

**SOUTH CAROLINA
K-12 SCHOOL TECHNOLOGY INITIATIVE**

**2014-15
PROGRESS
REPORT**



Much has been accomplished in the effort to transition K-12 education in South Carolina into the digitally connected era, yet much remains to be done. Achieving this goal requires bold educational and technological initiatives as well as steadfast programmatic and budgetary support from our state's leadership.

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ABOUT THE INITIATIVE

Who are we?

The South Carolina K-12 School Technology Initiative was founded in 1996, as part of the General Assembly’s proactive approach to addressing technology infrastructure, connectivity and education in schools throughout the Palmetto State.

The Initiative – steered by a unique public/private partnership that includes the SC Department of Administration, SC Department of Education, SC Education Oversight Committee, SC Educational Television, SC State Library and private sector representatives AT&T and the SC Telecommunications and Broadband Association – guides the distribution of funds appropriated by the Governor and General Assembly. These funds collectively help to meet our schools’ needs for software, hardware, connectivity, digital content, instructional technologies, cybersecurity protection and professional development opportunities.

The K-12 School Technology Initiative is extremely proud of its progress in the development and implementation of educational technology as well as the strides that have been made in providing infrastructure initiatives designed to produce more successful students in South Carolina.

It is our hope that the leaders of the Palmetto State will continue their history of using the K-12 School Technology Initiative to guide the provisioning of high-quality, information-rich education for all students.

Who makes up the Initiative?



ABOUT THE INITIATIVE

Initiative Partners

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SC EDUCATION OVERSIGHT COMMITTEE

Melanie Barton, Executive Director

SC EDUCATIONAL TELEVISION

Linda O'Bryon, President and Chief Executive Officer

SC STATE LIBRARY

Leesa Aiken, Acting Director

AT&T

Pamela Lackey, State President, AT&T South Carolina

SC TELECOMMUNICATIONS AND BROADBAND ASSOCIATION

Nola Armstrong, Executive Director

COMMITTEE CHAIRPERSON

Keith Osman, Director, Division of Technology Operations

WHO DOES THE K-12 SCHOOL TECHNOLOGY INITIATIVE SERVE?

81

SCHOOL DISTRICTS



1,247

PUBLIC SCHOOLS



191

PUBLIC LIBRARIES



55,781

INSTRUCTIONAL STAFF



728,251

STUDENTS



4,832,000

CITIZENS



1

SOUTH CAROLINA



1. EXECUTIVE SUMMARY

Schools throughout the Palmetto State face an ever-increasing variety of technological complexities; ranging from connectivity, networking and cybersecurity to smart devices, one-to-one initiatives and digital learning content. However, amidst the intricacies associated with learning in today's classrooms, it is all too easy to lose sight of the fact that the ultimate goal of the South Carolina K-12 School Technology Initiative is the same as that of every other public education effort, past and present... producing graduates who are supplied with the necessary skills to excel in today's highly competitive global marketplace.

To help ensure our schools are successful in this endeavor, a framework was developed by the South Carolina Council on Competitiveness which drew upon the knowledge, skills and personal attributes identified by employers and business leaders as being critical to the future success of the state's workforce. This framework, a product of the Council's TransformSC initiative, is known as the Profile of the South Carolina Graduate and seeks to align the state's education system with these identified traits.

The Profile of the South Carolina Graduate (illustrated in Appendix C) identifies three broad sets of attributes, as well as a number of specific related elements, that render the

state's workforce competitive in the global marketplace. These attributes include world class knowledge, world class skills, and life and career characteristics.

Many of the skills and attributes listed in the Profile have gained new importance in today's global economy, while others are characteristics that have helped workers become increasingly valuable assets to their employers and communities in general.

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"THE SUPPORT THE INITIATIVE'S PARTNERS PROVIDE PLAYS A CRITICAL ROLE IN ALLOWING THE STATE TO PRODUCE GRADUATES WHO FIT THIS AMBITIOUS PROFILE OF CAREER READINESS AND COMPETITIVENESS."

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The Profile of the South Carolina Graduate has been adopted as a model by a number of key entities in the state, including the South Carolina Department of Education, South Carolina State Board of Education, South Carolina Education Oversight Committee, South Carolina Association of School Administrators Superintendents' Roundtable, South Carolina Arts in Basic Education Steering Committee,

South Carolina Chamber of Commerce and the 37 schools in 19 districts that make up the TransformSC education network.

The partners that make up the K-12 School Technology Initiative likewise view the Profile as an excellent portrait of the graduate of the state's K-12 education system, which is served by the digital learning content and data communication infrastructure provided and enabled by the Initiative's efforts.

Such efforts include the areas of network infrastructure, connectivity, and security, high-quality digital learning content for students, professional development and curriculum support for educators, and communications and collaboration opportunities linking learners, educators, parents and the broader

community.

It is the firm belief of the K-12 School Technology Initiative that the support its partners provide to South Carolina's education community plays a critical role in allowing the state to produce graduates who fit this ambitious profile of career readiness and competitiveness.



2. STUDENT LEARNING & CLASSROOM TECHNOLOGY

South Carolina Technology Plan Goal:

All districts across the State of South Carolina are striving to improve student learning through technology.

Partner Efforts to Support the Goal:

The demands of the modern workplace differ substantially from those of just a few years ago. The successful worker from 1985, whether employed in either traditional “white collar” or “blue collar” jobs, performed tasks based on the academic mastery of a set body of knowledge. Collaborative work was less common and most of the information necessary to perform the job was to be found in manuals and textbooks that might be used for decades without major updates. Productive work was less about innovation and problem solving, and more about applying known and time-tested procedures to complex tasks.

The graduate of today’s public education system must be prepared to thrive in a very different and more dynamic environment. Mission-critical information changes constantly. Collaborative work, often coordinated among remote locations, is the norm. As no two projects are exactly alike, there is a significant premium placed on critical thinking and the ability to innovate and develop creative solutions to emerging problems.

The Profile of the South Carolina Graduate reflects these new values. The Profile lists a set of World Class Skills that equip our state’s K-12 learners to excel in today’s fast-paced and demanding marketplace of ideas and capabilities. Skills such as creativity, critical thinking, problem-solving, teamwork, information management, communication and the ability to learn rapidly and continuously are attributes that can set South Carolina’s graduates apart from those in other areas and, as a result, elevate the state as a desirable business destination.

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“THE INITIATIVE PARTNERS COLLABORATE TO PROVIDE A VAST BODY OF HIGH-QUALITY, CONSTANTLY UPDATED, STANDARDS-BASED DIGITAL CONTENT DESIGNED TO ENABLE THIS MODERN, DATA-DRIVEN EDUCATIONAL MODEL.”

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The skills enumerated in the Profile of the South Carolina Graduate rely intrinsically on the provision of an ever-growing body of high-quality, digital educational content to enable 21st century learning skills. The success of the learner in today’s workplace is ensured from not

merely the mastery of informational content, but the ability to rapidly and accurately search for new information, collate and organize that information, and extrapolate new concepts as a result.

The partners that make up the K-12 School Technology Initiative collaborate to provide a vast body of high-quality, constantly updated, standards-based digital content designed to enable this modern, data-driven educational model. The resources contained in the South Carolina State Library's Discus and StudySC collections, the South Carolina Education Television's (SCETV) StreamlineSC, Knowitall.org, and PBS LearningMedia products, the QuaverMusic resources, and the online curriculum delivered through the South Carolina Department of Education's VirtualSC program are valuable as factual information on a very broad range of grade levels and subject areas.

However, just as important is that the user interface, that is the way this content is packaged and delivered for use by educators and learners, is ideally suited to training and reinforcing learners in their acquisition of the world class learning skills identified in the Profile of the South Carolina Graduate. The provision of an ever-growing body of digital learning resources continues to be a major pillar of South Carolina's K-12 education strategy, as is corroborated by the steadily increasing use of these resources by the state's learners and their teachers.

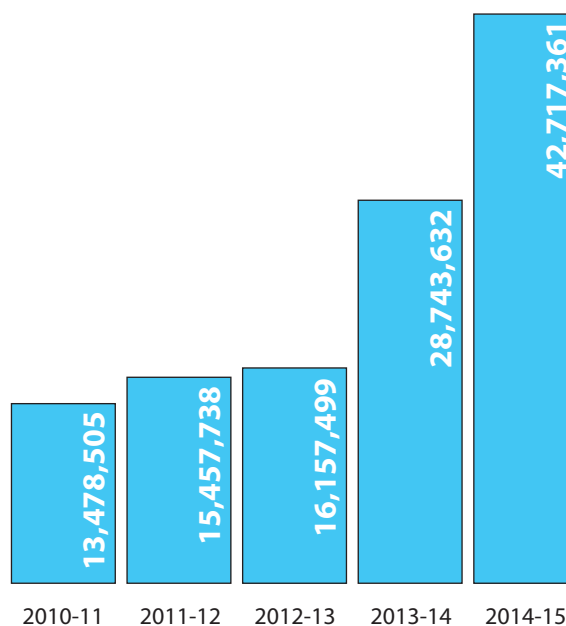
Discus

Digital Information for South Carolina Users (Discus), South Carolina's virtual library, is an invaluable resource supported by the K-12 School Technology Initiative. Administered by the South Carolina State Library (State Library), Discus uses K-12 School Technology Initiative funds to help provide an electronic library of essential high-quality information and educational resources to all state residents through schools, higher education institutions and public libraries.

Through Discus, South Carolinians have the ability to access thousands of magazines, newspapers, encyclopedias, videos, career practice tests and more at any time, on a 24x7 basis. Since its inception 16 years ago, there has been a continual growth in usage. The chart

Discus Usage (Items Retrieved)

Source: South Carolina State Library



above illustrates Discus usage over time and demonstrates the program's contribution to the K-12 learning environment. In FY 2014-15, South Carolinians retrieved 42,717,361 items through Discus, of which the K-12 community has historically been responsible for a large portion of these retrievals.

The increase in items retrieved as compared to FY 2013-14 is due to the implementation of Internet Protocol (IP) geolocation technology for each individual database. Through the use of this technology, all South Carolinians are recognized as residents and are automatically granted access eliminating the need for a username and password.

In addition, Discus implemented the EBSCO Discovery Service which provides a streamlined search tool that incorporates high-end indexing, subject indexing and relevance ranking. This "Google-like" search provides a way to retrieve multi-media, reference resources, academic journals, newspaper articles and primary sources quickly and efficiently through one search box.

In the South Carolina Department of Education (SCDE) document South Carolina Standards for School Library Resource Collections (2012), Discus was referenced as an indispensable resource to provide a platform to help school libraries meet standard collection recommendations for all grade levels, including elementary, middle and high school. Without Discus, many resource-constrained schools could not meet these core collection

recommendations.

Discus provides the same high-quality resources regardless of economic status or geographic location, supporting equal access for all. Without access to high-quality, current and age-appropriate information, student learning suffers. As such, K-12 media centers, as well as academic and public libraries, directly benefit from the availability of Discus.

Discus also provides an excellent return on investment from both a learning perspective and from a cost efficiency standpoint, as indicated through the following information:

- Discus database license costs budgeted for FY 2014-15 were \$2,177,817.
- If each library purchased access separately, the total cost would be over \$57 million.
- Administration of this statewide program provides cost avoidance of over \$52 million (Discus license renewal costs were over \$2 million.)
- All state funding for Discus goes directly to database acquisition.

To learn more about Discus, please visit

www.scdiscus.org.

SCETV Education Services

South Carolina Educational Television (SCETV) resources are used extensively by Pre K-12 children throughout the state, and due to this fact, a considerable amount of programming is designed with this audience in mind. SCETV's on-air educational programming for children

and their families currently includes over 4,300 hours annually.

