

2018-19 PROGRESS REPORT

CONTENT. CONNECTIVITY. TRAINING. SECURITY.

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

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, 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. Initiative partners include:

- SC Department of Administration
- SC Department of Education
- SC Education Oversight Committee
- SC Educational Television
- SC State Library
- ► AT&T
- ► SC Telecommunications & Broadband Assoc.

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 South Carolina's leaders 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.



ABOUT THE INITIATIVE

INITIATIVE PARTNERS

- SC Department of Administration P.O. Box 2825 Columbia, SC 29211 Phone: 803-734-8120 Website: admin.sc.gov
- SC Department of Education 1429 Senate Street Columbia, SC 29201 Phone: 803-734-8500 Website: ed.sc.gov
- SC Education Oversight Committee P.O. Box 11867 Columbia, SC 29211 Phone: 734-6148 Website: eoc.sc.gov
- SC Educational Television 1041 George Rogers Blvd. Columbia, SC 29201 Phone: 803-737-3200 Website: scetv.org
- SC State Library 1500 Senate Street Columbia, SC 29201 Phone: 803-734-8666 Website: statelibrary.sc.gov
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ABOUT THE INITIATIVE

INITIATIVE PRINCIPALS & COMMITTEE CHAIR

- SC Department of Administration Marcia Adams, Executive Director
- SC Department of Education Molly Spearman, State Superintendent of Education
- SC Education Oversight Committee Melanie Barton, Executive Director
- SC Educational Television Anthony Padgett, President and Chief Executive Officer
- SC State Library Leesa Aiken, Director
- AT&T Jane Sosebee, President, AT&T South Carolina
- SC Telecommunications & Broadband Assoc. Nola Armstrong, Executive Director
- Committee Chairperson Keith Osman, Director, Division of Technology Operations



WHO DOES THE K-12 SCHOOL TECHNOLOGY INITIATIVE SERVE?

83 School Districts



1,266 Public Schools

198 Public Libraries

51,392 Instructional Staff



781,493 School Students

III5,121,480State Citizens

South Carolina



EXECUTIVE SUMMARY

The South Carolina K-12 School Technology Initiative is a public-private partnership dedicated to providing network and internet connectivity to every teacher and every student in every public school and to every public library in every county in South Carolina. The Initiative leverages state appropriations of Education Improvement Act (EIA) revenues to match federal E-Rate monies to expand and improve access and connectivity in schools and libraries.

Annually, the Initiative partners document the contributions and support provided to meet the technology needs of our schools and libraries that include network infrastructure, broadband and internet connectivity, information security, high-quality digital learning content, professional development and curriculum support.

This annual Progress Report documents the activities of the K-12 School Technology Initiative and its partners during FY 2018-19. Highlights in this report illustrate the accomplishments made, such as:

- Public school districts accounted for 154 Gbps of internet bandwidth capacity in 2018-19, an 11 percent increase from the previous year.
- The number of public-school districts with 1,000 Mbps or more of bandwidth has increased from six in 2013 to 54 in 2018-19.
- Nearly 14 million items were retrieved from Discus, the State Library's virtual library.
- Almost 5 million on-demand SCETV resources were used in 2018-19, a 524 percent increase from 2017-18.
- The state's virtual school program, VirtualSC, served over 45,000 students in 2018-19, (including students from 427 schools in 84 public school districts) an increase of 8 percent from 2017-18.



Technology was implemented to combat the ever-increasing number and complexity of malware, ransomware and other advanced security threats received by schools and libraries.

This report documents that the K-12 School Technology Initiative is committed to meeting the network and internet connectivity needs of our public schools and libraries.

However, these needs will only increase exponentially as more schools implement 1-to-1 computing, as more teachers infuse technology into their classroom instruction, and as technology transforms and supports personalized learning. Specifically, the infrastructure that supports technology within schools and libraries will require greater investment in internal infrastructure, security and support.

Ensuring such crucial resources and support are available for our students, teachers and libraries is a challenge, but one that must be addressed.

The partners of the South Carolina K-12 School Technology Initiative support this endeavor and will play a critical role in allowing the state to produce graduates with the ability to succeed and thrive in today's workplace.

