilitate online learning for the program across the state. Teachers receive comprehensive training in facilitating online courses and in exchange, schools receive seats in the system for their students. In addition, VTVLC is providing summer recovery courses and online summer school for students hoping to complete academic activities over the summer vacation. This program meets the needs of many small rural schools where it is simply not feasible to offer a wide variety of courses required to meet the interests of all students. Personalized learning and the ability for students to access learning 24/7 make this a much desired option for many students in Vermont. VTVLC will continue to develop a range of options to meet the varied interests and needs of Vermont students. <http://www.vtvlc.org>

Virginia – Hampton Roads Virtual Learning Center

EETT Formula Grant - \$60,240

Teachers and students in thirty Hampton Public Schools at all grade levels had access to professional development courses and K-12 coursework as well as a tool to facilitate communication across schools within the district through a new learning management system. Multiple goals of this program included maximizing student achievement, developing a stronger community, and creating a safe, secure, and nurturing learning environment. An online training course trained teachers to teach in an online environment, resulting in the offering of summer courses for credit recovery. Community forums were used to collaborate and share schoolwide resources that included professional development opportunities. <https://hcs.hrvlc.org/>

Virginia - Internet Safety and You

Direct State Funding - \$120,000

Internet Safety and You, a partnership between the Virginia Department of Education, Professor Garfield Foundation, Verizon Foundation, and Office of the Attorney General of Virginia, provided a website and online lessons about internet safety available to all Virginia students, teachers, and parents. The website offered narrative-based interactive lessons correlated to content standards in mathematics, language arts, science, social studies, and character education. Professional development resources provided teachers with strategies, such as using an interactive whiteboard, grouping techniques, and administrative tools for assigning lessons and monitoring student progress through the program. A longitudinal study of fourth graders showed that before taking the unit, many students had a substantial knowledge of internet safety although, a substantial number maintained risky attitudes and after completing the unit, students improved in all 10 Internet safety aspects.

West Virginia - West Virginia Virtual School

Direct State Funding - \$650,000

onTargetWV, a state-funded pilot program as part of the WV Virtual School serving all students in grades 6-12, was designed to allow students to recover credits needed for graduation and to help them develop skills and work habits for academic success. In West Virginia, more than 25,000 students failed courses in 2008-2009. To reduce the dropout rate and increase graduation rate, this program offered students engaging, interactive and differentiated courses to meet graduation requirements. In addition, WV Virtual School staff provided professional development to a select cadre of teachers in creating blended delivery courses. To help promote the efforts of this program, information on online and blended delivery best practices methods was shared via social networking sites with teachers around the state. Results for this program are pending.

http://virtualschool.k12.wv.us/vschool/view_courses.html

Appendix F - High Access, Technology-Rich Learning Environments

Alabama - Talladega County 21st Century Technology Project-Based Learning EETT Competitive Grant - \$160,000

The Talladega County 21st Century Technology Project-Based Learning initiative which originally started at Winterboro High School has expanded to Lincoln High School. This initiative implemented project-based learning with one-to-one computing in the core curriculum for all students in grades 7-12. The program funded the redesign of the school buildings to provide equitable learning opportunities for all of the students at these high poverty schools. In addition to computers for students, classrooms equipment included presentation devices, digital cameras and projectors. New servers hosted a learning management system to deliver assignments, assessments, and communications. Teachers participated in intense ongoing professional development to guide how to restructure their classroom practice with the technology tools and project-based focused. The results have shown an increase in graduation rates and motivation, which is expected to continue.

Alabama - Piedmont City 21st Century Technology Project-Based Learning EETT Competitive Grant - \$160,000

The Alabama21 program in rural Piedmont City Schools, transformed 7-12 grade classrooms from traditional teacher-led, lecture models into 21st Century collaborative learning environments. The program increased the student-to-computer ratio to 3:1, added projectors and digital cameras, and developed an intensive professional development program for teachers and administrators. All certified staff members at Piedmont High School completed a of 100 hour professional development program which included on-site coursework and online training resources. This program increased graduation rates and increased the number of graduates that plan to attend college.

Alaska - Consortium for Digital Learning Direct State Funding - \$7,500,000

The Association of Alaska School Boards' Consortium for Digital Learning initiative (AASB-CDL) was launched to further expand the school board's efforts to improve statewide student achievement. The program provided each student with a laptop with wireless capability, enabling communication and collaboration among peers and teachers, extending the learning day, and more closely connecting parents to the educational process. State funds supported 18 school district projects, providing two-thirds of the initial costs, including initial technology hardware, ongoing staff training, and technical assistance over the four-year project. As a result of one-to-one learning, district testimonials included an increase in student engagement, a decrease in behavioral issues and improvement in student writing. [http://web.mac.com/aasb.cdl/Consortium for Digital Learning/Home Page.html](http://web.mac.com/aasb.cdl/Consortium%20for%20Digital%20Learning/Home_Page.html)

Connecticut - Moving Beyond the Textbook: Digital Content in a 21st Century Middle School Environment EETT Competitive Grant - \$139,961

The Moving Beyond the Textbook: Digital Content in a 21st Century Middle School Environment program transformed classroom instruction in two rural middle schools. Teachers and students used a variety of technology tools, such as personal media devices, cell phones, interactive whiteboards, laptops, digital cameras, and videoconferencing to restructure classrooms to project-based learning. Teachers learned to facilitate the learning, and to use data in planning and developing teaching strategies. Laptops enabled both teachers and students to connect to a wealth of content and communicate it with each other. Teachers received professional development and support through

professional learning communities, mentoring, and training. Project-based learning and interdisciplinary strategies provided students with a well-rounded concepts where discovery, participation and interaction were encouraged. This program started in September of 2010, although it is too early to provide feedback on student achievement the technologies and professional development has created a level of excitement and collaboration that is encouraging.

Delaware - eMINTS Fairview Elementary
EETT Competitive Grant - \$349,758

Fairview Elementary school implemented the established eMINTS program, which focuses on high levels of technology for students and teachers including a two-to-one student-computer ratio. This implementation of the eMINTS program included 90 - 200 contact hours of professional development training and a strong program evaluation and research component for participating teachers. Through the use of a trained mentor and coach, eMINTS included professional development in inquiry-based teaching, teaching of higher order thinking skills, cooperative learning skills, and constructivist learning. This unique blend of technology, training, and teaching practices raised student achievement and improved teacher pedagogy through best-practice instruction and integration of technology. After one year of eMINTS participation, class scores increased in writing anywhere from 3 percent to 39 percent in grades two through four. Teacher growth in integration of technology has varied.

<http://fvemintsteam.weebly.com/>

Delaware - eMINTS Kuumba Academy
EETT Competitive Grant - \$425,873

Kuumba Academy (K-5) implemented the research based, eMINTS program, which includes high levels of technology integration for students and teachers including a two-to-one student-computer ratio. Teachers participated in 90 - 200 contact hours of professional development training. Through the use of an in-house mentor and coach, eMINTS professional development includes instruction in inquiry-based teaching, higher order thinking skills for students, cooperative learning, constructivist learning, and teacher technology skills. As a result of the implementation, students showed an increase of up to 23 percent in math scores across all four strands of their standardized assessment and 80 percent of parents participated in technology literacy and awareness sessions.

<http://www.emints.org/about/participants/delaware.shtml/delaware.shtml>

Georgia - Increasing Student Achievement with Digital Resources
EETT Competitive Grant - \$3,918,548

Georgia awarded the Increasing Student Achievement with Digital Resources grant to 14 Georgia LEAs to provide new technology, digital resources, and a technology integration specialist to support the implementation of the Georgia Performance Standards mathematics curriculum. Each awarded LEA selected a middle school and high school (for a total of 28 participating schools) that had a vertical alignment in the mathematics grade feeder pattern so that the selected middle school had the greatest number of eighth grade students that fed into the ninth grade mathematics classes in the selected high school. Each grant school utilized technology tools and digital learning resources to enable formative assessment that informed differentiation in teaching and learning in a minimum of four mathematics classrooms at the sixth, seventh, and eighth grade level and a minimum of five mathematics classrooms at the ninth grade level. Each designated mathematics classroom was equipped with a mounted video projector, portable wireless interactive device, e.g., Slate, Airliner, etc., student response system, and a minimum of 15 computing devices – with the provision that the devices will be

shared to establish as close to a two-to-one computing environment as possible. In addition to purchasing digital resources and equipment, grantees participated in professional development with the goal of improving student achievement in sixth to ninth grade math courses. The results, as measured by percent gain in standardized math test scores, showed that sixth grade participants in the program had a 12 percent gain in math CRCT scores over the grant period as compared to a state gain of 10 percent; seventh grade participants showed even greater growth with a 14 percent gain over the grant period as compared to a state growth of 10 percent. Eighth grade and ninth grade participants' performance also exceeded that of the state. <http://public.doe.k12.ga.us/it.aspx?PageReq=ITTitleID09>

Illinois - Pontiac Township High School

EETT Formula Grant – \$111,084

Pontiac Township had not made Adequate Yearly Progress (AYP) in Mathematics for 3 years. Based on this data, their competitive proposal detailed a fundamental changed plan on instructional delivery of Algebra. The new plan gave teachers the ability to move from direct instruction to a one-to-one program which engaged students to become more involved with their own learning through differential guidance from the teacher. This one-to-one program enabled all Algebraic students to increase mathematics achievement, improve communications skills and improve technology literacy. This initiative also allowed all Algebraic students to experience fundamentally different approaches to Algebra. Students used various media and through a variety of formats encountered various technologies throughout instructional integration. <http://www.pontiac.k12.il.us/index.html>

Indiana - Learning Technologies Cadre 3 Competitive Grant

EETT Competitive Grant - \$141,140

Attica Elementary School established a 21st Century Learning Lab equipped with a laptop cart, projector, wireless interactive tablets, student response systems, a document camera, and sound system. The Learning Lab enabled teachers to utilize interactive instruction for daily lessons as well as research projects, writing projects, presentations, science demonstrations, experiments, and math activities. Teachers participated in 29 hours of professional development activities throughout the school year, with topics such as learning with technology, developing data-driven decision making, and reading in the content area. Achievement data is not yet available.

Kansas - Prosperity Elementary, Buhler USD 313 Kansas Technology-Rich Classroom Grant

EETT Competitive Grant - \$100,000

Over the past year, sixth grade classrooms at Prosperity Elementary School transformed into Technology Rich Classrooms (TRC). Students engaged daily in standards-based instruction that was empowered through technology provided through the grant including student computers and interactive whiteboards. With support of a TRC Facilitator, teachers leveraged project-based learning in order to teach students. One of the real-world projects students engaged in was related to a busy city intersection at 43rd and Plum. The project incorporated community and school safety, civic mindedness, science, and math. Students became concerned after an accident involving one of their classmates at the intersection. The city manager and city engineer came to the school to talk to the students about how the city determines if an intersection needs a stoplight. Students used the city traffic counters to count cars that passed through the intersection during peak and non-peak hours of the day. Students used the data to make graphs and charts to determine if a stoplight was needed at the intersection. They analyzed the data, surveyed parents at the Technology Fair, and made

suggestions to the City Counsel on keeping the intersection safe. Parents and patrons were excited about the student learning and engagement.

Maine - Maine Learning Technology Initiative Direct State Funding - \$19,000,000

The Maine Learning Technology Initiative (MLTI) is a state funded program that also receives EETT funds in specific areas for professional development. MLTI provides one-to-one laptop computers to all middle school students, teachers, and administrators, 45 percent of high school students as well as providing professional development for teachers. The state offers professional development in the form of weekly webinars, school site visits, regional workshops, and podcasts (iTunes U). The program adheres to two professional development models that support teachers with curricular design, instructional practices, and assessment: Substitution Augmentation Modification Redefinition (SAMR) and Technological Pedagogical Content Knowledge (TPACK). MLTI employs a team of eight technology integration specialists and seven regional trainers provided by the MLTI EETT competitive grants. Research has indicated increased student achievement and engagement, and increased teacher use of the technology tools. <http://maine.gov/mlti/index.shtml>

Michigan - Student Centered, 21st Century Learning Environments EETT Competitive Grant - \$3,613,619

The Student Centered, 21st Century Learning Environments program funded evidence-based, innovative models of studentcentered learning which included instructional strategies focused on the student's needs, abilities, interests, and learning styles with the teacher as a facilitator of learning in a variety of LEAs across the state. These 21st century learning environments incorporated concepts of Universal Design for Learning (UDL) and the effective use of mobile and one-to-one computing technology. In addition, the program focused on dropout prevention and reengagement initiatives that utilized digital environments to enable project-based learning, non traditional instructional methods and cyber learning, aimed at engaging student who have dropped out or who are at-risk of dropping out of high school.

Missouri - Enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS) EETT Competitive Grant - \$494,000

The enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS) Program, which has a presence in eleven states and New South Wales, Australia, served an additional 150 Missouri teachers in twelve schools in ten districts. eMINTS professional development was provided through interactive group sessions and in-classroom coaching/mentoring to help teachers integrate technology into their teaching using an instructional model that promoted inquiry-based learning, supported high quality lesson design, built community among students and teachers and created technology-rich learning environments. eMINTS taught teachers to implement strategies in their classrooms that created effective student-centered, technology-rich classrooms which include a two-to-one student-computer ratio. Since its inception in 1999, program evaluation has indicated that students in eMINTS classrooms consistently outscore their peers in non-eMINTS classrooms in statewide assessments of language arts and mathematics in grades 4-8 in Missouri, Utah and Delaware implementations. Teachers completing eMINTS professional development showed mastery of ISTE's NETS-T standards on electronic portfolios. <http://www.emints.org>

Missouri - Project eASE (eMINTS: All Students Engaged)

EETT Competitive Grant - \$355,155

This eMINTS project expanded the researched-based eMINTS program from the middle school to the high school in the Gasconade County R-I school district providing extensive professional development training and a two-to-one student-computer ratio. Teachers participated in NETS-aligned eMINTS training, which included a minimum of 75 hours of professional development. Teachers collaborated within and across the content areas to develop lessons that focused on higher-level thinking supported with educational technologies. Teachers increased use of research-based instructional strategies and technology integration throughout the curriculum with a particular focus on communication arts. Instructional Practices Inventory observations showed increases in instruction, technology integration, and technology literacy frequency and proficiency, with time spent on higher-level thinking increasing from 17 percent to 24 percent. Surveys found significant increases in student technology use and literacy. A rigorous end-of-course writing assessment demonstrated high performance levels with no students scoring below basic and 80 percent of students were at/above proficiency.