SCETV, in partnership with the South Carolina Department of Education (SCDE) and the K-12 School Technology Initiative, created StreamlineSC, a standards-based video-on-demand service, in an effort to help improve and manage learning resources in the state's schools. SCETV uses the curriculum-based content of Learn360, a Web-based delivery service for K-12 education, and its own productions to provide teachers with South Carolina based media for classroom use through StreamlineSC. The use of Learn360 began in 2014-15, and replaces a ten year partnership with Discovery Education, which while compatible was more costly.

Together, StreamlineSC and Learn360 offer over 125,000 resources to students throughout the state. Of those, 22,800 are SCETV created content which includes video and audio files.

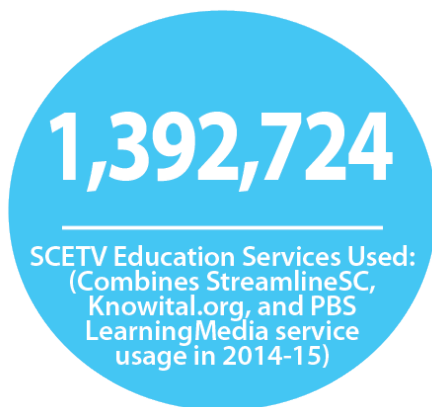
Through its affiliation with the Public Broadcasting Service (PBS), SCETV also offers PBS LearningMedia, an award-winning media-on-demand service, to classrooms

throughout the state. Through this service, teachers have access to a comprehensive source of learning objects, including over 100,000 digital resources for Pre K-12 educators. These objects are free, standards-aligned and curriculum targeted resources that feature PBS award-winning content, including audio, video, images, games and interactive learning activities.

During the last year, more than 8,000 new resources were added through PBS LearningMedia. Content themes included U.S. presidents, holidays and grammar among others, and also included over 1,000 Spanish language resources which were developed to help support classroom-ready resources.

In 2014, PBS LearningMedia launched an impact study with the Education Development Center (EDC) to assess the impact of PBS LearningMedia on classrooms. The study found that on average, students outperformed national assessment norms by 10 percent and state assessment norms by 11 percent. The study also showed that 56 percent of student participants improved their critical thinking skills.

In addition, SCETV also provides access to its own Knowitall.org, a free online collection of original and engaging educational resources designed specifically for classroom use. Knowitall.org has been in existence for over 15 years, and while its usage still remains active, technology has drastically changed during this time. The software Knowitall.org was built with



is considered outdated, and as such, Knowitall.org is not designed to be mobile friendly.

To address these issues, SCETV began an extensive overhaul of the service beginning in the 2015-16 school year. Through this transition, the service was rebranded as Knowitall.org Media (media.knowitall.org) and already offers 854 new mobile friendly videos as well as a sleek and efficient new design.

Due to the ever-changing evolution of media in our society, a majority of SCETV's content has migrated to the Web. Measuring the effectiveness of such content requires a different approach, however, the new analytics for StreamlineSC continues to measure this service in schools. All 81 school districts in the state use StreamlineSC, as well as many private schools, home schools and higher educational institutions. Through Learn360 and the Google Analytics on-demand Pre K-12 education resources, including PBS LearningMedia and Knowitall, SCETV recorded 1,392,724 education resources used during 2014-15.

In 2013 and 2014, SCETV surveyed K-12 teachers and administrators to help identify needs and gauge the use of its Education Services and technology usage in schools. In 2014, a total of 1,284 respondents – representing public, private, charter and home schools as well as child care, adult education centers and higher education – participated in the survey.

Of the 12 SCETV Education Services ranked most useful, StreamlineSC ranked first overall,

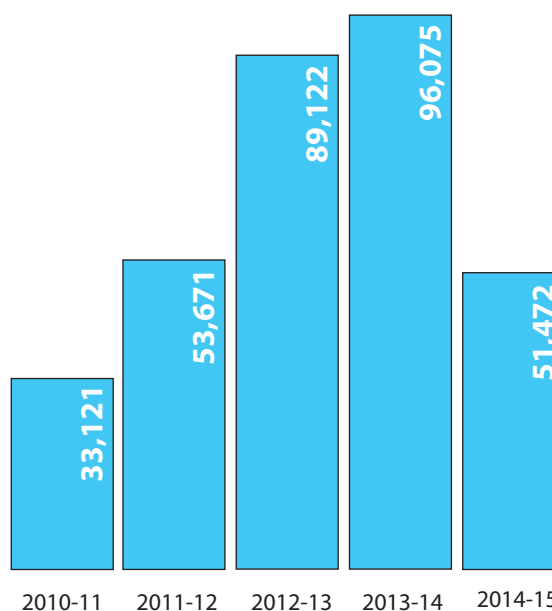
with teacher online professional development courses ranked second, and broadcast services ranked third. Of those responding, 96.3 percent said the SCETV Education Services helped better facilitate learning to improve student performance and engagement.

StudySC

In 2010, the South Carolina State Library launched StudySC, a K-12 educational resource that provides online content designed to support state-specific curriculum standards. StudySC provides South Carolina-related Web resources for homework and project assistance while also offering lesson plans and other content designed to support classroom activities. Information is arranged by grade level and subject area so students can access the information they need as efficiently as

StudySC Sessions

Source: South Carolina State Library



possible. With links to high-quality websites and multimedia content, StudySC continues to be a valuable and popular resource.

The concept for StudySC emerged from feedback indicating the need for a comprehensive portal to assist in locating age-appropriate state information. StudySC was created to meet this need and to support 3rd and 8th grade social studies curriculum standards. This student-friendly site includes such subjects as government, culture, history, environment and geography. In addition, there is a section on famous South Carolinians, a glossary, a daily Twitter feed with South Carolina facts, and South Carolina Book Award nominees from the South Carolina Association of School Librarians.

Last year, StudySC was redesigned with a new look and responsive Web design for a better user experience on tablets and smartphones. As a result, 30 percent of all visits to the site are now from a tablet or other mobile device, with 23 percent from Apple iPads alone. In FY 2014-2015, StudySC had a total of 51,472 sessions from across the state.

To learn more about StudySC, please visit studysc.org.

VirtualSC

VirtualSC, formerly known as the South Carolina Virtual School Program, was developed in 2007 by the South Carolina Department of Education's (SCDE) Office of Virtual Education. Since that time, VirtualSC has become an

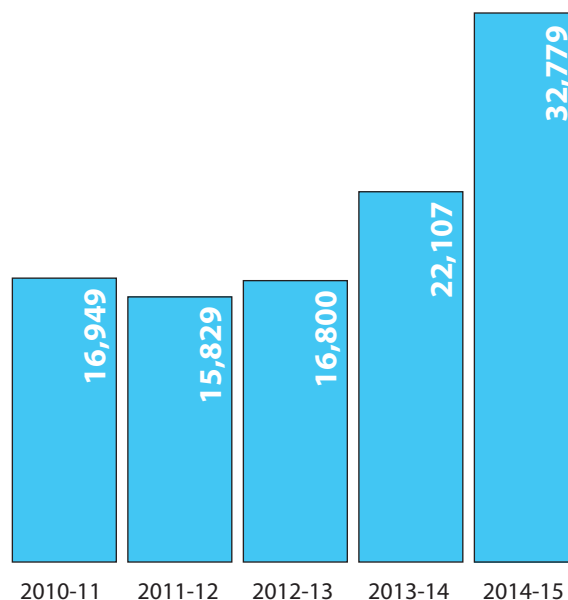
invaluable resource to students throughout the state by offering online courses for credit, free-of-charge to all South Carolina students.

The virtual school program has become increasingly popular since its inception, as evidenced by the 48 percent growth in student enrollments during the past year. VirtualSC courses, available to any South Carolina public, private or home schooled students, are provided via an online learning management system, student information system, e-mail, telephone, instant messaging and real-time Web conferencing software.

To ensure course offerings meet SCDE assessment requirements and align to state standards, materials are evaluated by a VirtualSC curriculum coordinator. In addition to this requirement, VirtualSC evaluates a course

VirtualSC Enrollments

Source: South Carolina Department of Education



if its content is changed to a significant degree such that its alignment may be questionable, or if the standards themselves are changed.

VirtualSC has begun to review all courses based on the Quality Matters framework to ensure that courses meet accessibility standards and follow the guidelines of an external review framework. Future plans include having all courses reviewed by an external review committee using the Quality Matters framework to ensure that all courses meet national guidelines and standards, as well as state academic standards.

Courses offered through this program are taught by state-certified teachers who have demonstrated expertise in their individual subject areas. All VirtualSC full-time teachers hold a rating of “highly qualified” in their

subject area by the SCDE. In addition to their outstanding credentials, all full-time and part-time teachers must undergo in-service Online Professional Development training to teach for the program. VirtualSC used a total of 34 full-time teachers for the academic year in addition to 69 part-time teachers and language coaches that were needed due to the high student demand for courses.

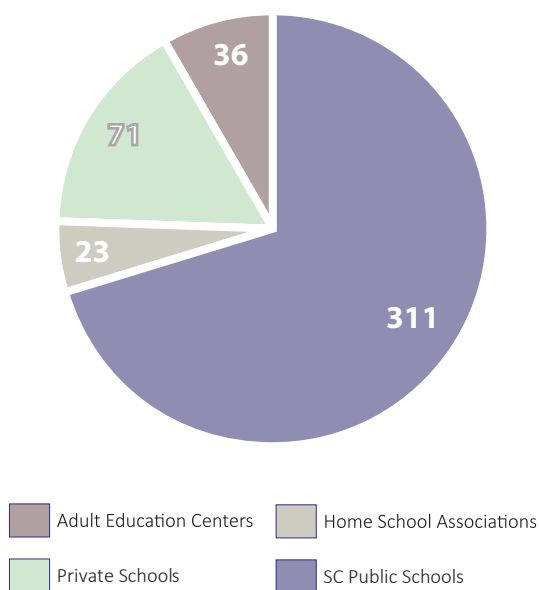
In 2014-15, VirtualSC was able to serve 32,779 student enrollments from 311 schools in 81 public school districts, 23 home school associations, 71 private schools and 36 adult education centers located throughout the state of South Carolina. Of the students who completed their course, the program had a successful course completion rate of 90 percent for the school year.

VirtualSC offered courses in 10 subject areas including Career and Technology Education, English and Language Arts, Fine Arts, Health/Physical Education, Mathematics, Science, Social Studies, World Languages, Skills Recovery and Test Preparation. The program also offered 78 courses of varying levels, including advanced placement, honors, college preparatory and credit recovery classes. In addition to courses in the core content areas of English, Mathematics, Science and Social Studies, VirtualSC offered three languages—Spanish, Latin and French—and a variety of electives in such popular career majors as health occupations, family and consumer science and business education.

During the 2014-15 school year, VirtualSC

VirtualSC Participation

Source: South Carolina Department of Education



underwent a number of major changes. First, the program was completely re-branded with policies and procedures that focus on individual student achievement and success.

Additionally, teachers are now more focused on individual student success, so courses are built with complete flexibility in mind to allow individual learners more options to meet their educational goals.

Finally, the program was given a completely new brand, which included a new website, a new student information system that makes student registration easier, more diverse course offerings, and a new program name to reduce confusion with other virtual charter schools across the state.

In 2014-15, VirtualSC partnered directly with schools to offer Virtual Learning Labs to help schools fulfill several needs resulting from budget cuts, reduced funding and teacher vacancies at smaller schools across the state. Through these learning labs, schools are provided a standards-based virtual course as well as a highly qualified state certified teacher who meets with students virtually during a set period of the school day to provide instruction.

In addition, VirtualSC also began a robot pilot program, which became part of the Virtual Learning Lab option. Through the use of a Double Robot, which displays a visual image of the actual teacher, the virtual teacher can better physically connect with students in the classroom.