South Carolina K-12 School Technology Initiative 4430 Broad River Road Columbia, SC 29210 https://sck12techinit.sc.gov/



STUDENT LEARNING AND 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 partners that make up the K-12 School Technology Initiative strive to ensure that every public school student in South Carolina — regardless of location or background — is afforded the technology, infrastructure and educational content necessary to graduate with the world class knowledge, skills and characteristics as defined by the Profile of the South Carolina Graduate. The Profile ensures that high school graduates will be prepared to succeed in postsecondary education or a career.

Expansion of 1:1 computing in public schools throughout the state is changing the educational landscape by placing tablets and laptops into the hands of students. Students are able to access learning resources at any time. Through the use of these devices, students work individually and in group settings to access internet-based content, study and complete assignments. Such work is conducted not only in the traditional classroom and library settings, but across the entire school campus, student transportation system, after-school learning centers, public libraries and at home.

Initiative partners also offer a wide array of invaluable, standards-based digital learning resources to educators and students. Such resources have helped change the ways in which educational content is provided in South Carolina. Together, these efforts, programs and collections — as well as many others detailed in this report — help provide the content, hardware and infrastructure necessary for our students to be successful in the 21st century.

STUDENT LEARNING & CLASSROOM TECHNOLOGY

The partners that make up the K-12 School Technology Initiative engage in a wide variety of activities and programs designed to improve student learning through technology. Such activities and programs are detailed throughout this section of the 2018-19 Progress Report.

DISCUS

Digital Information for South Carolina Users, more commonly known as <u>Discus</u>, is South Carolina's virtual library. This collection of more than 50 subscription databases is available to parents, educators and students of all ages to safely learn and develop research skills free from outside distractions such as advertisements and unreliable websites.

Administered by the South Carolina State Library (State Library) and supported by the K-12 School Technology Initiative, these vital electronic resources are available 24/7 and provide access to thousands of videos, career information, professional and scholarly journals, educator tools, e-books, primary sources, test preparation tools and much more. This mobile-friendly resource is used at school, home or on the go, and the high-quality electronic resources are available to all state residents.

Discus utilizes EZproxy, a state-of-the-art central authentication solution to ensure South Carolinians are recognized as residents and thereby automatically granted access without the need for usernames, passwords or other such credentials.

Each database offered through Discus is carefully evaluated and chosen to align with state curriculum standards. Resource usage is monitored, and the collection is regularly evaluated for redundancy or potential gaps.

Discus Content Changes

In 2018, the State Library made several significant content changes to Discus.

- Subscriptions for Nursing Resource Center and the Nursing and Allied Health Collection were replaced with Career Transitions.
- Learn360 was purchased for K-12 and academic education programs.
- Magic School Bus was added to Discus and integrated into Learn360.
- AutoMate, a robust, up-to-date automotive resource replaced Auto Repair Reference Center.

Career Transitions, an online career guidance center that walks job seekers through the search process from beginning to end, helps students explore careers, assess interests, create resumes and search and apply for jobs using Indeed. com. Target audiences for Career Transitions include current students, recent graduates, transitioning veterans, long-term unemployed, underemployed trades professionals and adults rejoining the workforce.

This valuable resource offers a wide range of features, including:

- ► Interactive interview simulator.
- Career overview videos, including the "A Day in the Life" series.
- Advice on applying for jobs, interviewing and networking.
- Guided resume and cover letter creation.
- Detailed information on thousands of postsecondary schools and training programs.
- Job requirements and responsibilities, technology, salary and required education.

- Job-search options, including internships and entry-level, with job tracking.
- Career interest discovery tool that explores in-demand occupations.

Career Transitions has been a popular addition to Discus, as evidenced by the following usage information, collected from Jan. 1–May 31, 2019.

- ▶ 299 interview simulations.
- ► 41 tips and advice videos accessed.
- ▶ 2,347 interest assessments.
- ▶ 29 continuing education links accessed.
- ▶ 7,039 job searches performed.
- ▶ 90 Daily Leap articles accessed.
- ▶ 13,865 career portals accessed.
- ▶ 392 school information retrievals.