<http://www.hermann.k12.mo.us/Dann%20Maribeth/emints.html>

New Mexico - OTLO/BeBold

EETT Competitive Grant - \$250,000

The OTLO/BeBold Program in the Deming Municipal School District implemented online course offerings, all aligned with content standards and benchmarks, to its 500 students. The offering of blended and online courses provided students new ways of obtaining graduation credits, practicing skills, reviewing content for standardized testing, working with out-of-district teachers, and receiving differentiated instruction that may better meet a student's needs and learning style. Multiple benefits of adopting the BeBold program include a positive impact on lesson planning, increased use of video conferencing tools, and an expected increase of student scores.

New Mexico - Giga

EETT Competitive Grant - \$150,000

Gadsden Independent School District's middle school adopted various mathematical software programs for intervention, remediation, differentiation, and exploration, along with purchasing laptops and interactive whiteboards, to help students develop 21st century life and career skills by providing opportunities for collaborative work, facilitating communication through in-depth classroom discussions, and interacting with mathematical concepts using critical thinking and problem-solving skills. During Saturday and summer workshops, teachers gathered to plan, collaborate, and familiarize themselves with technology and software. Teachers met weekly to collaborate on the use of technology in their classrooms and used peer observation to increase their understanding of how to best use technology with their students. Classrooms using technology showed an increase in student engagement, and students were more excited about learning math and willing to participate in lessons.

North Carolina - IMPACT III

EETT Competitive Grant - \$3,843,185.73

As an extension of the researched based IMPACT program initiated in the 2006-2007 school year, the IMPACT III program served 7,340 students in fifteen K-12 schools in Asheville City, Scotland, and Pamlico Counties. IMPACT III was started in the 09-10 school year as a multi-year effort to provide extensive training to teachers and administrators followed by the adoption of technology tools,

including desktop and laptop computers. As a part of the IMPACT III program, one-to-one programs were initiated the 2 high schools. Results are still pending.

<http://www.ncwiseowl.org/Impact/TOC.htm#RandE>

North Carolina - IMPACT IV

EETT Competitive Grant - \$3,843,185.73

The IMPACT IV program, built on the lessons learned from the one-to-one, research-based IMPACT program, included 13 schools in the school districts of Thomasville, Asheboro, Kannapolis, and Northeast Consortium. The program focused on professional development. Heralding collaboration and leadership, the IMPACT IV guidelines for technology integration required the use of technology with the goal of improved student achievement. Teams, including the school administrators, teachers, technology facilitators, media coordinators, and the central office administrators, supported one another in the effort of to create a 21st century learning environment in which student learning is the focus. Teachers guided the decision-making process, creating more collaborative-environments and greater buy-in to the program. IMPACT IV students have shown an increase in math performance when matched to a comparison group and there is an increase in teacher retention up to 65 percent for IMPACT schools. http://it.ncwiseowl.org/resources/i_m_p_a_c_t/

Oklahoma - One to One Initiative

EETT Competitive Grant - \$63,748.13

A one-to-one initiative coupled with curriculum development and software use helped students extend their classroom walls and apply academic learning to realistic problems in one middle school located in rural, isolated Cherokee County. Students had access to laptops 24/7 and engaged in projects using digital movie making, online databases, wikis, and blogs. Allowing students to experience the world beyond this small town, through the use of technology, increased student motivation. Teachers participated in ongoing professional development, including monthly technology retreats on Saturdays and a professional learning community. Topics for teacher training included digital storytelling, Web 2.0 tools, and tools for online collaboration and communication. Student academic performance, as measured by state-mandated assessments improved as did their technology literacy, as measured through the 21st Century Skills Assessment. Behavioral problems decreased and attendance increased for the targeted group in this initiative.

Pennsylvania – Riverside School District High Access

EETT Competitive Grant - \$91,000

In the Riverside school district, fifteen teachers and just over 450 students in grades fifth through eighth participated in the statewide model of the Classrooms for the Future (CFF) program, transforming their reading/language arts and math classrooms into exciting, rigorous, and technologically equipped learning environments. The program provided high access to computers for students, and classroom technology tools, professional development, and daily support and resources so that teachers focused on curricular standards and technology integration to change their classroom. The professional development initiatives included interactive white board and laptop training, Standards Align System (SAS) training for accessing digital materials and resources, curriculum mapping, and professional learning communities training within SAS. Formal student achievement data is not yet available; however, increased student academic engagement was evident as a result of the project. Also the results of the 21st Century Learning skills assessment of teachers (aligned with 2007

NETS T) showed that 16 of 17 teachers tested proficient or above.

http://www.portal.state.pa.us/portal/server.pt/community/classrooms_for_the_future/8911

South Carolina - Delivering Relevant Education and Achieving More (Dream)

EETT Competitive Grant - \$15,0000

The Delivering Relevant Education and Achieving More (DREAM) Project from Marion 7 set out to improve middle school students' ability to access information and be more engaged in learning, leading to greater achievement in English language arts and mathematics by offering training to teachers, parents, and students and implementing one-to-one laptop access to all eighth grade students. The students showed the greatest improvement in technology pre and post assessment scores, which increased an average of 38.7 points with the average post assessment score of 84.5. In addition, teachers involved in the program performed at the mastery level in technology proficiency as measured by the state developed ePortfolio.

<http://www.marion7.k12.sc.us/education/district/district.php?sectionid=1>

South Carolina - Tie It All Together Project

EETT Competitive Grant - \$255,000

As part of a one-to-one laptop initiative, the Tie It All Together project focused on professional development and collaboration as means of increasing student achievement and improving classroom teaching for twelve middle schools in rural Sumter County School District. Teachers participated in a graduate-level course, receiving instruction in the integration of wikis, blogs, podcasts, video editing, portfolios, internet safety, and interactive whiteboards. The program also provided a technology coach to work with teachers, students, and pre-service teachers. Teachers integrated technology into the core curriculum and changed teaching and learning. Results indicate standardized math test results improved for eighth grade students. The students showed a significant increase between pre and post technology assessments with an average preassessment score of 52.8 and the average post assessment score was 58.0. In addition, teachers performed at the mastery level in technology proficiency as measured by the state developed ePortfolio assessment. <http://sumter2.org>

South Carolina - South Carolina Department of Education and Verizon Thinkfinity Partnership Foundation or other sources - \$25,000

The South Carolina Department of Education (SCDE) has partnered with the Verizon Foundation to roll out Verizon Thinkfinity to provide 21st century learning resources for South Carolina educators and students. Thinkfinity.org seeks to improve student achievement in traditional classroom settings and beyond by providing high-quality content and extensive professional development training. Through a grant from the Verizon Foundation, Thinkfinity South Carolina is offering Verizon Thinkfinity Professional Development to educators throughout the state through the SCDE Office of eLearning's Instructional Technology Coach program. The South Carolina Department of Education is supporting the development of Field Trainers. Field Trainers are now available to be used by local districts.

<http://scde.mrooms.org/index.php?page=1394>

Texas - Eastland ISD - Vision 2020 Grant

EETT Competitive Grant - \$488,716

The Vision 2020 Grant enabled an elementary school in the Eastland Independent School District to provide continuous innovation with technology leading to improved student achievement. This was accomplished through the increased availability of technology tools, including laptops, interactive white boards, and student response systems, and focused on professional development as a means to

improving teaching and learning. Teachers attended training sessions and received support from the on-site technology coordinator as well as instruction from vendors on integrated technologies. Teachers also had access to online courses. As a result, informal reporting indicated students were more engaged and focused when interactive technologies were in use and indicated a decrease in discipline referrals. Comparisons of standardized test scores from 2008 (baseline), 2009 (program year 1), and 2010 (program year 2) revealed improvements in several areas.

http://www.tea.state.tx.us/index2.aspx?id=4843&menu_id=2147483665

Texas - Atlanta ISD-Vision 2020 Grant EETT Competitive Grant - \$500,000

Atlanta ISD's successful grant programs creates a more engaging, relevant and personalized student learning environment for grades 8 and 9 based on the six critical components of technology immersion, as identified by the Texas Technology Immersion Project: 1) students and faculty were assigned a laptop for access to available resources; 2) professional development provided teachers and campus leaders the technology skills and integration strategies for success in a one-to-one computing classroom; 3) participants were introduced to digital productivity, communication and presentation tools to promote higher-order thinking and problem solving skills; 4) educators were given online instructional resources aligned with state standards and integrated into daily lessons; 5) diagnosis and response to problem areas was made possible by assessment and reporting tools in software and by online formative assessment; and 6) ongoing technical support to students and teachers. The focus of the grant was to ensure equitable access to technology across a diverse student population. The district has reported increased student engagement and a transition to student-centered, project-based learning techniques. Standardized test results showed improved performance within one year among minority students in the areas of math and science.

http://www.tea.state.tx.us/index2.aspx?id=4843&menu_id=2147483665

Appendix G - Personalized Learning

California - Santa Clara Unified

EETT Competitive Grant - \$245,188

Santa Clara Unified School District's EETT-Competitive grant worked to increase mathematics achievement for fifth grade students who scored "below proficient" on the state standards test by using technology tools, including interactive whiteboards, student response systems, and digital content. Participating teachers received professional development in technology integration and differentiated instruction, with follow-up support from technology mentors/coaches. Positive changes were made and attributed to this program. At the beginning of the grant, 20 percent of the teachers were proficient in providing small group instruction, and by the end of the grant, 100 percent of teachers were providing small group instruction. Differentiated instruction increased from 60 percent to 100 percent of classroom time. Of the 129 Buchser Middle School student participants, 51 percent gained at least one level on the state standard test, and 77 percent improved their scaled score. Average scaled score improved 28 points in two years. At Cabrillo Middle School, 32 percent of the students gained at least one level on the state standard test, and 62 percent improved their scaled score. Average scaled score improved 18 points in two years. The impact of EETT has been sustained since the funding ended, and teachers continue to address individual student needs at higher rates than prior to EETT.

California - Rural Del Norte Unified

EETT Competitive Grant - \$144,300

Rural Del Norte Unified School District improved student achievement through technology integration with the use of mathematics software, interactive white boards and math web resources coupled with teacher professional development. The grant focused on targeted groups of students in grades 4-8 grade that had fallen below the state proficiency in mathematics by five to twelve percentage points. Teachers received professional development in analyzing student assessment data and using technology tools. Academic achievement was measured and compared for students using the mathematics software more than 15 hours and those using it less. Average scores for the treatment group increased one proficiency level, while average scores for the control group decreased.

Connecticut - Bio 21: 21st Century Biology Education

EETT Competitive Grant - \$139,968

The New Haven Public Schools, in collaboration with The Center for 21st Century Skills @ EDUCATION CONNECTION, implemented the Connecticut Career Choices "Bio21" biology course at Wilbur Cross High School as a means of providing students with cutting-edge technology and 21st Century skills and assisting teachers in the use of technology to achieve more effective instruction. Bio21 is a lab-intensive science course that covers the most exciting fundamentals of life science and Biotechnology. Students gained techniques and knowledge that helped prepare them for careers in medicine, microbiology, molecular biology, forensics, and public health. The project trained teachers to use 21st Century learning management systems to help individualize instruction. In addition, the project positively impacted school administrators by increasing their familiarity with classroom observations of blended learning pedagogy and online standardized assessments. <http://ctconline.org/assessments>.

<http://ctconline.org/>

District of Columbia - Friendship Public Charter Schools

EETT Competitive Grant - \$36,6191.18

Friendship Public Charter Schools organization, serving almost 8000 students in six schools in Washington, D.C. used grant funding for student computers and supporting software in each classroom to facilitate small group instruction to accommodate the varying learning abilities and styles of students. Classroom computers for students provided individual access to online interventions to assist struggling students. The program included professional development for teachers. Friendship focused on providing instruction through different methods, particularly through multimedia experiences and project-based learning.

<http://www.friendshipschools.org/RelId/33637/ISvars/default/Home.htm>

District of Columbia - Online College and Career Prep (OCCP) Reform Program

EETT Competitive Grant - \$684,474.56

The Online College and Career Prep (OCCP) reform program used technology to engage high school students in two urban high schools in meeting challenging academic standards that can help result in post-secondary success and meet individual student needs. Classrooms were reformed to improve student achievement through a three core approach: online credit recovery and Advanced Placement (AP) courses, research-proven instructional strategies that involve the Teaching and Learning Framework (T&LF) including technology integration, and improved access in each school's library media center to resources supporting online instruction. Teachers were involved in ongoing professional development, and even had the opportunity to participate in the students' online courses as a means of improving their pedagogy. The outcomes are still being assessed.