During the 2014-15 school year, VirtualSC piloted four classes with robots, including Keyboarding at LEAD Academy Charter School and Dacusville Middle School, Essentials for Algebra 1 at Kingstree Senior High School and Algebra 2 at Timberland High. These classes were attended by 164 students and had a successful completion rate of 91 percent.

VirtualSC also began to offer a new flexible Franchise Program to schools and districts across the state. This program will allow schools to use VirtualSC developed course content, the program's learning management system

(Moodle), and the VirtualSC Student Information System (SIS). Aiken Virtual Academy, which is a supplemental program offered through Aiken County School



Students at Dacusville Middle School in Easley, S.C., interact with VirtualSC's innovative Double Robot. (SCDE/VirtualSC)

District, became the first VirtualSC franchise. During the 2014-15 school year, Aiken Virtual Academy offered 20 class periods over the span

of three semesters and served a total of 486 students with a 79 percent success rate.

Based on this success, several additional districts are offering franchise options during the 2015-16 school year, including Berkeley County School District, Dorchester 4 School District and Jasper County School District. Several others have also started the process of becoming a franchise, including Beaufort County School District and John de la Howe School District.

VirtualSC also offers a blended elementary keyboarding program for grades 3-6. During the 2014-15 school year, VirtualSC served a total of 8,518 elementary students in 19 districts across South Carolina. During the 2015-16 school year, this is being expanded to include kindergarten through second grade students as well and has been expanded to reach 28 districts at the beginning of the school year with more expected to begin offering this service to their students.

The VirtualSC program completed a five year strategic plan focused on the components of the Profile of the South Carolina Graduate – a description of the knowledge, skills and characteristics deemed critical for the state’s graduates to compete in a global economy – and ensuring that students working with VirtualSC are college and career ready.

Throughout the strategic planning process, the VirtualSC Leadership Team identified several ways to ensure students are college and career ready.

Over the next year, VirtualSC will begin to offer the state’s students an option to take dual enrollment courses through a partnership with a state technical school. Presently, VirtualSC staff is working toward piloting approximately four dual enrollment courses for high school students beginning in January 2016. The ultimate goal is to offer dual enrollment courses to students throughout the state at no cost to the student, the school, or parents.

The long term vision for this opportunity is that South Carolina’s students will have the option to take college level courses and earn an Associate’s Degree completely online while working toward their high school diploma. This vision enables all students – regardless of their financial status – to have the same opportunities to earn both high school and college credits.

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“I’M REALLY GLAD THE SOUTH CAROLINA VIRTUAL SCHOOL PROGRAM WAS THERE, BECAUSE WITHOUT IT I WOULDN’T BE ABLE TO GRADUATE. WITHOUT THIS PROGRAM, OTHER STUDENTS LIKE ME WOULDN’T BE ABLE TO GRADUATE OR EVEN GET MORE CREDITS.”

Student Testimony

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Secondly, VirtualSC is planning to begin building middle school level courses over the next few years to ensure that the students have an option to begin learning how to take

online courses in preparation for high school and beyond. Additionally, VirtualSC has plans to offer many exploratory courses to middle school students to ensure they are properly prepared to enter high school.

Lastly, VirtualSC will be completely supporting the Profile of the South Carolina Graduate in many ways, but one example will be to offer an expanded array of world language courses. To ensure students are gaining world class knowledge, VirtualSC will continue to add new languages and course levels with German 1 being added for the 2015-16 school year.

So, VirtualSC will be expanding and implementing a plethora of ways to ensure students obtain world class knowledge, world class skills, and life and career characteristics needed to be academically successful in the 21st century while supporting the Profile of the South Carolina Graduate.

Additional Funding Needs

VirtualSC is growing rapidly in multiple directions and is poised to assist the state with issues in educational equity to ensure all students have equal educational options and opportunities regardless of where in South Carolina they live.

At the present time, VirtualSC is in need of funding to assist with the expansion of its Robot Virtual Learning Lab Pilot (VLL). Over the past year, it's been demonstrated that having a robot in the classroom with the students is a highly successful model that ensures students

build relationships and have high quality and effective communication with their teacher. The VLL projects allow schools to utilize virtual options within their brick and mortar schools during times when a licensed teacher is unavailable or unaffordable or when additional course offerings are desired.

Currently, VirtualSC has a total of five robots available for districts to use in VLL projects. With several existing projects currently ongoing, there are only two remaining for use in other labs. It is anticipated that all program robots will be used this school year. As such, supplemental funding is necessary to cover the purchase of five additional robots to use with other schools as needed throughout the year. This would ensure all schools can be served in the most effective manner to achieve a high rate of student success.

To learn more about VirtualSC, please visit virtuallsc.org.

QuaverMusic

During the 2014-15 school year, the South Carolina Education Oversight Committee (EOC) helped initiate a one-year pilot program with QuaverMusic to provide online music curriculum and training to all public elementary schools in South Carolina. QuaverMusic is an interactive website designed to provide teachers with a fully-digital, state-of-the-art program that allows students to learn about a myriad of music related areas. Such areas include music theory, instruments and ensembles, composers, music history and a

wide variety of different musical styles. Through this program, students are empowered with the ability to explore and create music in, and beyond, the classroom.

During this pilot program, QuaverMusic provided monthly information to the EOC regarding school usage of the basic and expanded music curriculums, as well as a final report documenting the frequency usage for each school in the pilot, the number of lessons, episodes, songs and interactive whiteboard activities (IWB's) accessed by each teacher in each participating school.

The following information summarizes the data provided:

- Lessons – A total of 123,646 Quaver curriculum lessons were accessed, along with over 161,000 digital supplemental resources..
- Teachers – A total of 472 South Carolina teachers logged in and used the Quaver teaching resources. Of those, 256 used the curriculum's developed lesson plans, while 216 used the Essentials/ClassPlay features, which includes interactive song-based activities; teaching music concepts, skills and movement through folk, traditional,

holiday, patriotic and original Quaver song literature.

- Schools – Teachers using the QuaverMusic program were employed in 420 primary and elementary schools, an amount which represents 57 percent of all such schools in the state. These schools were located in 49 of the state's total school districts.
- Training – Quaver held one or more training sessions in a total of 46 school districts. Quaver reported that trainings were also held in seven school districts in the summer of 2015.

To learn more about QuaverMusic, please visit quavermusic.com.



3. INFRASTRUCTURE AND SECURITY

South Carolina Technology Plan Goal:

Provide a robust, secure and cost effective technical infrastructure that improves equitable access to appropriate technologies for all schools in South Carolina.

Partner Efforts to Support the Goal:

The attainment of the educational outcomes expressed in this report is unthinkable without continuing to expand, strengthen and protect the data networks and Internet connections that serve K-12 learners, teachers, administrators and institutions throughout the Palmetto State. The foundation of business and industry has traditionally been the factory floor or the administrative office building. Both of these images are products of the Industrial Revolution of the late 19th and early 20th centuries and have persisted in our collective consciousness to the present day.

However, the new focal point of both business and productivity can be found in the virtual environment created by the networking of workers via computers, tablets, smartphones, wired networks and the Internet. Just as the factory could produce no more than the combined capability of its various machines and assembly lines, the modern learner – as well as the modern worker – can produce no more than is allowed by the capability of the

data processing network to which they are connected.

With this thought in mind, it is not an exaggeration to say that the networks that connect us, whether at school, home, or wirelessly from remote locations, are the most mission-critical infrastructure in today’s K-12 learning enterprise. These networks



“THE ATTAINMENT OF THE EDUCATIONAL OUTCOMES EXPRESSED IN THIS REPORT IS UNTHINKABLE WITHOUT CONTINUING TO EXPAND, STRENGTHEN AND PROTECT THE DATA NETWORKS AND INTERNET CONNECTIONS THAT SERVE SOUTH CAROLINA’S K-12 COMMUNITY.”



not only connect our teachers, students and administrators to one another, but also connect schools to districts, districts to the South Carolina Department of Education, and everyone to the Internet. Evidence of this fact can be found in the constantly increasing requirement for network bandwidth and Internet connectivity in the public K-12 educational environment.

Just as there are factors that may undermine the safety and usefulness of our traditional brick and mortar educational facilities, there are numerous risk factors connected with the networking of today’s K-12 learners and teachers. While school buildings may be threatened by fire, flooding, and other structural issues, our educational networks and Internet connections face increasing risks from viruses, malware, denial-of-service attacks, cyber-bullying, abusive downloads and peer-to-peer file sharing, among many other hazards.

The partners that make up the K-12 School Technology Initiative must continue to meet the ever growing needs for network bandwidth and Internet connectivity while extending the benefits of digitally-supported education as equitably as possible to all of the state’s K-12 learners. While these efforts are of critical importance to the success of students in today’s classrooms, conversely, parallel efforts must be made to maximize the integrity and reliability of our information technology infrastructure as well as the safety of the learners and educators who use this infrastructure. The Initiative’s partners are addressing these cybersecurity concerns by providing basic bandwidth utilization analysis, vouchers for security training for school and district IT personnel, and a powerful, hosted Distributed Denial of Service (DDoS) detection and mitigation service.

Expansion of High-Speed Broadband Infrastructures

Since 2010, the South Carolina Department of

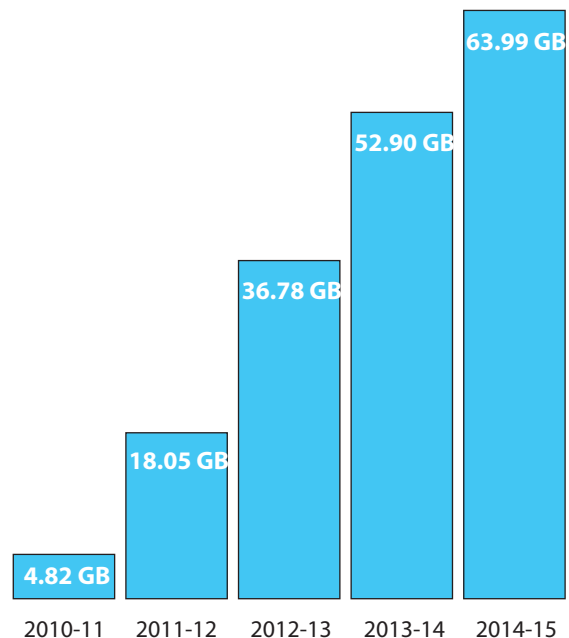
Administration’s Division of Technology (DT) has strived to expand the network connectivity of the state’s K-12 public schools and libraries. The main focus of this effort is designed to provide a stronger technology foundation for K-12 students, teachers and library patrons as they acquire the skills needed to prepare for 21st century emerging educational technologies and job opportunities. As a direct outcome of this focus, fiber-based high-capacity broadband connectivity continues to be expanded on a statewide basis among school and library entities.

Internet and Network Connectivity

In Fiscal Year 2014-15, the South Carolina General Assembly appropriated \$29,288,976 to school districts to address the goals of improving external connections to schools,

Growth of Bandwidth Demand

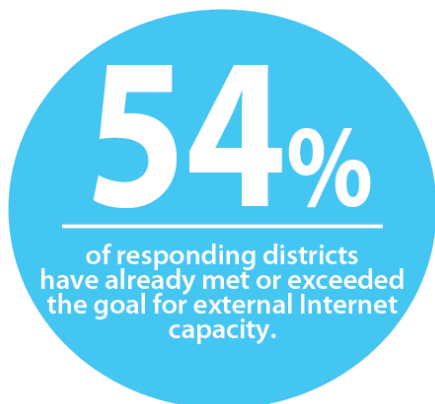
In School Districts (Measured in Gigabytes)



internal connections within schools, and the development or expansion of one-to-one computing initiatives.

A survey was developed by the K-12 School Technology Initiative to help determine the technological capacity of the state’s school districts in relation to each of the stated goals. The survey created a snapshot of each district’s capabilities as of the end of the 2013-14 school year, prior to the expenditure of the additional funds in the subsequent fiscal year.