The State Library conducted a Discus content survey in 2017 to help better understand library needs and the adequacy of the resource collection. Two of the most frequently requested content areas were educational videos and educator resources.

After thorough analysis and research, the State Library decided to subscribe to Learn360, a multimedia database for pre-K through 12th grade. This resource contains 178,000 fulllength videos, video clips, images, audio files, interactives, maps and science experiments from more than 200 top educational producers. Subject areas offered through this resource include language arts, mathematics, science, social studies, health, world languages, technical and vocational education, as well as music and dance.

In FY 2018-19, its first year as part of Discus, there were more than 360,000 items viewed through Learn360 by educators, students and parents. Funding for Learn360 was provided by the K-12 Schools Technology Initiative.

Adding Magic School Bus to Discus has proven to be extremely valuable for educators, as evidenced by the fact that more than 54,000 titles were viewed through this resource during the first three quarters of FY 2018-19. Magic School Bus can be accessed through Discus, Learn360 and Knowitall.org, making it easy to find this educational resource.

Discus Usage

During FY 2018-19, South Carolinians retrieved 13,972,525 items using Discus databases, the majority of these by the K-12 community. Overall Discus usage has decreased from 2017-18, which

DISCUS: At a Glance Discus: South Carolina's virtual library Agency: SC State Library Website: scdiscus.org Discus south carolina Discus Learn360 Magic STATE LIBRARY School Bus Items Avoidance **Title Views** Provided Retrieved **/iews**

can be attributed to three factors.

- Britannica Digital Learning previously overcounted certain activity and has updated their technology to correct the error, thus resulting in less reported activity.
- Refinement of database usage by vendor partners continues to ensure consistency across platforms for COUNTER reports. Interactive-based resource usage requires different analysis than calculating usage by article retrievals.
- Students are finding that Discus includes interesting videos, helpful tools and educational games that require more time and lengthier sessions, rather than researching topics and retrieving full text articles for papers.

While several Discus resources reported slight decreases in retrievals, many continue to see increases in usage and popularity. Such resources include BrainPOP Jr., which increased usage by 23 percent, as well as Credo Reference and the DK Eyewitness series, which is very popular with school media specialists.

Discus Return on Investment

The return on investment for Discus is excellent from both a learning perspective and from a cost efficiency standpoint, as indicated through the following information:

- Discus database license costs budgeted for FY 2018-19 were \$2,604,250.
- ► 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.

The State Library negotiates with vendor partners when purchasing statewide subscriptions to get the best rate. These purchases save schools and libraries millions of dollars each year by bundling packages of resources that are beneficial to all grade levels and academic libraries.

The licensing agreements are studied to ensure

a fair price along with ample technical and marketing support. Monthly vendor and Discusled webinars supplement the on-site workshops conducted by Discus throughout the year at educator professional days and statewide conferences.

Discus helps ensure a level playing field for all South Carolina students by providing access to high-quality scholarly information needed for success. The collection includes a wide range of subjects that are essential to the Profile of a South Carolina Graduate. Subjects found in Discus include science, math, reading, literary studies, health, technology, social issues and the many cultures of the world.

For Additional Information

To learn more about the State Library's Discus, please visit <u>www.scdiscus.org</u>.

SCETV EDUCATION SERVICES

South Carolina Educational Television's (SCETV) Education Services delivers a wide range of highquality digital learning content for students and educators, as well as professional development and curriculum support designed to support personalized, collaborative learning experiences.

As part of this effort, SCETV creates, organizes and distributes educational content to support pre-K-12 student needs, as identified within the Profile of the South Carolina Graduate, while also providing a variety of online and face-toface professional development opportunities for teachers, staff and administrators.

Over the past two decades, funding from the K-12 School Technology Initiative has helped support SCETV's on-demand multimedia curriculum resource sites. These highly regarded sites include Knowitall.org, SCETV's PBS LearningMedia, LearningWhy, and the SCETV PBS Kids 24/7 channel.