Illinois - Pontiac Township High School

EETT Formula Grant – \$111,084

Pontiac Township had not made Adequate Yearly Progress (AYP) in Mathematics for 3 years. Based on this data, their competitive proposal detailed a fundamental changed plan on instructional delivery of Algebra. The new plan gave teachers the ability to move from direct instruction to a one-to-one program which engaged students to become more involved with their own learning through differential guidance from the teacher. This one-to-one program enabled all Algebraic students to increase mathematics achievement, improve communications skills and improve technology literacy. This initiative also allowed all Algebraic students to experience fundamentally different approaches to Algebra. Students used various media and through a variety of formats encountered various technologies throughout instructional integration. <http://www.pontiac.k12.il.us/index.html>

Iowa - Do the Math: Enhancing Math Instruction through Technology

EETT Competitive Grant – \$91,965.11

The Do the Math: Enhancing Math Instruction through Technology Program included both technology adoption and professional development in twenty-two elementary schools in Davenport Community Schools in an effort to provide a delivery system for math intervention for individual students identified by teachers as at-risk of academic failure. The three years of the project phased in interactive whiteboard technology and teacher software support for the "Do the Math" intervention approach across three grade levels, starting with fifth grade as a way to assist in transitioning students to the secondary level. Professional development included data analysis, goal setting, curriculum development, skills training, study of implementation and feedback to inform practice. Program

implementation is meant to impact both teacher effectiveness and student achievement and achievement results are still pending. <http://www.davenportschools.org/showcase.asp>

Massachusetts - Online Writing Assistance for All Other Federal Funds – \$400,000

The MassONE Writer Program or Online Writing Assistance for All was a federally funded program, from the U. S. Department of Education’s Office of Special Education and Rehabilitative Services, offering middle school students and their teachers with an online tool to improve students’ writing in five middle schools in the Springfield, Taunton, and Everett school districts. Students were able to access assistance, models, checklists, and writing strategies with the help of animated characters. The tool also supported collaborative writing by allowing groups of peers to read and comment on each others' work. To support the teachers, the MassONE Writer Program included progress monitoring tools and easy-to-use assessment tools to determine appropriate instructional interventions. The MassONE Writer was used with nearly 300 students and 16 teachers over a three-year period. Teachers most often cited the step-by-step nature of the tool and the supports it provided, which allowed students to work more independently than ever before. The comparison of pre- and post-study scores demonstrated significant gains.

<http://www.cast.org/research/projects/MassOne.html>

New York – Student Centered Active Learning Environments EETT Competitive Grant - \$700,000

In Rochester City middle and high schools, the EETT-SCALE (Student Centered Active Learning Environments) program helped to create model classrooms through high-quality, sustained teacher training and the integration of technology. Teachers learned to adapt their instructional delivery so that technology became a natural pedagogical component. As well, Student-Centered Active Learning Environments were constructed as teachers gained knowledge in both hardware and software. The Model Classroom Training and equipment deployment included teachers in grades 5-9, special education and ELL. Professional development included instruction in student portals, e-curriculum delivery, creation of teacher web pages, differentiated electronic learning opportunities, formative electronic assessment tools, and use of interactive technology to personalize instruction based on student needs. Model Classroom teachers were supported by Instructional Technology Lead Teachers. Based on the evaluation by the New York Institute for Educational Excellence, teachers equipped with and trained in the use of technology have significant impact on student achievement, particularly at the middle school level.

Nebraska - Smart Cats EETT Competitive Grant – \$60,283

The Smart Cats program brought together two rural school districts in an effort to to integrate technology and to expand the language arts and mathematics curriculum to meet the individual needs of diverse learners in grades three through twelve. The program implemented four main strategies: to create student-centered digital projects aligned with state standards and the framework for 21st Century learning; to provide professional development in curriculum writing and technology integration; to integrate the use of interactive whiteboards and response systems; and to utilize technology to promote parent and family involvement.

Ohio- Personalize Instruction with Web-Based Assessment Tools

EETT Competitive Grant – \$128,000

Summit Academy used EETT grant funding to provide web-based tools for assessment and communication to help personalize instruction. Summit Academy is an urban, charter middle school specializing in working with students with high functioning autism, ADHD, Asperger's Disorder, and other related learning disorders. Teachers were trained in the use of hardware and software to integrate the technology with the instructional goals. With the correlation of the Learning Management System and the growth assessment software, teachers improved their instructional strategies to better meet the needs of students. An analysis of standardized testing indicated that two years of technology integration into the curriculum and changed teaching practices resulted in a statistically significant difference. Achievement gains were made in both reading and math, with an average 9.95 net gain in reading and 9.80 in math. <http://summitacademies.com/index.php>

Oklahoma - BC tech Project

EETT Competitive Grant – \$52,700

The BC Tech Project, in Boise City School District, a high-minority and sparsely populated school district, focused on instruction and individual student learning by adopting new technologies and effectively integrating into the curriculum in both a middle and high school. In this program, three key educational principles were adopted by the district: to focus on presenting information in multiple formats, to offer students multiple ways to demonstrate learning, and to provide multiple entry points to engage student interest and motivate learning. New technologies allowed for flexibility and individualized opportunities to improve student learning. Teachers received professional development in new learning strategies. As a result, survey and interview data revealed positive changes, and analysis of pre-tests of ninth-grade Algebra I students indicated that participating students scored significantly higher than peers from previous year.

Appendix H - College and Career Readiness Initiatives

Alabama - ACCESS Distance Learning

Direct State Funding - \$18,500,000

The Alabama Connecting Classrooms, Educators, and Students Statewide (ACCESS) distance learning program has served students in grades 6-12 statewide by delivering instruction via the Web and interactive videoconferencing. State funds provided each state high school with a distance-learning lab, which included tablets, videoconferencing equipment, an interactive whiteboard, and other technologies in support of the program. 101 unique courses are available, including 11 AP courses, all taught by teachers specifically trained for the program. Over 560 teachers were trained and are currently teaching for ACCESS. In 2009, ACCESS provided 26,197 student enrollments in courses needed to meet graduation requirements and 6,059 additional enrollments in non-credit remediation modules for the state high school graduation exam. In 2007, the average freshman graduation rate was 67 percent, up from 62 percent in 2002. Ongoing evaluation indicates continued positive success rates. <http://accessdl.state.al.us/>

Alabama - Piedmont City 21st Century Technology Project-Based Learning

EETT Competitive Grant - \$160,000

The Alabama21 program in rural Piedmont City Schools, transformed 7-12 grade classrooms from traditional teacher-led, lecture models into 21st Century collaborative learning environments. The program increased the student-to-computer ratio to 3:1, added projectors and digital cameras, and developed an intensive professional development program for teachers and administrators. All certified staff members at Piedmont High School completed a of 100 hour professional development program which included on-site coursework and online training resources. This program increased graduation rates and increased the number of graduates that plan to attend college.

Alaska - Consortium for Digital Learning

Direct State Funding - \$7,500,000

The Association of Alaska School Boards' Consortium for Digital Learning initiative (AASB-CDL) was launched to further expand the school board's efforts to improve statewide student achievement. The program provided each student with a laptop with wireless capability, enabling communication and collaboration among peers and teachers, extending the learning day, and more closely connecting parents to the educational process. State funds supported 18 school district projects, providing two-thirds of the initial costs, including initial technology hardware, ongoing staff training, and technical assistance over the four-year project. As a result of one-to-one learning, district testimonials included an increase in student engagement, a decrease in behavioral issues and improvement in student writing. http://web.mac.com/aasb.cdl/Consortium_for_Digital_Learning/Home_Page.html

Alaska –The Alaska Career Ready Initiative

Direct State Funding - Statewide Program

The Alaska Career Ready Initiative is a joint initiative between the Alaska Department of Labor and the Department of Education and Early Development. The purpose of the initiative is to ensure Alaska students and citizens are well prepared for the workforce. The initiative uses a national assessment, WorkKeys, to assess 11th graders on applied work-related academic skills that employers determined as necessary for successful employment. The state of Alaska provides web-based courseware with skill-building lessons in the nine WorkKeys subject areas, plus additional lessons in career exploration and employability skills. Alaska students will take assessments in the three areas of Applied Mathematics,

Locating Information, and Reading for Information. The EETT competitive grant program included a component to provide training to teachers on the web-based coursework in Applied Mathematics, Reading for Information and Locating Information. Teachers from each grant were selected to pilot at least one of these formative web-based assessments with their students.

Arkansas - Tech Caps for Kids EETT Competitive Grant - \$233,541

Tech Camp for Kids program in fourteen districts in the Southeast Arkansas Education Service Cooperative worked to create an innovative technology learning environment for facilitators/teachers and students using video production tools to produce real world learning scenarios products. A team of teachers and high school students received training in video equipment and video production. This team then conducted a technology camp for a minimum of thirty students in their local district utilizing video production technology and project problem-based learning culminating in a community showcase. Training utilized high quality movie industry equipment by trainers who have worked in the industry, and professional development focused on creative camera techniques, lighting and sound, and video editing all aligned to ISTE/NETS standards. A project administrator conducted pre and post tests specific to the technology skills used during the video production training. Facilitators, teachers, and the students attending the camps achieved significant gains in technology skills, helping to prepare them both for higher education and potential careers in video production.

Arkansas - EAST (Environmental and Spatial Technology) Direct State Funding - \$1,800,000

The Environmental and Spatial Technology (EAST) Program blended community service mindedness and project-based learning with integrated technology into a student-centered environment that resulted in specific, 'real' service projects conceived, developed and delivered by student teams in grades two through twelve across the state in over 200 schools. The purpose of the state-funded program was to provide students with an opportunity to develop their curricular skills, interests and 21st century skill needs in a real world setting. Working in teams provided students a greater opportunity for collaborative and discovery learning by using service projects and sophisticated technology as the incentive to drive curricular learning. Professional development for EAST facilitators was a blended approach of facilitated cooperative learning, experiential learning, and instruction in aligning 21st century skills, project management, and technology integrated learning into a project-based environment. Studies showed significant achievement and attainment in learning outcomes, STEM development, college and career readiness, and 21st century skills tied to this program.

<http://www.eastproject.org>

Connecticut - Bio 21: 21st Century Biology Education EETT Competitive Grant - \$139,968

The New Haven Public Schools, in collaboration with The Center for 21st Century Skills @ EDUCATION CONNECTION, implemented the Connecticut Career Choices “Bio21” biology course at Wilbur Cross High School as a means of providing students with cutting-edge technology and 21st century skills, as well as assisting teachers in the use of technology to achieve more effective instruction in science. Bio21 is a lab-intensive science course that covers the most exciting fundamentals of life science and biotechnology. Students gained techniques and knowledge that helped prepare them for careers in medicine, microbiology, molecular biology, forensics, and public health. The project trained teachers to use 21st century learning management systems. In addition, the project positively impacted school

administrators by increasing their familiarity with classroom observations of blended learning pedagogy and online standardized assessments. <http://ctcconline.org/>

Connecticut - E-Commerce

Other Federal Funds - \$35,000

Offered in fourteen high schools across the state, the E-Commerce Entrepreneurship (ECE) course in the Connecticut Career Choices (CCC) Program, funded by Carl D. Perkins, prepared students for success in 21st Century careers through participation in the E-Business Challenge, a project-based assignment aligned with state standards that engaged students in a collaborative, real world learning environment. During the two-semester course, students first developed an individual e-business and then joined with classmates to form an entrepreneurial team of departments specializing in product development, financial analysis, marketing, and website development. Teachers learned to support these students through developing the standards-aligned curriculum, which included web-based resources such as podcasts, video, and text, and assignments such as journal writing, blogging, inter-district discussions, discussion forums, and an ePortfolio tool that allowed them to capture evidence of skills and artifacts developed during the program.

District of Columbia - Online College and Career Prep (OCCP) Reform Program

EETT Competitive Grant - \$68,4474.56

The Online College and Career Prep (OCCP) reform program used technology to engage high school students in two urban high schools in meeting challenging academic standards that drives toward postsecondary success. Classrooms were reformed to improve student achievement through a three core approach: online credit recovery and Advanced Placement (AP) courses, research-proven instructional strategies that involve the Teaching and Learning Framework (T&LF) including technology integration, and improved access in each school's library media center to support online instruction. Teachers were involved in ongoing professional development and even had the opportunity to participate in the students' online courses as a means of improving their pedagogy. The outcomes are still being assessed.

Florida - Charting Okeechobee's Course for the Digital STEM Classroom

EETT Competitive Grant - \$749,246.4

In the rural county of Okeechobee, the Charting Okeechobee's Course for the Digital STEM Classroom program recognized the lack of exposure students had to jobs and industries that required STEM skill; therefore, the program provided students strategies and resources in the areas of science and mathematics to present not only potential career options but also exciting, engaging curriculum for all K-12 students. The program goals were to increase student achievement by improving instruction and technology integration. Extended day opportunities focusing on STEM areas were offered to further engage students. The program also provided teachers with professional development opportunities to create a support system for teachers and students to enhance their opportunities within the school system. <https://sites.google.com/site/chobeecoachescorner/>

Idaho - Classroom of 21st Century-Googing's School District

EETT Competitive Grant - \$50,000

The Classroom of 21st Century project in rural Gooding's school district provided the targeted schools with interactive white boards, display projectors, Apple iPod Touches, and a professional learning community for teachers. Ongoing professional development was provided to teachers which was also supported by Title II-A funds. The district built a culture of inquiry by regularly sharing best practices

through a variety of delivery systems, all of which focused on modeling and mentoring and continued professional development. This multi-year grant is currently still in progress and, therefore, has not produced sufficient evaluative data to report findings, conclusions and recommendations.

Illinois - Illinois Virtual School

Direct State Funding - \$1,250,000

The Illinois Virtual School (IVS) recently received state funds to create and expand many initiatives of the virtual school, including the creation of a statewide Learning Object Repository (LOR) for housing online content, the expansion of middle school courses, and the expansion of professional development opportunities through the partnership of state and regional professional development organizations. In addition, IVS is due to receive federal funds to build a self-paced credit recovery refreshing all IVS courses. Currently, IVS supplements state schools with online, instructor-led courses for grades 5-12. There are 131 courses including AP, electives and Middle School courses in Business and Economics, Career Planning, Computer Science and Information, Fine Arts, Language Arts, Mathematics, Science, Social Studies, Study Skills.