The South Carolina Department of Education (SCDE) managed the online survey and collected the responses, while the Education Oversight Committee (EOC) tabulated the



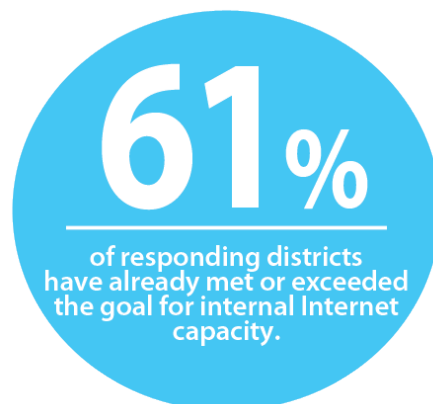
results. As part of the survey, responses were received from each of the state’s public school districts as well as from charter and special schools. A synopsis of the findings from the Fall 2014 Technology Survey are provided below.

Goal 1: Improve external connections to schools, with a goal of reaching at least 100 kilobits per second, per student in each school by 2017.

With funds appropriated by the General Assembly and allocated by the K-12 School Technology Initiative, the Internet bandwidth allocation policy for participating schools is a minimum of 10 kilobits per second (Kbps), per student to each district. Districts having 10,000 students or more are eligible for up to 1 gigabits per second (Gbps). The targeted goal of 100 Kbps per student is equivalent to the policy allocation of 1 Gbps per 1,000 students.

From an Internet service provider perspective, this level of coverage is available. However in order for districts to achieve this target they must have compatible equipment and infrastructure in place to accommodate this level of bandwidth capacity.

As of the end of the 2013-14 school year, where did districts stand in regard to achieving this goal? The Fall 2014 Technology Survey reported the percentage of schools in districts that had existing capacities per student of greater than 100 Kbps, exactly 100 Kbps, and less than 100 Kbps. Of the 74 districts that responded, 54 percent contend to have already met or exceeded the target of 100 Kbps per school for external Internet capacity.



Goal 2: Improve internal connections within schools, with a goal of reaching at least 1 megabit per second, per student in each school by 2017.

In order to gain a better understanding of where South Carolina's schools stood in regards to internal connections, the 2014 Fall Technology Survey assessed the district's capacity as of the end of the 2013-14 school year.

Of the 66 districts who responded to the question, a total of 61.7 percent have already met or exceeded the target of 1 megabit per second (Mbps), per student, with an impressive 54.7 percent already surpassing the goal.



Goal 3: Develop or expand one-to-one computing initiatives.

To better assess the state of South Carolina's 1:1 computing initiatives – defined as each student having been issued an electronic device to access the Internet and digital course materials – districts were asked to report the number of schools with such capacity. Of those responding to the question, three districts reported they

had 1:1 computing capabilities for all students. These districts included Spartanburg County School District 3, Spartanburg School District 7 and York School District 2.

Almost 75 percent of the respondents stated they had a goal of expanding the number of schools with 1:1 computing. Among respondents who indicated they intend to have 1:1 computing in a specific timeframe, the overwhelming majority intended to have 1:1 computing in place for the 2015-16 academic year. When asked if the goal to increase 1:1 computing focused on any specific grade level or levels, 30 percent stated the desire to expand initiatives across all grade levels, while four indicated the desire to focus only on middle grade levels.

A second survey was developed to gauge school district's technological capabilities at the end of the 2014-15 school year, after the expenditure of the General Assembly's appropriation. While the results of this survey have not yet been finalized, a summary of the findings will be provided in next year's Progress Report.

Federal E-Rate Program

Since 1998, the federal E-Rate Program has proved transformational for education technology in public schools and libraries across South Carolina. Today the support provided by this program is being utilized by the Division of Technology (DT) to acquire broadband services for the state's public K-12 school and library network participants.

DT is also responsible for the administration of federal E-Rate program consortia activities in the state. Administrative functions in this area include the preparation and filing of the annual State E-Rate Consortia applications for network connectivity – which is essential in providing Internet access to all state public schools and libraries – as well as assisting individual school districts and libraries with their own E-Rate applications.

Such assistance is provided through the K-12 School Technology Initiative website and consists of current program news, resources and deadlines. Additional assistance is provided through a series of live training sessions held in multiple locations throughout the state.

As part of this program, the Division of Technology files for the reimbursement

of approved E-Rate funding requests and administers the funds in addition to those appropriated by the K-12 School Technology Initiative. The financial resources received through these two sources are used to pay the vendors responsible for supplying network access to connect public schools and libraries with private-side wide area network (WAN) services.

These networks meet a number of local needs and connect the schools and libraries to a central hub which, in turn, links each site to the Internet and access to numerous state resources. The funding support offered by the E-Rate program is essential to the continued expansion of education technology in school and library entities statewide.

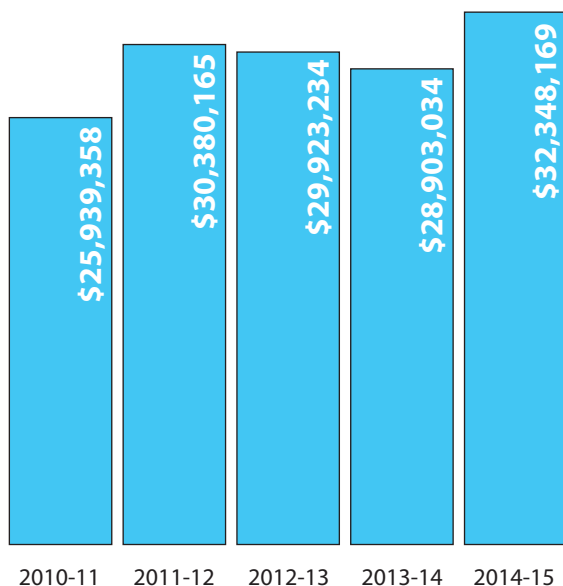
Bandwidth Monitoring Program

The K-12 School Technology Initiative has continued its efforts to ensure that connectivity and Internet bandwidth are best being used to serve the state’s educational needs. These services, offered by Initiative partner Division of Technology (DT), provide security and monitoring of the Internet bandwidth utilization.

As part of this service, DT assists with the detection, prevention and handling of security breaches and virus attacks, as most districts and libraries do not have sufficient resources to manage these ever increasing threats. Through the Bandwidth Monitoring Program, DT has monitoring sensors deployed in each of South Carolina’s 81 public school districts, as well

E-Rate Funding Commitments

Source: Division of Technology



as six charter schools and 42 public library systems.

Distributed Denial of Service (DDoS) Protection Service

In an effort to help South Carolina’s schools and libraries combat the increased use of distributed denial of service (DDoS) attacks, the K-12 School Technology Initiative began offering a new managed security service in the summer of 2015. The DDoS Protection Service, offered through an agreement between the Division of Technology, Spirit Communications and AT&T, is designed to help detect and mitigate DDoS attacks before they can reach a K-12 connection.

The service helps identify and block malicious packets in near real time, while allowing productive Internet traffic to continue to flow. This prevents any possible negative and disruptive effects such attacks have on their intended targets.

DDoS attacks, which attempt to render an organization’s online services unavailable by overwhelming it with network traffic from multiple sources, are extremely costly in both time and financial resources. Without protection, organizational resources are quickly overwhelmed by various types of resource depletion or simply by sheer volume of the traffic directed against targets.

With our growing dependency on the Internet-based delivery of data and other education-related services, the cost of DDoS attacks is

expected to continue skyrocketing in the years to come. A June 2015 article appearing in the Infosec Island website, stated that DDoS attacks could cost victims “as much as \$40,000 per hour in lost revenue, loss of consumer trust, sensitive data theft and intellectual property losses.”

A number of school districts in South Carolina have experienced major DDoS attacks in the past two years, while many others have experienced the same attacks to a somewhat lesser degree. Initial reports gathered during the first three months of the DDoS Protection Service indicate the frequency (averaging more than one per week) and the duration (ranging from hours to days) of smaller attacks are increasing as well.

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“I WOULD LIKE TO PERSONALLY THANK THE K-12 COMMITTEE FOR HEARING AND ACTING ON MY REQUEST TO HAVE THE STATE PROVIDE THIS SERVICE FOR ALL SCHOOL DISTRICTS. I WOULD NEVER WANT ANY OTHER DISTRICT TO GO THROUGH THIS WITH POSSIBLY NO WAY TO STOP IT.”

*Tom Nawrocki, Director of Network Operations,
Charleston County School District*

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This is particularly true during times when students may be motivated to disrupt school activities, such as online testing, that are dependent on Internet service. Students, or any other attacker, can initiate various types of DDoS attacks at a very low cost with little fear of

being discovered or prosecuted. In some cases, students share the DDoS attack information with classmates, which quickly breeds additional attacks which may cause greater disruption of the targeted service.

It may not be possible to prevent DDoS attacks, however, it is imperative that they be mitigated quickly and effectively. The DDoS Protection Service helps to maintain the integrity and efficiency of Internet based resources for South Carolina's school and library administrators, teachers and students.

Security Training Voucher Program

The Security Training Voucher Program is another valuable resource established by the K-12 School Technology Initiative in an effort to enhance cyber and information security defense proficiencies among the state's public school districts. This new effort focuses on promoting IT security training, the applied concepts of which will assist in improving the overall information security of students and staff district-wide.

Through this program, a staff member from each of the state's public school districts is provided with a voucher entitling the recipient to online training offered through the SANS Institute, a world renowned security training organization, and the ability to take the Global Information Assurance Certification (GIAC) examination without cost to the participating district.

The K-12 Technology Initiative is aware of the budgetary constraints our state's schools face, but also recognizes the essential need to further develop critical information security capabilities to better protect our schools, students, data and resources. This program was created with this need in mind, and provides districts the opportunity to acquire world-class security training for staff during a time in which budgetary demands might not otherwise allow.

The SANS training, which includes both OnDemand and vLive opportunities, was designed by a collaboration of the SANS Partnership program and the Center for Internet Security (CIS) to assist in achieving a greater cyber security stance worldwide. The OnDemand and vLive formats, each offering slightly different features, allows participants the flexibility to choose the workflow, interaction, and training speed that best meets their individual needs.

The examination provided by GIAC, the leading provider and developer of information security certifications, tests and validates the ability of practitioners in related security areas. As a result, GIAC certification holders are recognized as experts in the IT industry and are better prepared to help enhance their district's security posture.

K-12 School Technology Initiative funds will continue to play a vital role in sustaining and refreshing South Carolina's technology in order to maintain hardware, software, connectivity and infrastructure.

4. PROFESSIONAL DEVELOPMENT

South Carolina Technology Plan Goal:

Improve teacher and administrator integration technology in the classroom, administration, and overall learning process.

Partner Efforts to Support the Goal:

In today's era of digitally-driven learning, rigorous curriculum standards are more important than ever before. The framework detailed through the Profile of the South Carolina Graduate sets forth the elements necessary to help provide world class knowledge for all of the state's K-12 learners. These elements include standards denoting career and college readiness in the fields of language arts and math, as well as mastery of multiple languages, science, technology, engineering, arts and social sciences.

Ultimately however, it is our educators – including teachers, administrators and media specialists among others – who empower and enable the K-12 learner to acquire such knowledge. Consequently, the demands on educators for ongoing professional development and the continual upgrading of both pedagogic and technology skills are intense. The failure of educators to successfully upgrade these skills, due to scheduling difficulties or the inability to locate valid and approved professional development

opportunities, can have a negative impact on learning that can trickle down through the entire educational system. Likewise, due to time and budget constraints, a teacher may be forced to rely on lesson plans that are less than optimal from a technology standards point of view.