<u>Knowitall</u>

Knowitall.org, a long-standing service offered

by SCETV, is a free online collection of original and engaging educational resources designed specifically for classroom use. Many of the assets contained in Knowitall.org are standardsbased, and include cross-curricular lessons and assessments.

In 2015, SCETV began an extensive overhaul of the site in an effort to make it mobile-friendly. Due to these efforts, and the transition of services funded by the K-12 School Technology Initiative, Knowitall.org Media was launched that summer. Since that time, Knowitall.org Media has expanded to contain nearly 9,000 multimedia resources, including:

- ► 4,448 mobile friendly videos
- ▶ 1,267 audio resources
- ▶ 1,757 photos
- ▶ 278 photo galleries
- ► 334 documents
- ► 134 interactives

During the 2018-19 academic year, funding from the K-12 School Technology Initiative supported the addition of four new virtual reality experiences in the Let's Go collection that is rooted in Social Studies content. These include:

- ► H.L. Hunley Museum (Civil War)
- Mann-Simons Site (Reconstruction, Civil Rights)
- South Carolina Confederate Relic Room and Military Museum
- Woodrow Wilson Family Home (Reconstruction).

Along with the rich content presented in the Let's Go series, short digital profiles are now available on Knowitall.org Media to highlight the honorees of the 2019 South Carolina African American History Calendar. Most recently, a new collection of digital content focused on World War I was added to the site.

Knowitall.org also serves as the host of an extensive collection of Reconstruction-related assets. These assets were used in support of SCETV's live virtual classroom, completed in partnership during the 2018-19 academic year with the Beaufort County School District. This virtual classroom was the first of its kind made available statewide in many years, and featured noted professor and historian, Dr. Henry Louis Gates, Jr. The virtual classroom, and accompanying resource materials, are housed on Knowitall.org Media for educational use. The classroom event serves as a good model for the creation of collaborative digital content rooted in social studies and ELA standards.

PBS LearningMedia

In addition to Knowitall.org, SCETV is expanding access to web resources through the continued utilization of <u>PBS LearningMedia</u>. In 2018-19, South Carolina PBS's LearningMedia library included more than 100,000 multimedia resources for pre-K-12 educators. Training on this resource is incorporated into customized workshops designed for educators across the state.

LearningWhy

Training is also made available on SCETV's newest resource, <u>LearningWhy</u>. Created in 2017, LearningWhy houses innovative lessons that specifically address the instructional needs of schools initiating 1:1 technology environments.

The project-based and one-on-one lessons are produced by SCETV and qualified partners, including the Arts in Basic Curriculum Project, local school districts, the National Heritage Corridor, and the National Parks Service. LearningWhy lessons are searchable by state curriculum standards and taxonomies, and include step-by-step progressions, assessments and all the media and content links needed for teaching to standards.

Expanded Access for Educators

Access to web resources like Knowitall.org Media, PBS LearningMedia and LearningWhy, was expanded to educators across the state through the recent addition of free Wi-Fi devices to select education facilities within Sprint's coverage areas. For many years, SCETV's statewide distribution to schools was conducted through an instructional television fixed service (ITFS) closed-circuit educational broadcast system.

To make spectrum more digitally compliant, the Federal Communications Commission enforced new regulations in 2005 for ITFS systems, creating the Educational Broadband Service (EBS). This development gave SCETV the opportunity to lease the state's EBS channels through a state contract with Sprint.

The resulting contract, established in 2017, has allowed SCETV to issue 257 free Wi-Fi devices as gateways to broadband internet to applicable early childhood educators and other educational organizations, including after-school programs. SCETV bundles Wi-Fi access with its quality professional development and content funded by the K-12 School Technology Initiative.