<http://ilvirtual.org/>

Kentucky - Kentucky Virtual Schools

Direct State Funding

The Kentucky Virtual High School (KVHS) was founded in 2000 to provide equity of access to high quality curriculum to all Kentucky students and has seen growth to include robust learning opportunities for adults and teachers through additional state funding. More than 7,000 educators have taken online professional development courses in the past nine years. Today the Kentucky Virtual Schools are composed of the Kentucky Virtual School providing P-12 services and e-Learning Kentucky (ELK) providing services to adults. Online Professional development provided through eLearning Kentucky (ELK) is high quality, media-rich, facilitated, and interactive. Courses reflect the needs of Kentucky teachers/administrators and range from technology integration to training for School Based Decision Making council members. In addition online professional learning communities are being provided to over 3,000 educators. Recent research from a federal Ready to Teach grant indicates that Kentucky educators like online professional development and would readily refer courses to colleagues. They also report after having participated in online professional development to using technology more with their students and their students being more engaged. <http://www.kvhs.org>

Louisiana - Connected Tech 2009-10

EETT Competitive Grant - \$100,000

In Franklin Parish, a rural school district, the Connected Tech 2009-10 award worked to improve high school mathematics skills and integrate 21st Century skills through focused professional development, acquisition of technology tools including graphing calculators, computers with calculator software, and classroom management software. Teachers worked in collaboration with University of Louisiana in Monroe faculty for training and established an online community for communication and sharing of lesson plans. The December 2009 and spring 2010 combined Algebra I End of Course Test resulted in a 7 percent positive gain. <http://fpsb.us/index.html>

Louisiana - Algebra I Online

Direct State Funding - \$280,000

The Algebra I Online Project provided students, particularly rural and urban students without access to fully certified teachers, with a certified Algebra I instructor and a high-quality Algebra I curriculum in a

web-based format. In addition, districts desiring to provide certified teachers access to pedagogy training and mentoring in order to build capacity for strong mathematics instruction also participated. Throughout this project, the in-class teacher engaged in face-to-face and online professional development opportunities designed to 1) assist with the facilitation of the in-class Algebra I learning activities of the students, 2) build capacity for strong mathematics instruction, and 3) support the teacher's efforts towards secondary mathematics certification. During the history of the program (2002-09), 14 percent of the participating teachers extended their areas of certification. Students performed better than the state average on end-of-course testing. In 2009, a majority (58 percent) of the students scored in the excellent and good range in the Algebra I Online course, compared to the state average (39 percent). Students noted that they enjoyed using technology to learn math, working with other students, and participating in a new experience.

<http://www.louisianavirtualschool.net/algebra.xml>

Maine - Maine Learning Technology Initiative Regional Trainer/Mentor EETT Competitive Grant - \$90,000

The Maine Learning Technology Initiative Regional Trainer/Mentor program assigned a regional trainer/mentor to provide support across grade levels and content areas to state teachers supporting state goals, including increasing college and career readiness, implementing Universal Design for Learning principles, and encouraging project-based work. The trainer/mentors supported and facilitated professional communities in eligible schools through face-to-face training sessions as well as online learning environments. <http://www.maine.gov/education/nclb/tiid/compgrant/index.html>

Maine - Maine Learning Technology Initiative Direct State Funding - \$19,000,000

The Maine Learning Technology Initiative (MLTI) is a state funded program that also receives EETT funds in specific areas for professional development. MLTI provides one-to-one laptop computers to all middle school students, teachers, and administrators, 45 percent of high school students as well as providing professional development for teachers. The state offers professional development in the form of weekly webinars, school site visits, regional workshops, and podcasts (iTunes U). The program adheres to two professional development models that support teachers with curricular design, instructional practices, and assessment: Substitution Augmentation Modification Redefinition (SAMR) and Technological Pedagogical Content Knowledge (TPACK). MLTI employs a team of eight technology integration specialists and seven regional trainers provided by the MLTI EETT competitive grants. Research has indicated increased student achievement and engagement, and increased teacher use of the technology tools. <http://maine.gov/mlti/index.shtml>

Michigan - Seat Time Waiver Program State Funding - \$18,000,000

In 2007, Superintendent of Public Instruction Michael Flanagan initiated the Seat Time Waivers (STW) program as a means of stimulating instructional innovation in Michigan public schools, which is funded through per-pupil state funds. The goal of the initiative is to develop innovative, proficiency-based models in public schools for assisting students in completing Michigan Merit Curriculum requirements and graduating college and career-ready. The program seeks to challenge the traditional model of rewarding schools for non-academic measures (i.e. seat time) by providing flexibility to help all students succeed. This flexibility has been provided primarily through online learning models of delivery. To date, more than 2,500 students have enrolled. Existing Seat Time Waiver programs have

primarily focused on marginalized students, i.e., dropouts, those at-risk of dropping out, and previously un-enrolled (i.e., home school). The new computer and connectivity requirements provided consistent technology access to all students in participating districts. The STW program has the potential of facilitating major change in teaching and learning.

<http://www.michigan.gov/mde/0,1607,7-140--22360--,00.html>

Missouri - Missouri's Virtual Instructional Program (MoVIP)

Direct State Funding - \$750,000

The Missouri Virtual Instruction Program (MoVIP) was created through state legislation and received state funding as a way to offer all state students, in grades Kindergarten through twelfth, public, private, or home schooled students, an opportunity to participate in online learning either full or part-time. MoVIP offered 172 courses, with multiple start dates to accommodate student schedules. The appropriation included funds to offer free MoVIP classes to medically fragile students who are unable to attend school. Other tuition courses were made available for schools/students where there are no qualified teachers to teach the course because of teacher shortage, increased demand, or not enough students at a school to assign teachers to teach the course; for students who have schedules preventing them from taking a course when it is offered; or for students in alternative settings because of failure to achieve in regular courses and in need of additional time and/or support. MoVIP students were provided special education, counseling services and technical support. The program utilized online professional development opportunities available within the state. <http://www.movip.org/>

New Mexico - OTLO/BeBold

EETT Competitive Grant - \$250,000

The OTLO/BeBold Program in the Deming Municipal School District implemented online course offerings, all aligned with content standards and benchmarks, to its 500 students. The offering of blended and online courses provided students new ways of obtaining graduation credits, practicing skills, reviewing content for standardized testing, working with out-of-district teachers, and receiving differentiated instruction that may better meet a student's needs and learning styles. Multiple benefits of adopting the BeBold program include a positive impact on lesson planning, increased use of video conferencing tools, and an expected increase of student scores.

Texas - Atlanta ISD-Vision 2020 Grant

EETT Competitive Grant - \$500,000

Atlanta ISD's successful grant programs creates a more engaging, relevant and personalized student learning environment for grades 8 and 9 based on the six critical components of technology immersion, as identified by the Texas Technology Immersion Project: 1) students and faculty were assigned a laptop for access to available resources; 2) professional development provided teachers and campus leaders the technology skills and integration strategies for success in a one-to-one computing classroom; 3) participants were introduced to digital productivity, communication and presentation tools to promote higher-order thinking and problem solving skills; 4) educators were given online instructional resources aligned with state standards and integrated into daily lessons; 5) diagnosis and response to problem areas was made possible by assessment and reporting tools in software and by online formative assessment; and 6) ongoing technical support to students and teachers. The focus of the grant was to ensure equitable access to technology across a diverse student population. The district has reported increased student engagement and a transition to student-centered, project-based learning techniques. Standardized test results showed improved performance within one year

among minority students in the areas of math and science.

http://www.tea.state.tx.us/index2.aspx?id=4843&menu_id=2147483665

Texas - The Texas College and Career Readiness (CCRS) Program

Direct State Funding– Statewide Program

The Texas College and Career Readiness (CCRS) Program seeks to identify, define, and begin the implementation of college and career readiness standards across K-12 and higher education. In addition to defining standards for the four core areas of English language arts, mathematics, social studies, and science, K-12 secondary and higher education institution faculty collaborated to define cross-disciplinary standards for success across all areas of study. Those students that demonstrate the foundational skills named in these cross-disciplinary standards are able to transfer and apply knowledge across the curriculum and to use technology to gather, organize, manage, analyze, communicate, and display information in a clear and coherent manner. A number of EETT educational technology programs currently underway specifically address both the key cognitive skills and the foundational skills identified as cross-disciplinary in the Texas CCRS. Through these programs, educators are provided with high-quality professional development and technology integration strategies, students are equipped with modern technology and digital resources designed to strengthen critical thinking skills, and model schools will be selected to demonstrate the transformative use of digital content in the classroom and at home. www.txccrs.org/

Texas - Texas Virtual School Network (TxVSN)

Direct State Funding/State Allotment - \$10,150,000

The Texas Virtual School Network (TxVSN) was established by the Texas Legislature to provide Texas students with equitable access to quality, supplemental online courses. The TxVSN offers a statewide catalog for high school and dual credit courses provided by eligible Texas school districts, open enrollment charter schools, education service centers, and public or private institutions of higher education. TxVSN Provider Districts submit courses for inclusion in the statewide catalog and are responsible for instruction. Each course in the catalog is reviewed for alignment to course Texas Essential Knowledge and Skills (TEKS) and the International Association for K-12 Online Learning's (INACOL) National Standards of Quality for Online Courses. Since its inception in January 2009, the TxVSN has provided Texas high school students and schools with a valuable avenue for interactive, collaborative, instructor-led online courses taught by state certified and appropriately-credentialed teachers. The Texas Legislature created a "state virtual school allotment" used to provide funding for online courses. Districts and open-enrollment charter school participation in the TxVSN is growing rapidly each semester. All Texas districts can participate in this state-led resource.

<http://www.txvsn.org/>

Utah - Electronic High School

Direct State Funding/State Allotment

The Electronic High School (EHS), Utah's first and largest online high school, celebrated its sixteenth anniversary this past October. EHS is a public school, under the auspices of the State Office of Education and is one of the largest public online schools. Last year almost 8,000 students turned to EHS classes to make up failed classes or to move ahead toward early graduation. Students who want to take extra electives, advanced placement, or concurrent enrollment college classes can make room in their schedules by taking some required courses online with EHS. Most EHS classes require no textbooks, and one school district and one charter are already using EHS curriculum for local classes.

The curriculum is tailored for Utah’s Core Curriculum. Currently, along with ongoing projects to improve course material and add more classes, the EHS is looking ahead to the day students will want to access their classes from their cell phones or other portable devices.

<http://www.schools.utah.gov/ehs/>

West Virginia - West Virginia Virtual School

Direct State Funding - \$650,000

onTargetWV, a state-funded pilot program as part of the WV Virtual School serving all students in grades 6-12, was designed to allow students to recover credits needed for graduation and to help them develop skills and work habits for academic success. In West Virginia, more than 25,000 students failed courses in 2008-2009. To reduce the dropout rate and increase graduation rate, this program offered students engaging, interactive and differentiated courses to meet graduation requirements. In addition, WV Virtual School staff provided professional development to a select cadre of teachers in creating blended delivery courses. To help promote the efforts of this program, information on online and blended delivery best practices methods was shared via social networking sites with teachers around the state. Results for this program are pending.

http://virtualschool.k12.wv.us/vschool/view_courses.html

Appendix I - Science, Technology, Engineering, and Mathematics (STEM)

Arkansas - EAST After Hours (Statewide Initiative)

EETT Competitive Grant - \$840,000

EAST After Hours, a program designed to facilitate after school activities for students in grades 6-12, expanded the scope of Arkansas EAST programs by providing more student hands-on learning experiences and the ability to provide valuable services for their communities. Some of the activities planned by schools receiving funding were:

- The creation of emergency response maps, virtual tours and video and print materials for the NW Arkansas District office of the American Red Cross which serves 19 counties.
- The creation of tutorials to teach senior citizens to use online social networks.
- Collection of GPS data on invasive animal and plant species in Arkansas, for compilation into a map, and creation of an educational documentary on the impact of these species.
- Promotion of stroke awareness by using augmented reality to create 3-dimensional cardiovascular and nervous system models showing how blood clots can result in strokes, and the effects on the body.
- Assisting the Poinsett County Conservation District by mapping wells, monitoring water levels and mapping and comparing the water tables of the southern and northern regions of the county. <http://www.eastproject.org>

Arkansas - EAST (Environmental and Spatial Technology)

Direct State Funding - \$1,800,000

The Environmental and Spatial Technology (EAST) Program blended community service mindedness and project-based learning with integrated technology into a student-centered environment that resulted in specific, 'real' service projects conceived, developed and delivered by student teams in grades two through twelve across the state in over 200 schools. The purpose of the state-funded program was to provide students with an opportunity to develop their curricular skills, interests and 21st century skill needs in a real world setting. Working in teams provided students a greater opportunity for collaborative and discovery learning by using service projects and sophisticated technology as the incentive to drive curricular learning. Professional development for EAST facilitators was a blended approach of facilitated cooperative learning, experiential learning, and instruction in aligning 21st century skills, project management, and technology integrated learning into a project-based environment. Studies showed significant achievement and attainment in learning outcomes, STEM development, college and career readiness, and 21st century skills tied to this program. <http://www.eastproject.org>

Connecticut - Bio 21: 21st Century Biology Education

EETT Competitive Grant - \$139,968

The New Haven Public Schools, in collaboration with The Center for 21st Century Skills @ EDUCATION CONNECTION, implemented the Connecticut Career Choices "Bio21" biology course at Wilbur Cross High School as a means of providing students with cutting-edge technology and 21st century skills, as well as assisting teachers in the use of technology to achieve more effective instruction in science. Bio21 is a lab-intensive science course that covers the most exciting fundamentals of life science and biotechnology. Students gained techniques and knowledge that helped prepare them for careers in medicine, microbiology, molecular biology, forensics, and public health. The project trained teachers to use 21st century learning management systems. In addition, the project positively impacted school

administrators by increasing their familiarity with classroom observations of blended learning pedagogy and online standardized assessments. <http://ctcconline.org/>

Delaware – Career and Technology Education Pathway Direct State Funding- Statewide Program

Technology is a fundamental component of all Career and Technology Education pathways and the state’s STEM initiative. Career pathway is a term for all pathways meeting the Delaware graduation requirements. The STEM courses are connected so that the practical application of science and mathematics are acquired through technology and engineering. Pathway courses in science, agriculture, technology, engineering, or mathematics engage learners in inquiry investigations, conceptual and applied knowledge, and engineering design processes.