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“INITIATIVE PARTNERS CONTINUE TO PLACE A STRONG EMPHASIS ON PROVIDING POWERFUL, COST-EFFECTIVE, FLEXIBLY-SCHEDULED PROFESSIONAL DEVELOPMENT OPPORTUNITIES AND RIGOROUSLY-TESTED, SUCCESSFUL, TECHNOLOGY-RICH LESSON PLANS.”

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For these reasons, the K-12 School Technology Initiative partners continue to place a strong emphasis on providing powerful, cost-effective, flexibly-scheduled professional development opportunities and rigorously-tested, successful, technology-rich lesson plans. While some of these professional development offerings may be pursued in a face-to-face environment, the vast majority are offered electronically through online resources.

Enormous value is added by the fact that these

professional development opportunities are offered by the same partners who provide the digital learning content for students and the infrastructure responsible for delivering the content to both learners and teachers alike. Through this structure, professional development efforts are more closely matched with the learning content and classroom technologies in use in South Carolina's K-12 public schools. This is much more effective and cost-efficient than the more generic training educators might pursue through other avenues.

SCETV Teacher Courses Searchable Site

South Carolina's educators can save valuable time and effort in finding certificate renewal and graduate level courses through the use of the South Carolina Educational Television (SCETV) Teacher Courses Searchable Site. Through this site, educators can not only search by curriculum interest and credit needed, but can also readily find out if courses qualify for technology credit. One click on the course title and educators can find course descriptions, cost and also access to easy enrollment with the option to pay online.

The SCETV Teacher Courses Searchable Site contains all courses offered by SCETV Teacher Recertification, Teacherline Southeast and TeacherStep. There are courses for 20, 40 and 60 renewal credits and also courses that offer one to three hours of graduate credit through affiliated colleges and universities. Special SCETV technology training and courses that meet Program of Alternative Certification

for Educators (PACE) requirements are easily identified.

SCETV Teacher Recertification offered a total of 54 different 20-hour teacher recertification renewal credit courses five times over the course of the year, and one 60-hour Natural History renewal course twice during the course of the year. In addition, TeacherLine also offered 35 unique facilitated courses and over 40 self-paced courses.

SCETV is committed to serving South Carolina's districts, schools and educators by providing quality professional development to meet the needs of our teaching professionals, who impact learning each day in classrooms across our state.

To learn more about SCETV Teacher Courses, please visit scetv.org/teachercourses.

SCETV Teacher Training

It is vitally important to the success of the state's K-12 educational undertaking that teachers be as well-equipped as possible. The realization of this goal, accomplished in part through pre-service and in-service training, is crucial when dealing with the intense demands of lesson development and delivery, advancements in educational technology and accurate assessment of teaching and learning outcomes.

South Carolina Educational Television (SCETV) contributes to developing and maintaining the professional capacity of our teachers and administrators through online, on-demand

professional development content as well as through an energetic program of face-to-face training in K-12 instructional technology and administration. SCETV also introduced a new blended training series in 2013-14, which has continued through the summer of 2015.

Classroom and hands-on training services offered through SCETV include assessing training needs; conducting school, district-wide and regional training for educators on how to use the educational content; and technology for personalized and project-based learning.

During the summer of 2015, a premium blended recertification package was offered to the state’s teachers consisting of 13 weeklong, hands-on workshops. This training took place in school districts across the state, reaching K-12 teachers from public, private and home schools. At the conclusion of these offerings, participants were surveyed about the content and value of the training. SCETV set up online courses, developed and implemented payment/enrollment processes, and managed customer service for the online recertification courses housed on its online course management system.



SCETV also opened its new Idea Lab during the summer of 2014. Through this newly remodeled state-of-the-art classroom located at the network’s Telecommunications Center, hands-on training is offered to the state’s teachers, including weeklong courses on SCETV services using the Internet, iPads and free web-based tools and applications. The Idea Lab features all-new mobile devices, laptops and tablets in a wireless environment, and can also be utilized for receptions, meetings and conferences.

In an effort to help teachers prepare college and career ready students, SCETV conducts face-to-face training as well as several hosted online recertification services. Through these face-to-face efforts, 8,147 public, private and home school teachers and administrators were provided quality, certified professional development. There were 2,800 enrollments through SCETV Recertification, PBS TeacherLine SouthEast and the SCETV Endowment’s TeacherStep services, which resulted in a total of 78,992 instructional hours to meet required accredited recertification.

Discus

The South Carolina State Library’s (State Library) Digital Information for South Carolina Users (Discus) program is designed to help ensure a level playing field for all South Carolinians by providing access to high-quality information needed for the success of students of all ages. The collection of resources included in Discus provides material on a wide range of subjects. Social science studies, appreciation of the

world's cultures, health and wellness, science education, literary analyses, college readiness and career exploration are some of the many subjects included in the collection.

In FY 2014-15, Discus experienced an overall increase in usage due to several technological enhancements by both the State Library and the database vendors. One project implemented by the State Library involved an enhanced geolocation authentication project, allowing seamless access to all South Carolinians regardless of age or economic status. The second technical project was the implementation of the EBSCO Discovery Service, which provides a "Google-like" method of searching multi-media, academic journals, reference materials and primary sources all with one simple search.

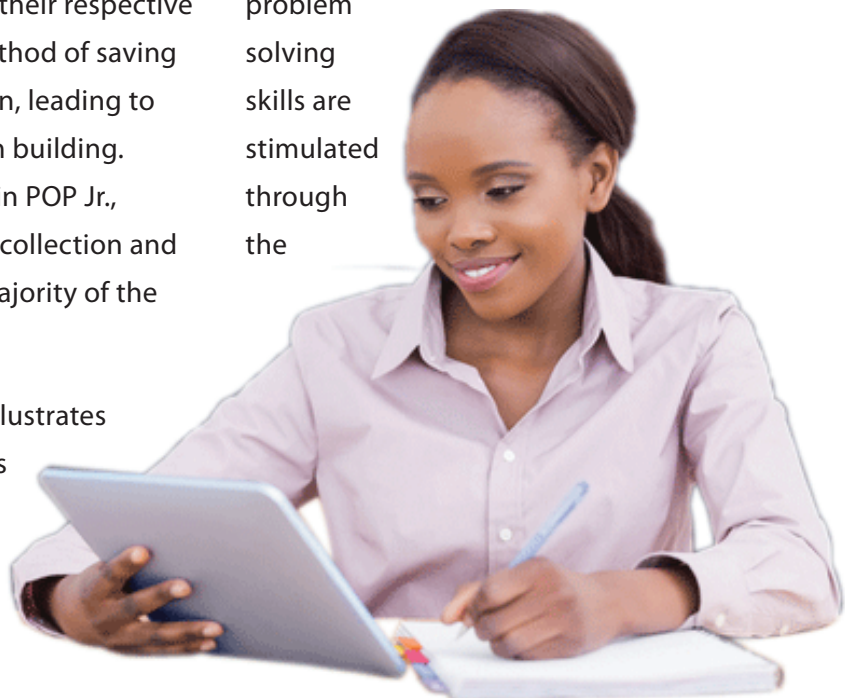
Several of the Discus database providers have incorporated research and collaboration tools for educators and students into their respective products. These tools offer a method of saving and sharing research information, leading to better communication and team building. Several databases including Brain POP Jr., Credo Reference, the Britannica collection and the EBSCO suite provided the majority of the increased usage.

This increase is significant as it illustrates that more of the state's residents are using Discus and the age range of the user is broader. BrainPOP Jr. is designed for K-3 grade levels while the

Britannica collection of encyclopedic content is separated into three levels for elementary, middle school and high school learners. The EBSCO suite of databases provides the majority of the Discus resources for all ages of students.

The Discus collection of electronic resources also includes the LearningExpress Library, an interactive tool which provides practice tests, tutorials and e-books for both students and adult learners to succeed on academic and licensing exams. Feedback from this tool includes immediate scoring, complete answer explanations, and an individualized analysis of the user's results. Discus also includes Science Reference Center and Bloom's Literature which are both full-text databases designed for research by students of all ages.

Discus also provides a wide variety of other valuable resources, each with their own particular areas of focus. Critical thinking and problem solving skills are stimulated through the



Points of View Reference Center and Opposing Viewpoints in Context resources.

Global perspective education is promoted through the utilization of CultureGrams by ProQuest. This database of country reports aims to foster understanding and appreciation of the world's countries and peoples, providing a global perspective for all ages.

Ferguson's Career Guidance Center is a career research database that includes overview articles and videos on over 3,000 jobs and 94 industries, broken into 16 career clusters created by the U.S. Department of Education. An enhanced feature of this database is the career videos section where professionals provide candid career advice for job success, such as responsibilities, skills and education requirements.

Introducing Discus in South Carolina schools early in a student's career familiarizes them with the art and methodology of research. Learning these skills at a young age, along with the technical knowledge needed to access the electronic resources, reinforces the need to provide these tools to all of our students in order to ensure a successful career path.

To learn more about Discus, please visit scdiscus.org.

Online Professional Development for Certified Staff

The South Carolina Department of Education's (SCDE) Office of Virtual Education recognizes the importance of improving teacher

technology proficiency to help ensure students receive the necessary instruction to become productive citizens in the 21st century. The Office of Virtual Education has continued to offer online professional development courses for certified staff, consisting of technology integration courses and courses that help lead to the Online Teaching Endorsement for South Carolina certified teachers and administrators.

Courses are offered for both renewal credits and graduate credit to assist teachers in renewing their teaching license, and are taught by current classroom or former classroom teachers that have demonstrated exemplary skills in integrating technology into their daily lessons. The main purpose of taking courses through the program is to ensure that teachers have the skills to enhance their daily instruction by including technology in every way possible for the benefit of the students. Through these courses, we can be more assured that teachers are preparing their students to not only become good digital citizens, but also prepared with 21st century skills.

The Online Professional Development for Certified Staff program currently serves over 3,000 teachers annually and is growing rapidly. This year the program has been expanded to offer several new programs including an option for rolling enrollment. Through this new program teachers can enroll in a course of their choice at any time and begin work right away.

As a result, teachers have a flexible schedule to complete the coursework on their

own timeframe within a sixty day period. Teachers are given pre-assessments and post-assessments to ensure they are learning new skills to embed technology into their classrooms. Each course is designed to be completely competency-based, which means each teacher will have an individualized experience in the course based on their needs and the skills they already possess.

Teachers that are more advanced in technology will learn new skills in more advanced topics, while teachers that are just learning the basics of technology will see more basic level topics to ensure each teacher is receiving the coursework and material that best enhances their learning. Several courses such as this have already been developed and are being offered. Courses currently offered on a rolling-enrollment basis include Practical Applications of Microsoft Word 2010 and Higher, Practical Applications of Microsoft PowerPoint 2010 and Higher, Practical Applications of Microsoft Excel 2010 and Higher, and Open Educational Resources for Teachers.

In addition, the Office of Virtual Education has focused on working with individual schools from across the state to offer the Intel Essential Elements series to their teachers as well as courses designed to teach about the tools used for accessibility and universal design. Schools and districts that worked with the office to provide professional development include the Greenville County School District, Spartanburg School District 2's Chesnee Elementary School and Charleston County School District's Lambs

Elementary School.

Discus and StudySC Professional Development

The South Carolina State Library (State Library) offers technology integration professional development opportunities for teachers, counselors, librarians and media specialists through a variety of means. Such means include Discus and StudySC presentations delivered at conferences, instructional fairs and technology forum exhibits. Presentations have also been made to the South Carolina Independent School Association (SCISA), the South Carolina Association for the Education of Young Children (SCAEYC) as well as to students in the University of South Carolina's School of Library and Information Science.

These professional development offerings are designed to familiarize educators with the electronic resources available to them and the entire K-12 community for research and homework assistance. In order to reach more people throughout the state, the State Library increased the types of training offered using a variety of technology and outreach efforts.