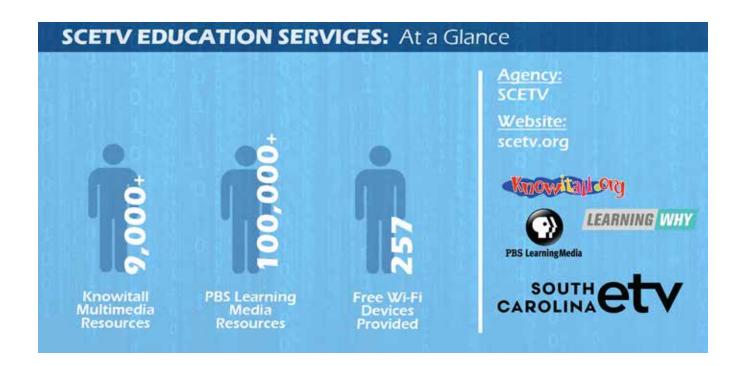
The project helps close the digital divide in South Carolina while preparing early learning students for reading and science, technology, engineering and math (STEM) skills before and after school. The initiative also supports the work of SCETV to engage parents and caregivers. To date, nearly 700 teachers, parents, and students have received training as a result of the work in this area.

SCETV Survey Efforts

Each of the aforementioned services are continuously evaluated for effectiveness and efficiency. In order to ensure that SCETV remains responsive to the needs of the educational community, SCETV surveys teachers, staff, and administrators to help identify gaps and gauge the use of educational services and technology use in schools.

This year, 2,166 respondents participated in the annual survey, representing public schools, private schools, charter schools, home schools, child care centers, adult education centers and higher education institutions.

Approximately 84 percent of participants that utilized SCETV educational resources and services indicated that they helped to improve student engagement in the classroom. The survey results are paramount in assisting SCETV with ensuring that services align, not only with the needs of educators, but with the tenets outlined in the Profile of the South Carolina Graduate. SCETV is currently hosting a series of listening sessions throughout the state to further facilitate conversations about what is needed to support South Carolina educators.



For Additional Information

To learn more about South Carolina Educational Television and the resources it has to offer, please visit <u>www.scetv.org</u>.

STUDY SC

In 2010, the South Carolina State Library created <u>StudySC</u>, an educational resource designed to provide online content in support of state-specific curriculum standards. 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 support third and eighth-grade social studies curriculum standards, becoming a useful and popular resource for students and educators.

StudySC is organized by grade level and subject area and provides South Carolina-related online and database resources for homework and project assistance. Each link to high-quality websites, multimedia content and Discus articles is researched and vetted before being added to the site.

This student-friendly resource includes such subjects as government, culture, history, environment and geography. In addition, there are sections on famous South Carolinians, a glossary, county information and South Carolina Book Award nominees from the South Carolina Association of School Librarians. ETV's Knowitall has partnered with StudySC to integrate historical information — ranging from South Carolina's role in the Revolutionary War to the civil rights movement — into their website. This partnership provides multiple avenues for students to access this information.

StudySC Content Changes

While all content on StudySC is reviewed on a regular basis, the State Library announced several content additions and updates this fiscal year. Such changes include:

New copyright-appropriate images.

- Britannica articles and additional appropriate resources to over 300 of the glossary term pages for added usefulness.
- A new "Notable Women of South Carolina" page highlighted women who have made achievements in art, literature, education, politics and science.
- A documentary created by the South Carolina Army National Guard highlighting the work of artist, Willard Hirsch, was added to the Artists High School page and promoted through Discus social media.

Each new 2019-20 South Carolina Book Award nominee title was added, with a description, cover image and vetted links to author biographies, book reviews, NoveList and other appropriate educational content.

For educators, over 640 South Carolina-related lesson plans are searchable by subject, grade level or keyword. These lesson plans are created by a variety of educational institutions such as the National Park Service, South Carolina Educational Television, South Carolina Department of Health and Environmental Control, and South Carolina institutes of higher education. Also, staff conducted an alt text audit and made updates to make the entire website more accessible for screen reader technology.

StudySC usage for FY 2018-19 was 39,728 sessions (July-May), a decrease of 5 percent over the past year.

For Additional Information

To learn more about the State Library's StudySC, please visit <u>www.studysc.org</u>.

ACADEMIC COMPETENCY & STANDARDS AUTHORING TOOL

Using funds provided by the K-12 School Technology Initiative, the South Carolina Department of Education (SCDE) procured an Academic Competency and Standards Authoring Tool (ACMT). This tool moves the creation and authoring of standards to an alldigital environment and publishes the standards in machine readable and human consumable formats. This allows student information systems, learning management systems and external stakeholders' direct access to South Carolina's state standards and the support materials.