Florida - Mobile Manatee: Roadmap to Digital Science EETT Competitive Grant - \$746,541.67

Through innovative, content development and professional development, the Mobile Manatee: Roadmap to Digital Science program provided training for teachers in 6 middle school science departments in the Manatee School District. Teachers designed engaging and interactive online science lessons, units, and assessments for use in a virtual learning environment on mobile devices available to the local and global communities. In addition, teachers and students developed 1000 student and teacher digital science assets and 500 South Florida Museum 3-D artifacts using digital scientific probes, microscopes and other specialized tools and software. This program worked in collaboration with the Florida Digital Educators to enable students to achieve world-class standards by transforming the learning environment through professional education, follow-up mentoring and support, the use of digital tools for the creation of content, the development of collaborative communities and rigorous evaluation and research activities.

<http://www.schools.manatee.k12.fl.us/webdisk/GRANT2010/MobileManatee/mmsite.html>

Florida - Charting Okeechobee’s Course for the Digital STEM Classroom EETT Competitive Grant - \$749,246.4

In the rural county of Okeechobee, the Charting Okeechobee’s Course for the Digital STEM Classroom program recognized the lack of exposure students had to jobs and industries that required STEM skill; therefore, the program provided students strategies and resources in the areas of science and mathematics to present not only potential career options but also exciting, engaging curriculum for all K-12 students. The program goals were to increase student achievement by improving instruction and technology integration. Extended day opportunities focusing on STEM areas were offered to further engage students. The program also provided teachers with professional development opportunities to create a support system for teachers and students to enhance their opportunities within the school system. <https://sites.google.com/site/chobeecoachescorner/>

Georgia - Increasing Student Achievement with Digital Resources EETT Competitive Grant - \$3,918,548

Georgia awarded the Increasing Student Achievement with Digital Resources grant to 14 Georgia LEAs to provide new technology, digital resources, and a technology integration specialist to support the implementation of the Georgia Performance Standards mathematics curriculum. Each awarded LEA selected a middle school and high school (for a total of 28 participating schools) that had a vertical alignment in the mathematics grade feeder pattern so that the selected middle school had the greatest

number of eighth grade students that fed into the ninth grade mathematics classes in the selected high school. Each grant school utilized technology tools and digital learning resources to enable formative assessment that informed differentiation in teaching and learning in a minimum of four mathematics classrooms at the sixth, seventh, and eighth grade level and a minimum of five mathematics classrooms at the ninth grade level. Each designated mathematics classroom was equipped with a mounted video projector, portable wireless interactive device, e.g., Slate, Airliner, etc., student response system, and a minimum of 15 computing devices – with the provision that the devices will be shared to establish as close to a two-to-one computing environment as possible. In addition to purchasing digital resources and equipment, grantees participated in professional development with the goal of improving student achievement in sixth to ninth grade math courses. The results, as measured by percent gain in standardized math test scores, showed that sixth grade participants in the program had a 12 percent gain in math CRCT scores over the grant period as compared to a state gain of 10 percent; seventh grade participants showed even greater growth with a 14 percent gain over the grant period as compared to a state growth of 10 percent. Eighth grade and ninth grade participants' performance also exceeded that of the state. <http://public.doe.k12.ga.us/it.aspx?PageReq=ITTitleIID09>

Idaho - Apangea (Idaho Math Initiative)

Direct State Funding - \$1,300,000

The goal of the state funded Idaho Math Initiative is to improve math education in all grades, securing the readiness for higher levels of math in the middle grades and high school through the use of specialized math software. Professional development included webinars and an online teacher community, allowing teachers to collaborate and share their experiences as they worked with students. Since 2008 with the introduction of this program, over 54,000 students have spent over 284,800 hours online using the software, including over 94,000 hours of voluntary time outside of the school day, solving more than 5,900,000 math problems.

Illinois - Pontiac Township High School

EETT Formula Grant - \$111,084

Pontiac Township had not made Adequate Yearly Progress (AYP) in Mathematics for 3 years. Based on this data, their competitive proposal detailed a fundamental changed plan on instructional delivery of Algebra. The new plan gave teachers the ability to move from direct instruction to a one-to-one program which engaged students to become more involved with their own learning through differential guidance from the teacher. This one-to-one program enabled all Algebraic students to increase mathematics achievement, improve communications skills and improve technology literacy. This initiative also allowed all Algebraic students to experience fundamentally different approaches to Algebra. Students used various media and through a variety of formats encountered various technologies throughout instructional integration. <http://www.pontiac.k12.il.us/index.html>

Indiana - Classroom Innovation in Mathematics Grant

Direct State Funding - \$119,929

Jasper Community Schools was one of 18 school corporations to receive a Classroom Innovation in Mathematics grant in 2010. This grant program provided an opportunity to use digital mathematics curricula and interactive whiteboards in lieu of traditional textbooks. Grantees were also expected to participate fully in Indiana's online assessment. In order to evaluate the effectiveness of these strategies, awards were limited to schools that proposed plans for 6th, 7th, and 8th grades, and/or

Algebra I. The results of this pilot program will be used to evaluate the effectiveness of digital curriculum and provide data for schools that may consider adopting digital mathematics curricula. A professional development program and technological support was offered to and attended by all participating teachers. Professional development included training on digital curriculum software, integrating interactive whiteboards into a standards-based classroom and using assessment tools to guide instruction.

Louisiana - Connected Tech 2009-10

EETT Competitive Grant - \$100,000

In Franklin Parish, a rural school district, the Connected Tech 2009-10 award worked to improve high school mathematics skills and integrate 21st Century skills through focused professional development, acquisition of technology tools including graphing calculators, computers with calculator software, and classroom management software. Teachers worked in collaboration with University of Louisiana in Monroe faculty for training and established an online community for communication and sharing of lesson plans. The December 2009 and spring 2010 combined Algebra I End of Course Test resulted in a 7 percent positive gain. <http://fpsb.us/index.html>

Louisiana - Algebra I Online

Direct State Funding - \$280,000

The Algebra I Online Project provided students, particularly rural and urban students without access to fully certified teachers, with a certified Algebra I instructor and a high-quality Algebra I curriculum in a web-based format. In addition, districts desiring to provide certified teachers access to pedagogy training and mentoring in order to build capacity for strong mathematics instruction also participated. Throughout this project, the in-class teacher engaged in face-to-face and online professional development opportunities designed to 1) assist with the facilitation of the in-class Algebra I learning activities of the students, 2) build capacity for strong mathematics instruction, and 3) support the teacher's efforts towards secondary mathematics certification. During the history of the program (2002-09), 14 percent of the participating teachers extended their areas of certification. Students performed better than the state average on end-of-course testing. In 2009, a majority (58 percent) of the students scored in the excellent and good range in the Algebra I Online course, compared to the state average (39 percent). Students noted that they enjoyed using technology to learn math, working with other students, and participating in a new experience.

<http://www.louisianavirtualschool.net/algebra.xml>

Massachusetts - Enhancing Mathematics Education through Technology

EETT Competitive Grant - \$226,287

This Enhancing Mathematics Education through Technology Project in Brockton Public Schools and Braintree Public Schools provided collaborative professional development for K-12 educators to integrate technology into mathematics instruction. Participating teachers took the "Foundations for the 21st Century Teacher" course, which focused on using appropriate technologies, including interactive whiteboards and Web 2.0 tools, to teach K-12 mathematics skills. In addition, to support the success of students with diverse learning needs, a Universal Design for Learning strand was also included. A component of the course was also designed for administrators so they could model and evaluate effective use of technology. Following the course, teachers implemented their new knowledge and then came together again at the end of the school year to refine their lessons and units

and share with other teachers throughout the state. As a result, Braintree math standardized test scores in 2009 and 2010 increased in both the elementary and middle schools. The average range of improvement for 3-6 grades was 9 percent and for 7-8 grades was 6 percent.

**Minnesota - The Heights Integration of Technology for Every Kid
EETT Competitive Grant - \$149,803**

The Heights Integration of Technology for Every Kid project in the Columbia Heights Public School District created an engineering curriculum integrating 21st Century technologies, engineering, science, mathematics and visual arts skills, aligned with the NETS student technology standards, to emphasize student engagement and hands-on project-based learning. The collaboration between the university and district expanded to provide support for teachers and students in the engineering classes. The engineering framework is the centerpiece for expansion of projects as appropriate to classrooms in science, math and visual arts. The engineering class will be expanded to a full time department with courses offered at all 3 grade levels in robotics.

**Utah - Enhancing Fourth Grade Math Education through Distance Learning Technology (EMED)
EETT Competitive Grant - \$1,000,000**

Enhancing Fourth Grade Math Education through Distance Learning Technology (EMED) provided the opportunity for fourth grade teachers in 25 high need (poverty), low achieving, and low access (substantial need for access to technology) schools the opportunity to create effective, research-based math podcast lessons. Participating teachers received up-to-date math and educational technology instruction through access to professional development learning communities. These teachers then created research-based, instructionally sound podcasts concentrating on critical fourth grade math standards to share statewide. Teachers' understanding of how technology enhanced the learning process will be qualitatively evaluated using the Teacher Technology Survey Instrument developed by Northwest Regional Laboratory. Pre-and post measures in experimental and control groups compared the effect of project implementation on teachers' ability to provide technology-enhanced instruction. In relation to student performance, the goal of the program was to decrease the number of fourth grade students not proficient in mathematics by 10 percent through the implementation of research-based instructional practices and integrating effective technology solutions. Results are still pending.

<http://emed.nucenter.org/groups/emed/>

Appendix J - Project-Based Collaborative Learning

Alabama - Piedmont City 21st Century Technology Project-Based Learning EETT Competitive Grant - \$160,000

The Alabama21 program in rural Piedmont City Schools, transformed 7-12 grade classrooms from traditional teacher-led, lecture models into 21st Century collaborative learning environments. The program increased the student-to-computer ratio to 3:1, added projectors and digital cameras, and developed an intensive professional development program for teachers and administrators. All certified staff members at Piedmont High School completed a of 100 hour professional development program which included on-site coursework and online training resources. This program increased graduation rates and increased the number of graduates that plan to attend college.

Alabama - Talladega County 21st Century Technology Project-Based Learning EETT Competitive Grant - \$160,000

The Talladega County 21st Century Technology Project-Based Learning initiative which originally started at Winterboro High School has expanded to Lincoln High School. This initiative implemented project-based learning with one-to-one computing in the core curriculum for all students in grades 7-12. The program funded the redesign of the school buildings to provide equitable learning opportunities for all of the students at these high poverty schools. In addition to computers for students, classrooms equipment included presentation devices, digital cameras and projectors. New servers hosted a learning management system to deliver assignments, assessments, and communications. Teachers participated in intense ongoing professional development to guide how to restructure their classroom practice with the technology tools and project-based focused. The results have shown an increase in graduation rates and motivation, which is expected to continue.

Arkansas - EAST After Hours (Statewide Initiative) EETT Competitive Grant - \$840,000

EAST After Hours, a program designed to facilitate after school activities for students in grades 6-12, expanded the scope of Arkansas EAST programs by providing more student hands-on learning experiences and the ability to provide valuable services for their communities. Some of the activities planned by schools receiving funding were:

- The creation of emergency response maps, virtual tours and video and print materials for the NW Arkansas District office of the American Red Cross which serves 19 counties.
- The creation of tutorials to teach senior citizens to use online social networks.
- Collection of GPS data on invasive animal and plant species in Arkansas, for compilation into a map, and creation of an educational documentary on the impact of these species.
- Promotion of stroke awareness by using augmented reality to create 3-dimensional cardiovascular and nervous system models showing how blood clots can result in strokes, and the effects on the body.
- Assisting the Poinsett County Conservation District by mapping wells, monitoring water levels and mapping and comparing the water tables of the southern and northern regions of the county. <http://www.eastproject.org>

Arkansas - EAST (Environmental and Spatial Technology) Direct State Funding - \$1,800,000

The Environmental and Spatial Technology (EAST) Program blended community service mindedness and project-based learning with integrated technology into a student-centered environment that resulted in specific, 'real' service projects conceived, developed and delivered by student teams in

grades two through twelve across the state in over 200 schools. The purpose of the state-funded program was to provide students with an opportunity to develop their curricular skills, interests and 21st century skill needs in a real world setting. Working in teams provided students a greater opportunity for collaborative and discovery learning by using service projects and sophisticated technology as the incentive to drive curricular learning. Professional development for EAST facilitators was a blended approach of facilitated cooperative learning, experiential learning, and instruction in aligning 21st century skills, project management, and technology integrated learning into a project-based environment. Studies showed significant achievement and attainment in learning outcomes, STEM development, college and career readiness, and 21st century skills tied to this program.

<http://www.eastproject.org>

Connecticut - E-Commerce

Other Federal Funds - \$35,000

Offered in fourteen high schools across the state, the E-Commerce Entrepreneurship (ECE) course in the Connecticut Career Choices (CCC) Program, funded by Carl D. Perkins, prepared students for success in 21st Century careers through participation in the E-Business Challenge, a project-based assignment aligned with state standards that engaged students in a collaborative, real world learning environment. During the two-semester course, students first developed an individual e-business and then joined with classmates to form an entrepreneurial team of departments specializing in product development, financial analysis, marketing, and website development. Teachers learned to support these students through developing the standards-aligned curriculum, which included web-based resources such as podcasts, video, and text, and assignments such as journal writing, blogging, inter-district discussions, discussion forums, and an ePortfolio tool that allowed them to capture evidence of skills and artifacts developed during the program.

Connecticut - Moving Beyond the Textbook: Digital Content in a 21st Century Middle School Environment

EETT Competitive Grant - \$139,961

The Moving Beyond the Textbook: Digital Content in a 21st Century Middle School Environment program transformed classroom instruction in two rural middle schools. Teachers and students used a variety of technology tools, such as personal media devices, cell phones, interactive whiteboards, laptops, digital cameras, and videoconferencing to restructure classrooms to project-based learning. Teachers learned to facilitate the learning, and to use data in planning and developing teaching strategies. Laptops enabled both teachers and students to connect to a wealth of content and communicate it with each other. Teachers received professional development and support through professional learning communities, mentoring, and training. Project-based learning and interdisciplinary strategies provided students with a well-rounded concepts where discovery, participation and interaction were encouraged. This program started in September of 2010, although it is too early to provide feedback on student achievement the technologies and professional development has created a level of excitement and collaboration that is encouraging.