Educators had access to 70 Discus professional development opportunities delivered online and via live sessions and presentations, with 879 educators participating. In addition, exhibit booths targeted to K-12 participants at six major statewide conferences and six local conferences further extended the Discus and StudySC message to 1,541 booth visitors, which is a significant increase from the previous year.

5. COLLABORATION OPPORTUNITIES

South Carolina Technology Plan Goal:

Identify innovative ways for state agencies, local school districts, schools, families, and local businesses to collaborate to enhance the learning experiences for the students of South Carolina.

Partner Efforts to Support the Goal:

The third aspect detailed in the Profile of the South Carolina Graduate is the nourishing of Life and Career Characteristics within the hearts and minds of the state’s K-12 learners. While today’s public education system and digitally-driven workplace differ substantially from previous generations, there is a growing realization that the same life skills that made workers productive and successful in previous generations are still needed today. As a result, the Profile emphasizes such characteristics as integrity, self-direction, perseverance, a strong work ethic, a global perspective, and highly developed interpersonal skills.

There is a deepening recognition that these life skills may be nurtured and reinforced by what goes on in the K-12 classroom, however, they are established and promoted most thoroughly by the combined efforts of professional educators, concerned and engaged parents or guardians, and an active, pro-education community.

To this end, the partners of the K-12 School Technology Initiative leverage the powerful and influential medium of SCETV’s statewide public broadcasting platforms, as well as the ad hoc

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“THE ULTIMATE GOAL OF THESE COLLABORATIVE EFFORTS IS TO ENLIST THE SUPPORT OF THE ENTIRE PALMETTO STATE COMMUNITY IN INSTILLING THESE LIFE AND CAREER CHARACTERISTICS IN OUR PUBLIC SCHOOL GRADUATES.”
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engagements of the various partners, to tell this story whenever and wherever the opportunity arises. The ultimate goal of these collaborative efforts is to enlist the support of the entire Palmetto State community in instilling these valued Life and Career Characteristics in our public school graduates, helping to ensure they have the most fulfilling and productive life possible.

SCETV Public Awareness Efforts

In an effort to inform citizens of the availability of educational programs, services and technologies, South Carolina Educational Television (SCETV) and SCETV Radio share stories of projects that serve to address the

needs of teachers and students throughout the state. A number of national and statewide television series and educational specials – including SCETV’s Palmetto Scene, Speaking of Schools, and in 2015, Carolina Classrooms – are broadcast and archived for use in schools and classrooms. Content broadcast through these mediums provide case studies and best practices for use throughout the state. Promotion of these programs and services are provided through a variety of platforms, including SCETV communications, educational websites and broadcast interstitials, as well as community education outreach efforts through K-12 conferences, presentations and awards.

In 2015, SCETV launched Carolina Classrooms, a series designed for teachers, educators and parents. Segments included in this series feature educational initiatives geared towards early learning, adult education and literacy. State and local educators, as well as policy and business leaders, participated in this effort. Radio broadcasts of educational content included Walter Edgar’s Journal, South Carolina A-Z and the South Carolina Department of Education’s (SCDE) Speaking of Schools.

To learn more about Carolina Classrooms, please visit scetv.org/carolinaclassrooms.

Palmetto Scene, SCETV’s weekly news and public affairs series, frequently features education-related stories which are archived on the Palmetto Scene website for subsequent use. One such feature was a series titled WhatWorksSC, which served to highlight

successful educational initiatives in South Carolina.

To learn more about Palmetto Scene education stores, please visit palmettoscene.org/category/education.

During the 2013-14 school year, SCETV, in partnership with the National Black Programming Consortium, produced a two-hour documentary for the Public Broadcasting Service (PBS) titled 180 Days: Hartsville, a documentary that tracked the challenges and opportunities of two rural schools in South Carolina. The documentary aired on PBS in March 2015, and was carried by 98 percent of the PBS system. In addition, an extensive community engagement was launched on PBS.org’s American Graduate site. The series was also screened for the South Carolina House Education Committee in the spring of 2015.

Throughout the year, SCETV provides education-related newsletter blogs and partners with the South Carolina Education Oversight Committee (EOC) and the SCDE for the promotion of SCETV education features. SCETV Education, working with the EOC, provides a monthly newsletter, subscribed to by over 73,000 teachers and staff, to assist in informing teachers of available resources and services. SCETV also uses social media including Facebook and Twitter to engage the education community.

To learn more about SCETV’s Education Blog, please visit scetv.org/education-blog.

6. REPORT CONCLUSION

K-12 public education in South Carolina is firmly committed to the formation of young adults who can take their places in the state's burgeoning economic and business environment. The typical graduates of our state's K-12 educational system will be expected to integrate smoothly into a fast-paced, data-driven, technologically-advanced workplace. Only by continuing to provide exceptional digital learning resources and a powerful, robust, and safe information technology infrastructure to our learners and educators can South Carolina hope to meet the competitive challenges of a global economy.

The Profile of the South Carolina Graduate, as endorsed by numerous state education

stakeholders including the K-12 School Technology Initiative, is a substantial leap forward in understanding and defining what a successful participant in the knowledge economy looks like. The efforts of the K-12 School Technology Initiative have been instrumental in enabling South Carolina to produce public education graduates who fit this ambitious profile.

The digital learning resources, professional development, networking infrastructure, and Internet connectivity provided by the Initiative remain critical and irreplaceable components in aiding our state in creating the work force it needs to compete at the highest levels nationally and internationally.



APPENDIX A: FY16 INITIATIVE BUDGET

FY16 K-12 Technology Initiative Budget Plan

FY16	
Funds Available via Direct Appropriations:	
Base Appropriation: School Technology	\$12,271,826
Total Appropriations :	\$12,271,826
Carry Forward:	
State Library	\$0
SCETV	\$85,149
SCDE	\$0
Department of Administration	\$0
Total Carry Forward :	\$85,149
Total Available Funds:	\$12,356,975
E-Rate Funds (Estimated)	\$25,637,000
Total Funds Anticipated:	\$37,993,975
Total Budget Requested:	\$37,993,975
Net Remaining funds:	\$0

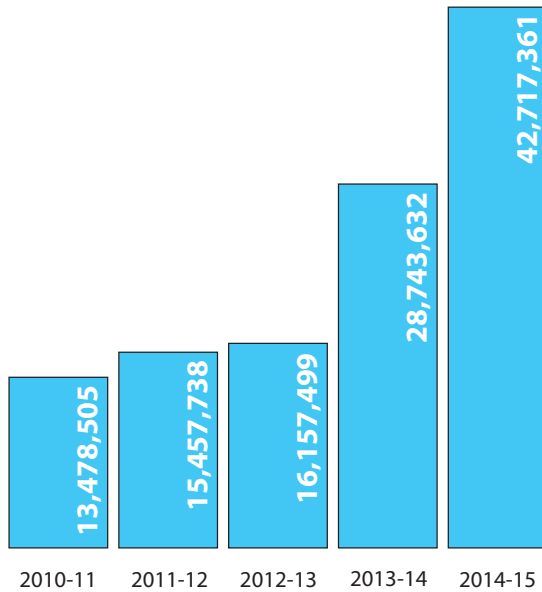


Priority	Principals Budget Requests	Budget Requests	School Technology Appropriation	E-Rate Funds (Estimated)	Approved Budgets
DEPARTMENT of ADMINISTRATION					
1	Network Connectivity Costs	\$35,846,000	\$10,209,000	\$25,637,000	\$35,846,000
2	E-Rate Field Training	\$560	\$560		\$560
3	Security Monitoring	\$653,587	\$653,587		\$653,587
4	DDOS Protection	\$470,400	\$470,400		\$470,400
5	Local Security/Training Enhancements	\$92,859	\$92,859		\$92,859
	Total:	\$37,063,406	\$11,426,406	\$25,637,000	\$37,063,406
STATE LIBRARY					
1		\$0	\$0		\$0
	Total:	\$0	\$0		\$0
SCDE					
1	Dell One Identity Manager	\$295,718	\$295,718		\$295,718
	Total:	\$295,718	\$295,718		\$295,718
SCETV					
1	Curriculum K12 Activities and Project Modules Platform	\$175,000	\$175,000		\$175,000
2	StreamlineSC Content Subscription	\$400,000	\$400,000		\$400,000
3	Knowitall Content Upgrade	\$145,000	\$145,000		\$145,000
	Total:	\$720,000	\$720,000		\$720,000
PILOT PROJECTS					
		\$0	\$0		\$0
	Total Carry Forward From Previous year:	\$0	\$85,149		\$ 85,149
	Grand Total:	\$38,079,124	\$12,356,975	\$25,637,000	\$37,993,975
* Net Appropriation Allocation			\$0	Balanced	

APPENDIX B: BY THE NUMBERS

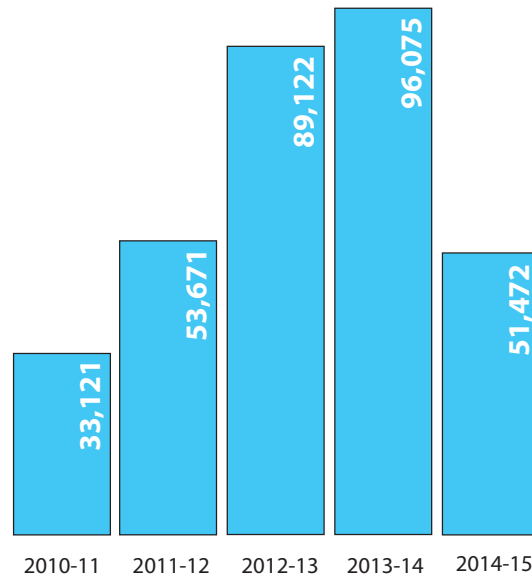
Discus Usage (Items Retrieved)