Delaware - eMINTS Kuumba Academy

EETT Competitive Grant - \$425,873

Kuumba Academy (K-5) implemented the research based, eMINTS program, which includes high levels of technology integration for students and teachers. Teachers participated in 90 - 200 contact hours of professional development training. Through the use of an in-house mentor and coach, eMINTS

professional development includes instruction in inquiry-based teaching, higher order thinking skills for students, cooperative learning, constructivist learning, and teacher technology skills. As a result of the implementation, students showed an increase of up to 23 percent in math scores across all four strands of their standardized assessment and 80 percent of parents participated in technology literacy and awareness sessions. <http://www.emints.org/about/participants/delaware.shtml/delaware.shtml>

Florida - Charting Okeechobee's Course for the Digital STEM Classroom EETT Competitive Grant - \$749,246.4

In the rural county of Okeechobee, the Charting Okeechobee's Course for the Digital STEM Classroom program recognized the lack of exposure students had to jobs and industries that required STEM skill; therefore, the program provided students strategies and resources in the areas of science and mathematics to present not only potential career options but also exciting, engaging curriculum for all K-12 students. The program goals were to increase student achievement by improving instruction and technology integration. Extended day opportunities focusing on STEM areas were offered to further engage students. The program also provided teachers with professional development opportunities to create a support system for teachers and students to enhance their opportunities within the school system. <https://sites.google.com/site/chobeecoachescorner/>

Hawaii - Digital Connection EETT Formula Grant - \$95,000

Noelani and Pauoa Elementary Schools built technology literacy for students and teachers through a rich, technology-enabled curriculum and project-based instruction. Using innovative curriculum development and mentoring between the schools, students engaged in projects in robotics, demonstrated work using podcasts and documentaries, and participated in online programs. Teachers developed class websites, collaborative discussion sites, wikis, and blogs. The professional development component included a coaching model, focused on technology integration. Both schools attained modest gains on the state assessment, with the greatest gains made by the targeted Title I students. Reading improved from 55 percent to 60 percent, and math improved from 39 percent to 49 percent in 18 months. Writing proficiency increased from 36 percent to 74 percent at Noelani, and from 5 percent to 54 percent at Pauoa Elementary School.

Kansas - Prosperity Elementary, Buhler USD 313 Kansas Technology-Rich Classroom Grant EETT Competitive Grant - \$100,000

Over the past year, sixth grade classrooms at Prosperity Elementary School transformed into Technology-Rich Classrooms (TRC). Students engaged daily in standards-based instruction that was empowered through technology provided through the grant. With support of a TRC Facilitator, teachers leveraged project-based learning in order to teach students. One of the real-world projects students engaged in was related to a busy city intersection at 43rd and Plum. The project incorporated community and school safety, civic mindedness, science, and math. Students became concerned after an accident involving one of their classmates at the intersection. The city manager and city engineer came to the school to talk to the students about how the city determines if an intersection needs a stoplight. Students used the city traffic counters to count cars that passed through the intersection during peak and non-peak hours of the day. Students used the data to make graphs and charts to determine if a stoplight was needed at the intersection. They analyzed the data, surveyed parents at the Technology Fair, and made suggestions to the City Counsel on keeping the intersection safe. Parents and patrons were excited about the student learning and engagement.

Michigan - Eastern Upper Peninsula Intermediate School District

EETT Competitive Grant - \$2,025,280

The Eastern Upper Peninsula Intermediate School District partnered with the Michigan Association for Computer Users in Learning (MACUL) to establish a state-wide programs for MI Champions and MI Learning on iTunes U. The Michigan Champions has created classroom-level Technology Integration Champions. Selected teams of teachers in participating LEAs developed technology integration skill set through training, conference experiences, on-line learning, and coaching. The program includes a Project-based Learning (PBL) strand and is expanding to offer a two-year STEM-focused program. Each team of champions receives three technology emersion experiences along with two summer workshops, two online courses, and regular support from digital coaches. To date, EETT has funded or will fund the participation of 1,400 teachers in more than 300 schools. In addition, the partnership funded Michigan's iTunes U program, called MI Learning, which provided open, mobile education media to schools across the state and nation. The program currently hosts more than 1,000 free education resources and averages more than 150,000 downloads per month. With increased technology integration, student engagement increases and student performance is enhanced.

<http://www.macul.org/milearning/>

Michigan - Student Centered, 21st Century Learning Environments

EETT Competitive Grant - \$3,613,619

The Student Centered, 21st Century Learning Environments program funded evidence-based, innovative models of student centered learning which included instructional strategies focused on the student's needs, abilities, interests, and learning styles with the teacher as a facilitator of learning in a variety of LEAs across the state. These 21st century learning environments incorporated concepts of Universal Design for Learning (UDL) and the effective use of mobile and one-to-one computing technology. In addition, the program focused on dropout prevention and reengagement initiatives that utilized digital environments to enable project-based learning, non traditional instructional methods and cyber learning, aimed at engaging student who have dropped out or who are at-risk of dropping out of high school.

Minnesota - The Heights Integration of Technology for Every Kid

EETT Competitive Grant - \$149,803

The Heights Integration of Technology for Every Kid project in the Columbia Heights Public School District created an engineering curriculum integrating 21st Century technologies, engineering, science, mathematics and visual arts skills, aligned with the NETS student technology standards, to emphasize student engagement and hands-on project-based learning. The collaboration between the university and district expanded to provide support for teachers and students in the engineering classes. The engineering framework is the centerpiece for expansion of projects as appropriate to classrooms in science, math and visual arts. The engineering class will be expanded to a full time department with courses offered at all 3 grade levels in robotics.

Missouri - Enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS)

EETT Competitive Grant - \$494,000

The enhancing Missouri's Instructional Networked Teaching Strategies (eMINTS) Program, which has a presence in eleven states and New South Wales, Australia, served an additional 150 Missouri teachers in twelve schools in ten districts. eMINTS professional development was provided through interactive group sessions and in-classroom coaching/mentoring to help teachers integrate technology into their

teaching using an instructional model that promoted inquiry-based learning, supported high quality lesson design, built community among students and teachers and created technology-rich learning environments. eMINTS taught teachers to implement strategies in their classrooms that created effective student-centered, technology-rich classrooms. Since its inception in 1999, program evaluation has indicated that students in eMINTS classrooms consistently outscore their peers in non-eMINTS classrooms in statewide assessments of language arts and mathematics in grades 4-8 in Missouri, Utah and Delaware implementations. Teachers completing eMINTS professional development showed mastery of ISTE's NETS-T standards on electronic portfolios. <http://www.emints.org>

Missouri - Project eASE (eMINTS: All Students Engaged)

EETT Competitive Grant - \$355,155

This eMINTS project expanded the researched-based eMINTS program from the middle school to the high school in the Gasconade County R-I school district. Teachers participated in NETS-aligned eMINTS training, which included a minimum of 75 hours of professional development. Teachers collaborated within and across the content areas to develop lessons that focused on higher-level thinking supported with educational technologies. Teachers increased use of research-based instructional strategies and technology integration throughout the curriculum with a particular focus on communication arts. Instructional Practices Inventory observations showed increases in instruction, technology integration, and technology literacy frequency and proficiency, with time spent on higher-level thinking increasing from 17 percent to 24 percent. Surveys found significant increases in student technology use and literacy. A rigorous end-of-course writing assessment demonstrated high performance levels with no students scoring below basic and 80 percent of students were at/above proficiency.

<http://www.hermann.k12.mo.us/Dann%20Maribeth/emints.html>

Nevada - 21st Century Classroom Initiative

EETT Competitive Grant - \$185,909

The 21st Century Classroom Initiative equipped classrooms in six rural middle schools in the White Pine and Lincoln County School Districts with a set of netbooks and iPod Touches and provided teacher training and coaching in technology integration to promote a project-based learning environment. Online and face-to face meetings provided professional development and teacher collaboration. Site-based support groups run by mentor teachers supported teachers between formal meetings. Anecdotal feedback on the program indicated student engagement increased and teachers appreciated the supportive network to try new tools and concepts.

New Hampshire - New Hampshire's Classroom Technology Mini-Grant Program

EETT Competitive Grant - \$360,000

New Hampshire's Classroom Technology Mini-Grants Program was run as a statewide program to provide several school teams from all regions of the state with digital tools, strategies, and related support for project-based learning activities to advance student learning. The 2009-10 program funded 35 mini-grant projects. The program aims to create exemplary projects to disseminate to all NH schools, supported with the use of digital technologies, within one or more core content areas: The Arts, English Language Arts, Mathematics, Science, Social Studies, and/or World Languages. Those teams that were funded created a new project or replicated an exemplary mini-grant project created by another school team in previous years. Funding included work with the state's network of professional development centers to deliver training and a celebration event to share best practices

among all teams. The program is a favorite among New Hampshire teachers because of the opportunity for a team of teachers to move a project idea that cannot be implemented without the purchase of equipment and supplies into project action that engages many students, and often involves students in multiple classrooms or multiple schools. Providing this opportunity to teachers spurred excitement and innovation within participating schools and increased both student and teacher proficiency with technology. <http://nheon.org/oet/nclb/2009-10/MinigrantsList.htm>

New Mexico - Giga

EETT Competitive Grant - \$150,000

Gadsden Independent School District's middle school adopted various mathematical software programs for intervention, remediation, differentiation, and exploration, along with purchasing laptops and interactive whiteboards, to help students develop 21st century life and career skills by providing opportunities for collaborative work, facilitating communication through in-depth classroom discussions, and interacting with mathematical concepts using critical thinking and problem-solving skills. During Saturday and summer workshops, teachers gathered to plan, collaborate, and familiarize themselves with technology and software. Teachers met weekly to collaborate on the use of technology in their classrooms and used peer observation to increase their understanding of how to best use technology with their students. Classrooms using technology showed an increase in student engagement, and students were more excited about learning math and willing to participate in lessons.

New Mexico-EETT Competitive

Mathematics Software for Intervention, Remediation, Differentiation, and Exploration

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New Jersey - The Implementing New Curricular Learning with Universally Designed Experiences (INCLUDE) grant

EETT Competitive Grant - \$240,000

In the urban, diversely populated school district of Edgewater Park, the goal of the Implementing New Curricular Learning with Universally Designed Experiences (INCLUDE) grant was to increase academic achievement in mathematics by using research-based instructional practices in conjunction with the effective integration of educational technology practices. The INCLUDE grant provided the needed funding to support teachers as they improved their classroom skills and revised the mathematics curricula using the Universal Design for Learning (UDL) framework. Teachers learned to meet each student's needs by implementing the UDL framework along with educational technology best practices and collaborating with in-class coaches. Students with special needs demonstrated a 22 percent gain

between a pre and posttest mathematics assessment, whereas the general education population gained 3 percent. Also, the students labeled as economically disadvantaged, an historically lower scoring population, demonstrated 10 percent growth compared to 1 percent for non-disadvantaged students. <http://65.211.78.226/index.htm>

New York - Enhancing Education Through Technology-SCALE Student Centered Active Learning Environments

EETT Competitive Grant - \$700,000

In Rochester City middle and high schools, the EETT-SCALE (Student Centered Active Learning Environments) program helped to create model classrooms through high-quality, sustained teacher training and the integration of technology. Teachers learned to adapt their instructional delivery so that technology became a natural pedagogical component. As well, Student-Centered Active Learning Environments were constructed as teachers gained knowledge in both hardware and software. The Model Classroom Training and equipment deployment included teachers in grades 5-9, special education and ELL. Professional development included instruction in student portals, e-curriculum delivery, creation of teacher web pages, differentiated electronic learning opportunities, formative electronic assessment tools, and use of interactive technology to personalize instruction based on student needs. Model Classroom teachers were supported by Instructional Technology Lead Teachers. Based on the evaluation by the New York Institute for Educational Excellence, teachers equipped with and trained in the use of technology have significant impact on student achievement, particularly at the middle school level.

North Carolina - IMPACT IV

EETT Competitive Grant - \$3,843,185.73

The IMPACT IV program, built on the lessons learned from the one-to-one, research-based IMPACT program, included 13 schools in the school districts of Thomasville, Asheboro, Kannapolis, and Northeast Consortium. The program focused on professional development. Heralding collaboration and leadership, the IMPACT IV guidelines for technology integration required the use of technology with the goal of improved student achievement. Teams, including the school administrators, teachers, technology facilitators, media coordinators, and the central office administrators, supported one another in the effort of to create a 21st century learning environment in which student learning is the focus. Teachers guided the decision-making process, creating more collaborative-environments and greater buy-in to the program. IMPACT IV students have shown an increase in math performance when matched to a comparison group and there is an increase in teacher retention up to 65 percent for IMPACT schools. http://it.ncwiseowl.org/resources/i_m_p_a_c_t/

Oklahoma - One to One Initiative

EETT Competitive Grant - \$63,748.13

A one-to-one initiative coupled with curriculum development and software use helped students extend their classroom walls and apply academic learning to realistic problems in one middle school located in rural, isolated Cherokee County. Students had access to laptops 24/7 and engaged in projects using digital movie making, online databases, wikis, and blogs. Allowing students to experience the world beyond this small town, through the use of technology, increased student motivation. Teachers participated in ongoing professional development, including monthly technology retreats on Saturdays and a professional learning community. Topics for teacher training included digital storytelling, Web 2.0 tools, and tools for online collaboration and communication. Student academic performance, as

measured by state-mandated assessments improved as did their technology literacy, as measured through the 21st Century Skills Assessment. Behavioral problems decreased and attendance increased for the targeted group in this initiative.

Pennsylvania – Central Greene School District

EETT Competitive Grant - \$102,200

One Central Greene School District high school shifted from teacher-centered to student-centered, project-based learning classrooms through the integration of technology in the mathematics and social studies curriculum. Teachers collaborated with one another and received support from technology coaches to integrate videoconferencing and virtual learning opportunities into their curriculum. The professional development for participating teachers included Saturday training sessions, opportunities to share resources, and summer workshops. As a result of infusing 21st Century tools and practices, the learning environment revealed an increase in student engagement and time on task, fewer discipline issues, better attendance, more cooperative learning activities, and improved student attitudes.