Source: South Carolina State Library



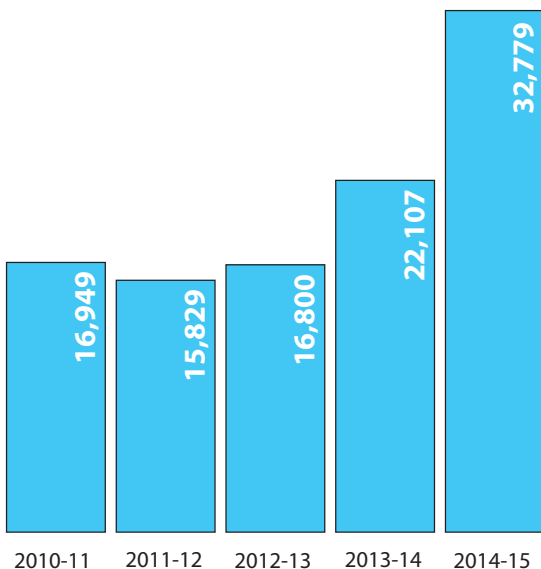
StudySC Sessions

Source: South Carolina State Library



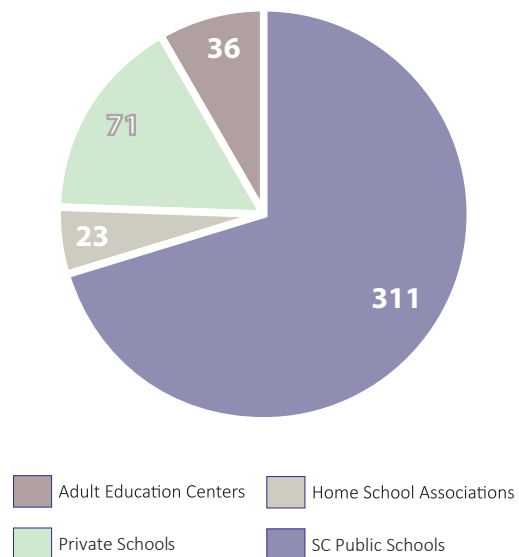
VirtualSC Enrollments

Source: South Carolina Department of Education



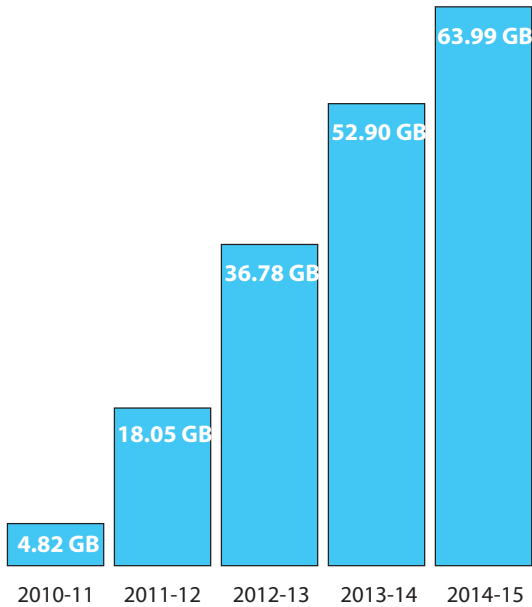
VirtualSC Participation

Source: South Carolina Department of Education



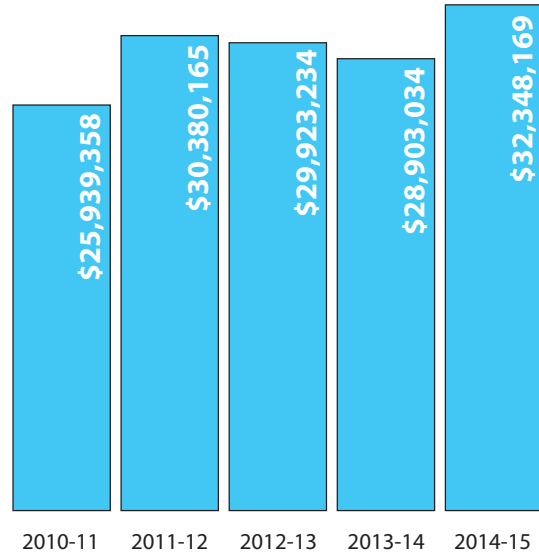
Growth of Bandwidth Demand

In School Districts (Measured in Gigabytes)



E-Rate Funding Commitments

Source: Division of Technology



1,392,724

SCETV Education Services Used:
(Combines StreamlineSC,
KnowItAll.org, and PBS
LearningMedia service
usage in 2014-15)

SCETV
Professional
Development

8,417 | 78,992

Face-to-Face
Training
Conducted

Online
Recertification
Hours

54%

of responding districts
have already met or exceeded
the goal for external Internet
capacity.

61%

of responding districts
have already met or exceeded
the goal for internal Internet
capacity.

3

responding districts reported
currently having 1:1
computing capabilities for all
students.

APPENDIX C: PROFILE OF THE SC GRADUATE

**PROFILE OF THE
SOUTH CAROLINA GRADUATE**

WORLD CLASS KNOWLEDGE
Rigorous standards in language arts and math for career and college readiness
Multiple languages, science, technology, engineering, mathematics (STEM), arts and social sciences

WORLD CLASS SKILLS
Creativity and innovation
Critical thinking and problem solving
Collaboration and teamwork
Communication, information, media and technology
Knowing how to learn

LIFE AND CAREER CHARACTERISTICS
Integrity
Self-direction
Global Perspective
Perseverance
Work Ethic
Interpersonal Skills

transformSC
AN INITIATIVE OF SOUTH CAROLINA COUNCIL ON COMPETITIVENESS

© SCASA Superintendents' Roundtable.
Adopted by: SC Arts in Basic Curriculum Steering Committee, SC Chamber of Commerce, SC Council on Competitiveness, SC Education Oversight Committee, SC State Board of Education, SC Department of Education, TransformSC Schools & Districts

APPENDIX D: INITIATIVE MILESTONES

1996-97

- The South Carolina General Assembly created the K–12 School Technology Initiative.
- The K–12 School Technology Initiative began funding two-way video projects across South Carolina.

1997-98

- The K–12 School Technology Initiative distributed over \$12 million to state districts for local technology implementation.
- South Carolina Educational Television (SCETV) began digitizing its video resources for use in schools.
- South Carolina was recognized by the Educational Testing Service as one of five states to provide telecommunications access in all schools.

1998-99

- South Carolina received over \$26 million in E-Rate funding.
- South Carolina encouraged the state’s school districts to adopt the International Society for Technology in Education’s National Educational Technology Standards for Students (ISTE NETS-S) and National Educational Technology Standards for Teachers (ISTE NETS-T).
- By 1998, South Carolina invested more than \$84 million in hardware, software and professional development opportunities or schools and districts.
- The K-12 School Technology Initiative began distributing funding for professional development in technology as well as technology implementation to districts,

sending over \$16 million in total funding to districts statewide.

- 86 percent of South Carolina’s schools were equipped with satellite dishes in order to receive education programming, compared to a national average of 29 percent.
- 67 percent of South Carolina classrooms were connected to local-area computer networks (LANs), compared to 53 percent nationwide.
- Technology Counts ‘98 reported that South Carolina was one of only five states in the nation to provide Internet access to 100 percent of its schools.

1999-00

- South Carolina, an E-Rate leader, received over \$42 million in funding.
- The South Carolina State Library’s (State Library) Discus website was launched.
- The new student-information collection system, Schools Administrative Student Information (ASlxp), was provided free to all districts.
- 100 percent of all state K-12 schools have digital satellite reception.

2000-01

- South Carolina E-Rate funding continued to climb to over \$52 million.
- State K–12 appropriations for educational technology funding increased to over \$40 million.

2001-02

- The South Carolina General Assembly passed the Teacher Technology Proficiency Proviso, requiring districts to verify that teachers demonstrate technology proficiency during each recertification cycle.
- South Carolina received \$44,280,175 in E-Rate funding.
- The K-12 Partnership provided \$400,000 of funding, for technical training for district's technology support personnel.
- SCETV's Knowitall.org Web portal was officially launched.
- SCETV's Distance Education Learning Centers were operational in all school districts.
- The K-12 School Technology Initiative provided over \$18 million in flow-through funding to districts for local technology and training.
- The South Carolina Education Oversight Committee (EOC) issued its long-range planning document, citing technology use as necessary for South Carolina to reach its 2010 goal of being ranked in the top half of states nationwide with regard to student achievement.
- ETV American Graduate, a public media initiative funded by the Corporation for Public Broadcasting (CPB) helped South Carolina's communities find solutions to address the dropout crisis.

2002-03

- K-12 School Technology Initiative funding decreased from a high of \$40 million in 2001, to a five-year low of \$19 million.
- South Carolina encouraged its school districts to adopt the International Society for Technology in Educations (ISTE) National Educational Technology Standards for Administrators (NETS-A).

2003-04

- The student-information collection system

SASlxp was fully implemented in all state school districts.

- The Division of State Information Technology (DSIT) filed the calculations for all schools and districts for the E-Rate Discount Program, resulting in over \$49 million for the state and school districts in discount payments.
- K-12 School Technology Initiative funding provided the Intel Teach program to educators across the state.
- The South Carolina Department of Education (SCDE) released its State Educational Technology Plan, 2003-08: Realizing the Dream, to all South Carolina stakeholders.
- K-12 School Technology Initiative funding supported 30 Technology Coaches.
- SCDE released a new SASlxp template and the Data Collections Manual, initiated quarterly collections and began to rely on the new South Carolina Educational Data System (SCEDS).
- SCDE's South Carolina Online Professional Development (SCOPD) program, now known as eLearningSC, was officially launched.
- A new Training Teachers in Technology (T3) professional development CD-ROM entitled "The Nature and Needs of Gifted and Talented Students" was offered to districts.

2004-05

- SCDE's ePortfolio project pilot was launched to assess teacher technology proficiency and to provide information on professional development offerings.
- SCETV's Internet video-on-demand service, StreamlineSC, was officially launched.

2005-06

- The South Carolina Legislature called for a feasibility study to investigate computer-based assessment in the state.
- SCETV's StreamlineSC reached 100 percent of the state's K-12 schools and had 1.3 million views within its first full year of operation.

2006-07

- The South Carolina Virtual School pilot was officially launched by the SCDE.
- SCETV's Knowitall.org celebrated its 10 millionth hit.
- SCETV's Knowitall.org launched two new sites, Knowitall Healthy! and Road Trip.

2007-08

- The State Library's Discus program launched its new website featuring Web 2.0 technology.
- The State Library began the implementation of SchoolRooms, an online multimedia discovery place for the K-12 community.
- The K-12 School Technology Initiative approved the implementation of a service offered by DSIT to provide security and monitoring of K-12 Internet bandwidth usage.
- SCETV procured a \$1.94 million grant that began SCETV's transition from analog video over microwave delivery of educational content to a streaming media delivery in 33 of 85 school districts.

2008-09

- SCETV launched OnePlaceSC, its newest K-12 education Web portal.
- SCETV launched Digital Education Services (DES), an upgraded service of the Distance Learning Education Centers (DLEC), designed to transition existing analog and digital broadcasts to live and video streaming on-demand systems.
- SCETV live-streamed both SCETV radio stations, enabling the stations to be added to the OnePlaceSC programming lineup and for the general public to listen to SCETV Radio on the Internet.

2009-10

- SCDE released its State Educational Technology Plan for 2009-13.
- The State Library's Discus program launched

SmartSearch, enabling the retrieval of information from multiple sources through a single "Google-like" search.

- The State Library's Discus program implemented IP geolocation technology through SmartSearch, allowing students to be recognized as being in South Carolina and automatically granted access without the need for usernames or passwords.
- The State Library added a number of career and workforce development products to Discus including Ferguson's Career Guidance Center, LearningExpress Library and the NetLibrary Career eBook collection
- The State Library launched the StudySC.org website, a resource designed to provide online links and multimedia content for homework help, project assistance and classroom use.
- The State Library received a Presidential Citation Award from the South Carolina Library Association in recognition of ten years of Discus, South Carolina's Virtual Library.
- SCETV's StreamlineSC video-on-demand service had 3.16 million views during the 2009-10 school year, and the highest per-teacher video-on-demand usage of any such service in the nation.
- SCETV's Knowitall.org portal had 6.01 million views in FY 2009-2010.
- SCETV's Web of Water site, part of Knowitall.org, was awarded a Corporation or Public Broadcasting MySource Education Innovation Award in March of 2010.
- SCETV's Digital Education Services (DES) systems were implemented in 44 of 85 state K-12 school districts.
- SCETV added new content to several of its most popular Knowitall.org Web sites, including Artopia, RiverVenture, Generations of Heroes, GullahNet, Educator+ and Career Aisle.
- DSIT filed E-Rate applications for network connectivity costs of \$22.7 million in eligible services in 2009-10, and received federal E-Rate

reimbursements of \$13.8 million.

- The K-12 School Technology Initiative, in conjunction with DSIT, developed version four of the Internet policy, designed to ensure the equitable use of available funds to supply sufficient Internet bandwidth to all districts.
- SCETV procured a \$1.4 million American Recovery and Reinvestment Act grant through an agreement with SCDE. The funds were used to add an additional 26 school districts to districts viewing all media via SCETV's IP Media server technologies.
- Through SCETV, 73 of the state's 81 school districts received all district televised media via streaming Media Server constellation.

2010-11

- SCETV's website "Web of Water," received the nationally prestigious Corporation for Public Broadcasting (CPB) Innovation in Education Award.
- The State Library implemented five new products in its Discus program. The products included Biography In Context, Opposing Viewpoints In Context, Science In Context, U.S. History In Context and World History In Context.
- The State Library's Discus program added Ferguson's Career Guidance Center, LearningExpress Library and the EBSCO Career eBook Collection to its Discus Job and Career Resources component.