South Carolina - Tie It All Together Project

EETT Competitive Grant - \$255,000

As part of a one-to-one laptop initiative, the Tie It All Together project focused on professional development and collaboration as means of increasing student achievement and improving classroom teaching for twelve middle schools in rural Sumter County School District. Teachers participated in a graduate-level course, receiving instruction in the integration of wikis, blogs, podcasts, video editing, portfolios, internet safety, and interactive whiteboards. The program also provided a technology coach to work with teachers, students, and pre-service teachers. Teachers integrated technology into the core curriculum and changed teaching and learning. Results indicate standardized math test results improved for eighth grade students. The students showed a significant increase between pre and post technology assessments with an average preassessment score of 52.8 and the average post assessment score was 58.0. In addition, teachers performed at the mastery level in technology proficiency as measured by the state developed ePortfolio assessment. <http://sumter2.org>

South Dakota - Power Up 21

EETT Competitive Grant - \$809,000

The Power Up 21 program at the Black Hills Special Services Cooperative trained K-12 teachers to incorporate 21st Century skills, project-based learning, blogs, wikis, podcasts, and other Web 2.0 tools into the core curriculum. Professional development included face-to-face instruction, online learning communities and the development of a teacher network. Teachers collaborate on individualize projects through online learning communities. Impact data is still pending.

Texas – Eastland ISD - Vision 2020 Grant

EETT Competitive Grant - \$488,716

The Vision 2020 Grant enabled an elementary school in the Eastland Independent School District to provide continuous innovation with technology leading to improved student achievement. This was accomplished through the increased availability of technology tools, including laptops, interactive white boards, and student response systems, and focused on professional development as a means to improving teaching and learning. Teachers attended training sessions and received support from the on-site technology coordinator as well as instruction from vendors on integrated technologies. Teachers also had access to online courses. As a result, informal reporting indicated students were

more engaged and focused when interactive technologies were in use and indicated a decrease in discipline referrals. Comparisons of standardized test scores from 2008 (baseline), 2009 (program year 1), and 2010 (program year 2) revealed improvements in several areas.

http://www.tea.state.tx.us/index2.aspx?id=4843&menu_id=2147483665

Texas - Atlanta ISD-Vision 2020 Grant EETT Competitive Grant - \$500,000

Atlanta ISD's successful grant programs creates a more engaging, relevant and personalized student learning environment for grades 8 and 9 based on the six critical components of technology immersion, as identified by the Texas Technology Immersion Project: 1) students and faculty were assigned a laptop for access to available resources; 2) professional development provided teachers and campus leaders the technology skills and integration strategies for success in a one-to-one computing classroom; 3) participants were introduced to digital productivity, communication and presentation tools to promote higher-order thinking and problem solving skills; 4) educators were given online instructional resources aligned with state standards and integrated into daily lessons; 5) diagnosis and response to problem areas was made possible by assessment and reporting tools in software and by online formative assessment; and 6) ongoing technical support to students and teachers. The focus of the grant was to ensure equitable access to technology across a diverse student population. The district has reported increased student engagement and a transition to student-centered, project-based learning techniques. Standardized test results showed improved performance within one year among minority students in the areas of math and science.

http://www.tea.state.tx.us/index2.aspx?id=4843&menu_id=2147483665

Wisconsin - Collaboration: Key to Raising Achievement & Cultivating 21st Century Skills EETT Competitive Grant - \$50,000

Using problem-based learning units infused with technology as a teaching and learning tool, the Janesville Area School District created collaborative teaching teams to guide third and fourth grade students in developing inquiry and information acquisition skills and alternative methods to demonstrate what they have learned. The district used a week-long summer 21st century skills/problem-based learning symposium to jump start the collaborative teams, with periodic follow-up during the school year to create science and social studies units. Project evaluation showed student proficiency increased in reading and language arts on internal and external measures. Teacher findings revealed successful development and implementation of digital problem-based lessons resulting in student work samples showing application of higher level thinking.

Wisconsin – Digital Literacy 2.0 EETT Competitive Grant - \$120,000

The Digital Literacy 2.0 project touched teams of educators and administrators from 21 east central Wisconsin districts focusing on digital literacy and problem based learning to answer the question: "How can teachers utilize the capacity of Web 2.0 resources to individualize instruction and open doorways for students?" Teams of educators, library media specialists, and administrators attended five days of professional development, acquiring knowledge, familiarity, and proficiency in the use of digital tools and project-based learning concepts, using local expertise and the Intel Thinking with Technology course. The project provided the initial funding to start the professional development program for district educator teams to learn effective technology integration and to mentor fellow educators in these best practices. Overall, project research findings showed that participants had

increased their knowledge and proficiency in using educational technology to engage and enhance student content learning and student academic achievement. Participants also demonstrated coaching and mentoring techniques they took back to their districts to share content, curricular examples, and tools learned during the project. <http://startrekdigitalliteracy.pbworks.com/>

**Wyoming - Teachers and Technology Mini Grant
Foundation - \$25,000**

The QWEST Foundation for Education provided funds for the Teachers & Technology Mini-Grants, which awarded innovative teachers who used technology in their classrooms to improve student achievement and build a real-world team problem-solving environment. All state teachers were eligible to apply and receive funds to purchase supplies, technological tools, and attend professional development. http://www.k12.wy.us/ICS/Docs/qwest_techgrant.pdf

Appendix K - Digital and Open Content

Arizona - s

Other Federal Funds - \$2,346,261

IDEAL, a statewide education portal funded through Title I-School Improvement funds, provides teachers with rich digital resources and high-quality online courses. IDEAL also provides teachers with access to standards-aligned formative assessments and a learning resource database that includes digital content aligned to state standards. As well, IDEAL Home Edition offers family-oriented resources for furthering education at home. State portal usage showed typical unique monthly visits of approximately 22,000 educators with approximately 300,000 distinct page views. Some of the most popular IDEAL resources among educators include digital streaming video resources and the online professional development offered throughout the year. <https://ideal.azed.gov>

Connecticut - E-Commerce

Other Federal Funds - \$35,000

Offered in fourteen high schools across the state, the E-Commerce Entrepreneurship (ECE) course in the Connecticut Career Choices (CCC) Program, funded by Carl D. Perkins, prepared students for success in 21st Century careers through participation in the E-Business Challenge, a project-based assignment aligned with state standards that engaged students in a collaborative, real world learning environment. During the two-semester course, students first developed an individual e-business and then joined with classmates to form an entrepreneurial team of departments specializing in product development, financial analysis, marketing, and website development. Teachers learned to support these students through developing the standards-aligned curriculum, which included web-based resources such as podcasts, video, and text, and assignments such as journal writing, blogging, inter-district discussions, discussion forums, and an ePortfolio tool that allowed them to capture evidence of skills and artifacts developed during the program.

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Florida - Mobile Manatee: Roadmap to Digital Science

EETT Competitive Grant - \$746,541.67

Through innovative, content development and professional development, the Mobile Manatee: Roadmap to Digital Science program provided training for teachers in 6 middle school science departments in the Manatee School District. Teachers designed engaging and interactive online science lessons, units, and assessments for use in a virtual learning environment on mobile devices available to the local and global communities. In addition, teachers and students developed 1000 student and teacher digital science assets and 500 South Florida Museum 3-D artifacts using digital scientific probes, microscopes and other specialized tools and software. This program worked in collaboration with the Florida Digital Educators to enable students to achieve world-class standards by transforming the learning environment through professional education, follow-up mentoring and support, the use of digital tools for the creation of content, the development of collaborative communities and rigorous evaluation and research activities.

<http://www.schools.manatee.k12.fl.us/webdisk/GRANT2010/MobileManatee/mmsite.html>

Georgia - Increasing Student Achievement with Digital Resources

EETT Competitive Grant - \$3,918,548

Georgia awarded the Increasing Student Achievement with Digital Resources grant to 14 Georgia LEAs to provide new technology, digital resources, and a technology integration specialist to support the implementation of the Georgia Performance Standards mathematics curriculum. Each awarded LEA selected a middle school and high school (for a total of 28 participating schools) that had a vertical alignment in the mathematics grade feeder pattern so that the selected middle school had the greatest number of eighth grade students that fed into the ninth grade mathematics classes in the selected high school. Each grant school utilized technology tools and digital learning resources to enable formative assessment that informed differentiation in teaching and learning in a minimum of four mathematics classrooms at the sixth, seventh, and eighth grade level and a minimum of five mathematics classrooms at the ninth grade level. Each designated mathematics classroom was equipped with a mounted video projector, portable wireless interactive device, e.g., Slate, Airliner, etc., student response system, and a minimum of 15 computing devices – with the provision that the devices will be shared to establish as close to a two-to-one computing environment as possible. In addition to purchasing digital resources and equipment, grantees participated in professional development with the goal of improving student achievement in sixth to ninth grade math courses. The results, as measured by percent gain in standardized math test scores, showed that sixth grade participants in the program had a 12 percent gain in math CRCT scores over the grant period as compared to a state gain of 10 percent; seventh grade participants showed even greater growth with a 14 percent gain over the grant period as compared to a state growth of 10 percent. Eighth grade and ninth grade participants' performance also exceeded that of the state. <http://public.doe.k12.ga.us/it.aspx?PageReq=ITTitleIID09>

Indiana - Classroom Innovation in Mathematics Grant

Direct State Funding - \$119,929

Jasper Community Schools was one of 18 school corporations to receive a Classroom Innovation in Mathematics grant in 2010. This grant program provided an opportunity to use digital mathematics curricula and interactive whiteboards in lieu of traditional textbooks. Grantees were also expected to

participate fully in Indiana’s online assessment. In order to evaluate the effectiveness of these strategies, awards were limited to schools that proposed plans for 6th, 7th, and 8th grades, and/or Algebra I. The results of this pilot program will be used to evaluate the effectiveness of digital curriculum and provide data for schools that may consider adopting digital mathematics curricula. A professional development program and technological support was offered to and attended by all participating teachers. Professional development included training on digital curriculum software, integrating interactive whiteboards into a standards-based classroom and using assessment tools to guide instruction.

Maine - Bridging Technology Skills

EETT Competitive Grant - \$23,083

The Bridging Technology Skills program in the Lewiston Public Schools for students in grades 3-12 worked to fully integrate technology and move students toward higher achievement standards through professional development and the integration of various software programs. Digital resources were added to support improving achievement in literacy and mathematics such as READ 180, Skill tutor and Learning A to Z. As well, the addition of a parent portal and electronic report card system has increased communications options with parents. To support these programs, participating teachers attended three-day summer institutes. Professional development also focused on implementing computer-based assessment for mathematics and literacy, using research tools, developing the report card system, implementing the parent portal, and developing a curriculum mapping tool.

Maryland - MDK12 Digital Library

General State Aid - \$19,000,000

The MDK12 Digital Library Project partnership of all public school districts and participating nonpublic schools formed a statewide purchasing consortium to ensure cost-effective access to appropriate electronic resources for all students. The project was originally financed with EETT funds and is currently state funded. One such electronic resource, Proquest/SIRS aligned content to state standards where possible, and school districts integrated the use of the databases for research, primary source material, reading packets, teacher planning, and for content that is included in a statewide hybrid course in World History. The MDK12 project created a coalition for leveraging the group’s collective resources to negotiate one single mutual contract with an online service provider to serve approximately 851,640 public school students and 42,000 nonpublic school students, as well as negotiate for other digital content that is placed on a buyer’s list. To date, cost savings have amounted to over \$1 million. In 2009, SB235 was signed into law to sustain the project following the end of federal funding. <http://www.montgomeryschoolsmd.org/departments/media/mdk12/>

Michigan - Eastern Upper Peninsula Intermediate School District

EETT Competitive Grant - \$2,025,280

The Eastern Upper Peninsula Intermediate School District partnered with the Michigan Association for Computer Users in Learning (MACUL) to establish a state-wide programs for MI Champions and MI Learning on iTunes U. The Michigan Champions has created classroom-level Technology Integration Champions. Selected teams of teachers in participating LEAs developed technology integration skill set through training, conference experiences, on-line learning, and coaching. The program includes a Project-based Learning (PBL) strand and is expanding to offer a two-year STEM-focused program. Each

team of champions receives three technology emersion experiences along with two summer workshops, two online courses, and regular support from digital coaches. To date, EETT has funded or will fund the participation of 1,400 teachers in more than 300 schools. In addition, the partnership funded Michigan's iTunes U program, called MI Learning, which provided open, mobile education media to schools across the state and nation. The program currently hosts more than 1,000 free education resources and averages more than 150,000 downloads per month. With increased technology integration, student engagement increases and student performance is enhanced.

<http://www.macul.org/milearning/>

New Hampshire - Technology Leadership Cohort (TLC) Program

EETT Competitive Grant - \$570,000

New Hampshire's Technology Leadership Cohort Program (TLC) was designed as a professional development program for a statewide cadre of teachers and administrators to enhance teacher and leader effectiveness. Participants interacted through a state-created online collaborative space with an array of digital content which included open educational resources and teaching strategies for creating 21st century learning environments. Online study was supplemented by the use of an iPod Touch for each educator and a series of face-to-face activities, including training modules and conference attendance on teaching 21st century learners. A total of 44 school teams, comprised of two teachers and one supporting principal, from elementary, middle, and high schools across the state were involved in the 2009-10 program. Teams were organized into four consortia sponsored by the lead districts and professional development centers of Keene, Exeter, Penacook, and Gorham, where TLC activities were hosted periodically during the grant period. Course post-surveys indicated that most participants rated the overall quality of the program (online, on-site, and special tools and events) and the intended outcomes as very good to excellent. Participants found that new subject area content, different approaches to teaching, technology use skills, and the use of technology with their students increased as a result of their participation in the program. <http://nheon.org/oet/nclb/2009-10/TLCProgram.htm>

New Mexico - Giga

EETT Competitive Grant - \$150,000

Gadsden Independent School District's middle school adopted various mathematical software programs for intervention, remediation, differentiation, and exploration, along with purchasing laptops and interactive whiteboards, to help students develop 21st century life and career skills by providing opportunities for collaborative work, facilitating communication through in-depth classroom discussions, and interacting with mathematical concepts using critical thinking and problem-solving skills. During Saturday and summer workshops, teachers gathered to plan, collaborate, and familiarize themselves with technology and software. Teachers met weekly to collaborate on the use of technology in their classrooms and used peer observation to increase their understanding of how to best use technology with their students. Classrooms using technology showed an increase in student engagement, and students were more excited about learning math and willing to participate in lessons.

Ohio - Ohio on iTunes U

Direct State Funding

Ohio on iTunes received direct state funding to offer digital media for education, government, and community needs, including all state teachers and students in grades K-12. The program supported alternative modes of content delivery that reached beyond the classroom with unlimited access any time of the day; in addition, Ohio on iTunes showcased educational institutions, instructional content, technology integration, arts, and community resources. For teachers specifically, the iTunes collection includes 96 forms of media for professional development use. Recognizing that technology generates creativity and innovation for 21st century teaching and learning, eTech Ohio is committed to expanding Ohio's digital media collection. Since the project's launch in February 2009, the Ohio on iTunes U site has generated national and worldwide exposure.

<http://www.etech.ohio.gov/elearning/elearning-ohio-on-itunes-u.dot>

South Carolina - South Carolina Department of Education and Verizon Thinkfinity Partnership Foundation or other sources - \$25,000

The South Carolina Department of Education (SCDE) has partnered with the Verizon Foundation to roll out Verizon Thinkfinity to provide 21st century digital learning resources for South Carolina educators and students. Thinkfinity.org seeks to improve student achievement in traditional classroom settings and beyond by providing high-quality digital content and extensive professional development training. Through a grant from the Verizon Foundation, Thinkfinity South Carolina is offering Verizon Thinkfinity Professional Development to educators throughout the state through the SCDE Office of eLearning's Instructional Technology Coach program. The South Carolina Department of Education is supporting the development of Field Trainers. Field Trainers are now available to be used by local districts.

<http://scde.mrooms.org/index.php?page=1394>

Utah - Enhancing Fourth Grade Math Education through Distance Learning Technology (EMED) EETT Competitive Grant - \$1,000,000

Enhancing Fourth Grade Math Education through Distance Learning Technology (EMED) provided the opportunity for fourth grade teachers in 25 high need (poverty), low achieving, and low access (substantial need for access to technology) schools the opportunity to create effective, research-based math podcast lessons. Participating teachers received up-to-date math and educational technology instruction through access to professional development learning communities. These teachers then created research-based, instructionally sound podcasts concentrating on critical fourth grade math standards to share statewide. Teachers' understanding of how technology enhanced the learning process will be qualitatively evaluated using the Teacher Technology Survey Instrument developed by Northwest Regional Laboratory. Pre-and post measures in experimental and control groups compared the effect of project implementation on teachers' ability to provide technology-enhanced instruction. In relation to student performance, the goal of the program was to decrease the number of fourth grade students not proficient in mathematics by 10 percent through the implementation of research-based instructional practices and integrating effective technology solutions. Results are still pending.

<http://emed.nucenter.org/groups/emed/>

Virginia - Internet Safety and You
Direct State Funding - \$3,750,000

Internet Safety and You, a partnership between the Virginia Department of Education, Professor Garfield Foundation, Verizon Foundation, and Office of the Attorney General of Virginia, provided a website and online lessons about internet safety available to all Virginia students, teachers, and parents. The website offered narrative-based interactive lessons correlated to content standards in mathematics, language arts, science, social studies, and character education. Professional development resources provided teachers with strategies, such as using an interactive whiteboard, grouping techniques, and administrative tools for assigning lessons and monitoring student progress through the program. A longitudinal study of fourth graders showed that before taking the unit, many students had a substantial knowledge of internet safety although, a substantial number maintained risky attitudes and after completing the unit, students improved in all 10 Internet safety aspects.

Appendix L - Dropout Prevention

Alabama - Talladega County 21st Century Technology Project-Based Learning EETT Competitive Grant - \$160,000

The Talladega County 21st Century Technology Project-Based Learning initiative which originally started at Winterboro High School has expanded to Lincoln High School. This initiative implemented project-based learning with one-to-one computing in the core curriculum for all students in grades 7-12. The program funded the redesign of the school buildings to provide equitable learning opportunities for all of the students at these high poverty schools. In addition to computers for students, classrooms equipment included presentation devices, digital cameras and projectors. New servers hosted a learning management system to deliver assignments, assessments, and communications. Teachers participated in intense ongoing professional development to guide how to restructure their classroom practice with the technology tools and project-based focused. The results have shown an increase in graduation rates and motivation, which is expected to continue.

Alabama - Piedmont City 21st Century Technology Project-Based Learning EETT Competitive Grant - \$160,000

The Alabama21 program in rural Piedmont City Schools, transformed 7-12 grade classrooms from traditional teacher-led, lecture models into 21st Century collaborative learning environments. The program increased the student-to-computer ratio to 3:1, added projectors and digital cameras, and developed an intensive professional development program for teachers and administrators. All certified staff members at Piedmont High School completed a of 100 hour professional development program which included on-site coursework and online training resources. This program increased graduation rates and increased the number of graduates that plan to attend college.

Alabama - ACCESS Distance Learning Direct State Funding - \$18,500,000

The Alabama Connecting Classrooms, Educators, and Students Statewide (ACCESS) distance learning program has served students in grades 6-12 statewide by delivering instruction via the Web and interactive videoconferencing. State funds provided each state high school with a distance-learning lab, which included tablets, videoconferencing equipment, an interactive whiteboard, and other technologies in support of the program. 101 unique courses are available, including 11 AP courses, all taught by teachers specifically trained for the program. Over 560 teachers were trained and are currently teaching for ACCESS. In 2009, ACCESS provided 26,197 student enrollments in courses needed to meet graduation requirements and 6,059 additional enrollments in non-credit remediation modules for the state high school graduation exam. In 2007, the average freshman graduation rate was 67 percent, up from 62 percent in 2002. Ongoing evaluation indicates continued positive success rates.

<http://accessdl.state.al.us/>

Illinois - Illinois Virtual School Direct State Funding - \$1,250,000

The Illinois Virtual School (IVS) recently received state funds to create and expand many initiatives of the virtual school, including the creation of a statewide Learning Object Repository (LOR) for housing online content, the expansion of middle school courses, and the expansion of professional development opportunities through the partnership of state and regional professional development

organizations. In addition, IVS is due to receive federal funds to build a self-paced credit recovery refreshing all IVS courses. Currently, IVS supplements state schools with online, instructor-led courses for grades 5-12. There are 131 courses including AP, electives and Middle School courses in Business and Economics, Career Planning, Computer Science and Information, Fine Arts, Language Arts, Mathematics, Science, Social Studies, and Study Skills.

<http://ilvirtual.org/>

Kentucky - Kentucky Virtual Schools

Direct State Funding

The Kentucky Virtual High School (KVHS) was founded in 2000 to provide equity of access to high quality curriculum to all Kentucky students and has seen growth to include robust learning opportunities for adults and teachers through additional state funding. More than 7,000 educators have taken online professional development courses in the past nine years. Today the Kentucky Virtual Schools are composed of the Kentucky Virtual School providing P-12 services and e-Learning Kentucky (ELK) providing services to adults. Online Professional development provided through eLearning Kentucky (ELK) is high quality, media-rich, facilitated, and interactive. Courses reflect the needs of Kentucky teachers/administrators and range from technology integration to training for School Based Decision Making council members. In addition online professional learning communities are being provided to over 3,000 educators. Recent research from a federal Ready to Teach grant indicates that Kentucky educators like online professional development and would readily refer courses to colleagues. They also report after having participated in online professional development to using technology more with their students and their students being more engaged. <http://www.kvhs.org>

Michigan – Dropout Challenge Program

EETT Competitive Grant -

EETT funding, including ARRA EETT funding, supports Michigan’s dropout prevention programs. Michigan’s superintendent created the “Dropout Challenge Program.” Over 1,300 schools signed up for Graduation Town, a professional learning community for building-level administrators for sharing data and best practices. Michigan has the Seat Time Waiver program, which provides flexibility for up to 100 percent online enrollment. The Seat Time Waiver program requires one-to-one and broadband connectivity to the home. Many of the 21 programs received EETT grants over the past two years to support efforts to engage dropout and at-risk students in alternative routes to traditional high school graduation. In one district, Westwood Community High School (metro Detroit), Michigan supported the launch of a cyber high school that has grown to 700 at-risk students. The Graduation Town professional learning community is hosted online with convening and professional development happening online.

Michigan - Seat Time Waiver Program

State Funding - \$18,000,000

In 2007, Superintendent of Public Instruction Michael Flanagan initiated the Seat Time Waivers (STW) program as a means of stimulating instructional innovation in Michigan public schools, which is funded through per-pupil state funds. The goal of the initiative is to develop innovative, proficiency-based models in public schools for assisting students in completing Michigan Merit Curriculum requirements and graduating college and career-ready. The program seeks to challenge the traditional model of

rewarding schools for non-academic measures (i.e. seat time) by providing flexibility to help all students succeed. This flexibility has been provided primarily through online learning models of delivery. To date, more than 2,500 students have enrolled. Existing Seat Time Waiver programs have primarily focused on marginalized students, i.e., dropouts, those at-risk of dropping out, and previously un-enrolled (i.e., home school). The new computer and connectivity requirements provided consistent technology access to all students in participating districts. The STW program has the potential of facilitating major change in teaching and learning.

<http://www.michigan.gov/mde/0,1607,7-140--22360--,00.html>

Michigan - Student Centered, 21st Century Learning Environments EETT Competitive Grant - \$3,613,619

The Student Centered, 21st Century Learning Environments program funded evidence-based, innovative models of studentcentered learning which included instructional strategies focused on the student's needs, abilities, interests, and learning styles with the teacher as a facilitator of learning in a variety of LEAs across the state. These 21st century learning environments incorporated concepts of Universal Design for Learning (UDL) and the effective use of mobile and one-to-one computing technology. In addition, the program focused on dropout prevention and reengagement initiatives that utilized digital environments to enable project-based learning, non traditional instructional methods and cyber learning, aimed at engaging student who have dropped out or who are at-risk of dropping out of high school.

Missouri - Missouri's Virtual Instructional Program (MoVIP) Direct State Funding - \$750,000

The Missouri Virtual Instruction Program (MoVIP) was created through state legislation and received state funding as a way to offer all state students, in grades Kindergarten through twelfth, public, private, or home schooled students, an opportunity to participate in online learning either full or part-time. MoVIP offered 172 courses, with multiple start dates to accommodate student schedules. The appropriation included funds to offer free MoVIP classes to medically fragile students who are unable to attend school. Other tuition courses were made available for schools/students where there are no qualified teachers to teach the course because of teacher shortage, increased demand, or not enough students at a school to assign teachers to teach the course; for students who have schedules preventing them from taking a course when it is offered; or for students in alternative settings because of failure to achieve in regular courses and in need of additional time and/or support. MoVIP students were provided special education, counseling services and technical support. The program utilized online professional development opportunities available within the state. <http://www.movip.org/>

Texas - Texas Virtual School Network (TxVSN) Direct State Funding/State Allotment - \$10,150,000

The Texas Virtual School Network (TxVSN) was established by the Texas Legislature to provide Texas students with equitable access to quality, supplemental online courses. The TxVSN offers a statewide catalog for high school and dual credit courses provided by eligible Texas school districts, open enrollment charter schools, education service centers, and public or private institutions of higher education. TxVSN Provider Districts submit courses for inclusion in the statewide catalog and are responsible for instruction. Each course in the catalog is reviewed for alignment to course Texas

Essential Knowledge and Skills (TEKS) and the International Association for K-12 Online Learning's (iNACOL) National Standards of Quality for Online Courses. Since its inception in January 2009, the TxVSN has provided Texas high school students and schools with a valuable avenue for interactive, collaborative, instructor-led online courses taught by state certified and appropriately-credentialed teachers. The Texas Legislature created a "state virtual school allotment" used to provide funding for online courses. Districts and open-enrollment charter school participation in the TxVSN is growing rapidly each semester. All Texas districts can participate in this state-led resource.

<http://www.txvsn.org/>

Utah - Electronic High School

Direct State Funding/State Allotment

The Electronic High School (EHS), Utah's first and largest online high school, celebrated its sixteenth anniversary this past October. EHS is a public school, under the auspices of the State Office of Education and is one of the largest public online schools. Last year almost 8,000 students turned to EHS classes to make up failed classes or to move ahead toward early graduation. Students who want to take extra electives, advanced placement, or concurrent enrollment college classes can make room in their schedules by taking some required courses online with EHS. Most EHS classes require no textbooks, and one school district and one charter are already using EHS curriculum for local classes. The curriculum is tailored for Utah's Core Curriculum. Currently, along with ongoing projects to improve course material and add more classes, the EHS is looking ahead to the day students will want to access their classes from their cell phones or other portable devices.

<http://www.schools.utah.gov/ehs/>

West Virginia - West Virginia Virtual School

Direct State Funding - \$650,000

onTargetWV, a state-funded pilot program as part of the WV Virtual School serving all students in grades 6-12, was designed to allow students to recover credits needed for graduation and to help them develop skills and work habits for academic success. In West Virginia, more than 25,000 students failed courses in 2008-2009. To reduce the dropout rate and increase graduation rate, this program offered students engaging, interactive and differentiated courses to meet graduation requirements. In addition, WV Virtual School staff provided professional development to a select cadre of teachers in creating blended delivery courses. To help promote the efforts of this program, information on online and blended delivery best practices methods was shared via social networking sites with teachers around the state. Results for this program are pending.

http://virtualschool.k12.wv.us/vschool/view_courses.html