2011-12

- SCETV began offering the PBS Learning Media service.
- SCETV finalized the Educational Broadband System (EBS) transition from 67 four-channel groups to a streamed down single channel per group (EBS mid-band) dedicated to transmitting ITV programming for all school districts in the state.
- SCETV developed and instituted an agreement to migrate all StreamlineSC content to the

constellation of IP Media servers, allowing districts to have a Streamline server on their internal Ethernet network. The higher capacity storage also enabled the districts to access the entire StreamlineSC asset library.

- Through a CPB American Archive Content Inventory Project grant, SCETV inventoried over 100,000 physical and electronic assets and compiled a database of metadata that can be accessed for educational and documentary projects.
- The State Library's Discus program conducted an extensive evaluation project during FY 2011-12, resulting in a new collection for FY 2012-13 that will retain many of the most heavily used products while adding much needed content in other areas.
- The State Library forged a partnership with the Partnership Among South Carolina Academic Libraries (PASCAL) which has helped to provide a richer array of resources utilizing combined funding efforts.

2012-13

- K-12 School Technology Initiative partners participated in the TransformSC initiative.
- SCETV partnered with Lexington School District Four to provide literacy resources to its pre-K and K-3 students to include scholarships for facilitators of the PBS "Raising Readers: Preparing Preschoolers for Success" initiative. This initiative addressed reading proficiencies and works directly with classrooms and the afterschool alliances in the district.
- SCETV secured and hosted a second grant from CPB for a new SCETV American Graduate Youth Media Summit and Civil Rights Forum in the spring of 2013. Students interviewed civil rights veterans, which were archived as part of SCETV Civil Rights History inventory.
- SCETV added a new K-12 service, PBS LearningMedia, a media-on-demand service that features PBS award winning content.
- SCETV added a new social media site to

support the Common Core State Standards Initiative. The site uses the Edmodo platform for teachers to share activities, best practices and useful websites.

- South Carolina Virtual School Program (SCVSP) legislation was amended to lift the credit limitations placed on students using the SCDE program.
- SCVSP piloted 8th-grade English and Math Intervention courses with approximately 150 students in two districts. As a result of this success, 6th and 7th-grade English and Math Intervention courses were developed and offered in the summer of 2013.
- SCVSP partnered directly with schools to offer blended learning opportunities to help fulfill several needs resulting from budget cuts, reduced funding and unfilled teaching vacancies at smaller schools across the state.

2013-14

- The South Carolina Virtual School Program was officially rebranded and renamed VirtualSC by SCDE.
- SCETV conducted a statewide Teacher Survey designed to assess ways educators use K-12 resources, as well as professional development areas of need. The survey included responses from over 2,000 participants.
- SCETV Education, in conjunction with the EOC, began a new monthly newsletter designed to increase teacher awareness of available resources and services. The newsletter was subscribed to by over 73,000 teachers and staff.
- SCETV launched ETV Teacher Courses, a new website designed to provide teachers the ability to easily search and find relevant recertification credit information from such sources as SCETV's Teacherline Southeast, Teacher Recertification and TeacherStep.
- SCETV began offering week-long recertification courses using a blended hands-on, Web-based curriculum called "Using Video in the Classroom."

- SCETV added a similar course titled "iBloom: Using the Internet and iPads to Support Bloom's Taxonomy," which covered the use of free Web tools and applications in the classroom, in conjunction with Project Based Learning and Flipping the Classroom instructional strategies.
- SCETV introduced a simplified and improved OnePlaceSC website, which no longer required a teacher to log-in and locate or record the resources needed to facilitate learning.
- SCETV was awarded an 18-month \$200,000 grant from the CPB for "American Graduate: Let's Make It Happen." SCETV, one of 33 hub stations nationwide, convened groups from across the state in an effort to improve outcomes for students from cradle to career. Reports on these efforts were broadcast on television, radio and online.

2014-15

- The State Library's Discus program implemented IP geolocation technology for its individual databases, thereby allowing all South Carolinians to be recognized as being a resident and automatically granted access to Discus without the need for user credentials.
- Discus implemented the EBSCO Discovery Service, which provides a streamlined search tool incorporating high-end indexing, subject indexing, and relevance ranking. This "Google-like" search provides a way to retrieve multi-media, reference resources, academic journals, newspaper articles and primary sources through one search box.
- The implementation of SCETV's Digital Asset Management System provided a process to tag and catalog digital assets with the successful inventory of 104,787 assets under the American Archive grant. As a result, approximately 3,000 hours were preserved and digitized. These assets reside on servers located at SCETV and the WGBD/Library of Congress.
- SCETV and the production team at the National Black Programming Consortium completed

a two-hour documentary titled “180 Days: Hartsville,” that aired in March 2015, on PBS. The documentary, a part of CPB’s American Graduate: Let’s Make It Happen initiative, captures the unflinching determination of teachers and principals, backed by a committed business community, that sets a high standard for excellence in Hartsville, South Carolina.

- SCETV began an extensive redesign of Knowitall.org. The service, rebranded as Knowitall.org Media, offers a wide variety of new mobile-friendly videos and a sleek efficient design.
- SCETV’s online series “Original SC” and the documentary “Zip Code: Your Neighbor, Your Health” both won a 2015 Telly Award. K-12 sites across the state access the programs via StreamlineSC.
- The Bandwidth Monitoring Program, administered by the Division of Technology, has monitoring sensors deployed in each of South Carolina’s 81 public school districts, as well as six charter schools and 42 public library systems. The program ensures that connectivity and Internet bandwidth are best being used to serve the state’s educational needs.
- The K-12 School Technology Initiative began a Distributed Denial of Service (DDoS) Protection Service designed to help the state’s schools and libraries detect and mitigate the risks associated with this form of cyber attack. The service is offered through an agreement between the Division of Technology, Spirit Communications and AT&T.
- The K-12 School Technology Initiative, through the Division of Technology, began a Security Training Voucher Program designed to enhance cyber and information security defense proficiencies among the state’s public school districts.

APPENDIX E: WHAT OTHERS ARE SAYING

VirtualSC

"I'm really glad the South Carolina Virtual School Program (VirtualSC) was there, because without it I wouldn't be able to graduate. Without this program, other students like me wouldn't be able to graduate or even get more credits."

Student Testimony

"I personally enjoyed the online course in the South Carolina Virtual School Program (VirtualSC). It was an amazing experience. I loved it, and it was very fun and a great learning exercise for those who want to take online classes."

Student Testimony

"This was the first time my son took a course with the virtual program (VirtualSC). I must say it was a very transparent experience and anytime he had a problem with something, the teacher responded either through the virtual email or Skype. He would have taken courses to better enhance his GPA if we knew about it starting in 9th grade, for he is pursuing a scholarship opportunity with football. This program is as difficult as a brick and mortar. Thank goodness for the interactive vehicle of information."

Parent Testimony

"Our school has used the South Carolina Virtual School Program (VirtualSC) since the beginning. I love the idea of credit recovery being available for continuous sign up. This serves a great need. Thanks for all you do!"

Guidance Counselor Testimony

SCETV Education Teacher Survey

"As a future teacher, I really appreciate the information available from StreamlineSC, the PBS LearningMedia site and the blog."

Preservice Teacher

"I participated in the Summer Technology seminar at the SCETV facility and enjoyed it tremendously. The

staff was professional and very knowledgeable. The sessions were interesting and engaging. I came away with learning points from each of the sessions that I have put to use in my classroom. Thank you SCETV for all that you do to support teachers in South Carolina!”

Teacher Testimony

“I enjoy using SCETV services. I use it as part of my instruction on a regular basis. SCETV programs have also been a part of my personal life for decades. Thank you for the services and programs you offer to help educate and inform us daily.”

Teacher Testimony

“I grew up watching the children’s shows and educational programs on SCETV. I am so proud to be able to still take advantage of the outstanding resources you provide for my own children, classroom students and now as a teacher.”

Teacher Testimony

Security Training Voucher Program

“Thanks for all the hard work to get this great opportunity for the districts.”

Lance Taylor (Directory of Technology), Laurens County School District 56

“I appreciate everything you do for the districts, making sure we have the resources we need. This security training will be very beneficial to us.”

Andria Hancock (Directory of Technology), Anderson School District One

“Thanks for this opportunity.”

Timothy Barnado (Director of Technology), Union County School District

“Thank you for sponsoring this opportunity.”

Bruce Alverson (Director of Technology), Anderson School District Three

DDoS Protection Service

“The DDoS Protection Service is a necessary virtual presence that adds a much needed extra layer of security. It has alerted me to potential threats. I have experienced less attacks since the DDoS service implementation. Thank you!”

Mark Parker, Florence County School District 2

“We’re VERY happy to hear that the state had paid for this service and was able to offer mitigation to us during our attack. Without it we would have likely had no way to mitigate it ourselves. The urgency was multiplied for us since the attack happened during a testing session, and was sustained for several days, as we are a 1:1 district where Internet access is needed 24/7.”

Ben Willis, Anderson School District Five

“Charleston County School District (CCSD) suffered a severe outage when a student (allegedly) ordered a DDoS attack on our network. This action cost CCSD tens of thousands of dollars to mitigate. AT&T stepped in and helped by setting up DDoS monitoring and remediation, but I would like to personally thank the K-12 Committee for hearing and acting on my request to have the State provide this service for all school districts. I would never want any other district to go through this with possibly no way to stop it. I feel very supported and proud of the work that the K-12 Committee has done.”

Tom Nawrocki (Director of Network Operations), Charleston County School District

Infrastructure Support Initiatives

“Barnwell School District 19 would like to let the SC K-12 School Technology Initiative Committee know how much we appreciate your funding support (reimbursement check) that our district/system received to purchase needed equipment to improve network bandwidth coverage. Because funding was at a minimum we were not going to be able to replace or make necessary upgrades. Thank you so much for your support.”

Teresa Pope (Superintendent), Barnwell School District 19

“The Lexington County Public Library received funding support to purchase a next generation firewall that allowed the Library to increase its bandwidth. We are very grateful for this funding opportunity that enables us to better serve our library patrons and the citizens of Lexington County. As part of the SC K-12 School Technology Initiative, the Library is appreciative that we can receive needed funding through the E-Rate program to continue to provide access to the Internet for job seekers, students and researchers. Thank you for your support!”

Cynthia Kent (Systems Librarian), Lexington County Public Library

Discus

“Discus has helped our students with learning how to research. Very good program.”

Rhonda Epting, Calhoun County Public Schools

"Discus helps with research for science (I teach chemistry)."

Jeff O'Shields, Richland School District Two

"Discus has helped my seniors with researching careers. We also benefit from Bloom's Literature resources."

June Rodham, Horry County Schools

"Discus keeps my students on track with accurate, up-to-date reliable resources. Our favorite is Biography In Context."

Anita Vaughn, Sumter School District

"I direct students to Discus for ALL inquiry-based research and answers to questions. I also promote it for every South Carolinian."

Cindy Haggerty, Greenville County Schools

"No more 'I went to Google,' on research projects!"

Kelly Knight, Greenville County Schools

"We use Britannica Elementary with a research project and put a shortcut on the iPads."

Karen Thompson, Greenville County Schools

"Reference skills have improved with the usage of Discus."

Glenda Green, Richland School District Two

"It's provided a 'safe' place for our students to conduct research."

Mary Ortuno, Richland School District Two

"Today, a young man came into my branch looking for a book about Eratosthenes. I took the young man to the Discus homepage, showed him how to select the Science Reference Center database, showed him how to use the search box and we found a great resource on Eratosthenes from the Hutchinson Dictionary of Scientific Biography! He was so excited! He said that if other students in his class were having a difficult time with their research, he would direct them to our library! You really made a difference!"

DaShon Ellis-Campbell (Branch Manager), Hardeeville Community Library



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