This investment represents a solid commitment to a digital ecosystem that helps ensure standards are incorporated in the development, delivery and assessment of students' education. The investment represents SCDE's commitment to vendor partner relationships that promote interoperable communication standards. The focus on interoperability allows districts to choose the tools that best fit their needs and still be assured of their ability to utilize the resource.

The tool provides a venue for authoring the standard statement, and features a workflow for internal commenting and review, external comment, public comment and approval before publishing. The application programming interface allows for public access and export facilitation for publishing the standards in IMS Global's Competencies and Academic Standards Exchange (CASE) standard format. This is another contribution to a digital ecosystem for K-12 learning.

During the 2019 IMS Global Learning Consortium Learning Impact Leadership Institute, SCDE and LearningMate Solutions, Inc. were recognized as silver medal winners, out of a field of 32 applicants, in the Scaling Pedagogical Knowledge and Practice Project category for the ACMT. Project submissions had to demonstrate progress making a measurable impact on personalized learning, institutional performance and the digital learning ecosystem.

VIRTUAL SC

In 2007, the South Carolina Department of Education (SCDE) developed <u>VirtualSC</u>, the state's virtual school program. 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.

Rise in Popularity

The virtual school program has become increasingly popular since its inception and has now grown to the fifth largest state virtual school program in the nation based on the number of student enrollments according to the latest Keeping Pace with K-12 Online Learning Report. VirtualSC courses, available to any public, private, home schooled or adult education student in the state, are provided via an online learning management system, Moodle.

Registration for these courses takes place in the program's newly implemented student information system, Genius. Teachers remain in contact with their students through a variety of methods, such as by telephone, web conferencing and instant messaging systems like Skype. Live lessons are conducted for some courses, such as world language courses utilizing BlackBoard Collaborate and Jigsaw virtual classrooms.

To help ensure course offerings meet quality, design and academic standards, SCDE's Office of Virtual Education developed a curriculum team. The curriculum team, which consists of several instructional designers, a media team, a curriculum coordinator and a program coordinator, is responsible for new course design and development, course reviews and revision, and media development for interactive learning objects within new and existing courses.

VirtualSC has also begun to align all new and current courses to the Quality Matters (QM) framework to ensure 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 make sure all courses meet national guidelines and standards, as well as state academic standards. This year, VirtualSC had its first QM certified course, Geometry CP. The curriculum team also supports several other virtual academic resources for students, including test preparation for AP, SAT, ACT, Elementary Keyboarding and EdReady Skills Recovery resources.

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 with the program.

VirtualSC consisted of 37 full-time teachers for the academic year, in addition to 103 part-time teachers, to teach the courses offered through the program. The number of full time and parttime teachers has consistently grown over the past year due to the increased student demand for courses.

VirtualSC Enrollments

The popularity of the VirtualSC program continues to grow. During the 2018-19 school year, the program included 45,906 student enrollments. These enrollments included students from the following:

▶ 427 schools.

- ▶ 84 public school districts.
- ► 33 home school associations.
- ▶ 77 private schools.
- ▶ 21 adult education centers.

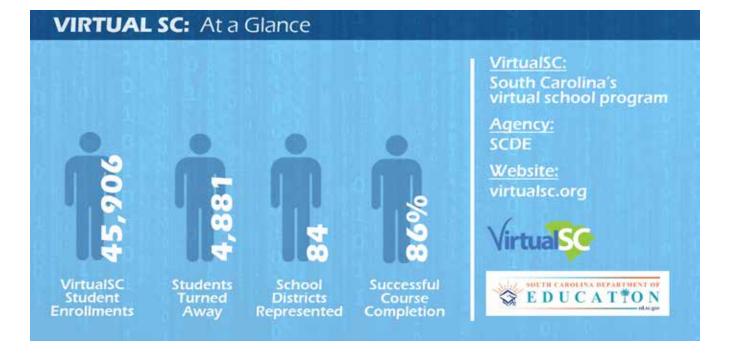
The program had a successful course completion rate of 86 percent for the school year. Despite the lack of new funding for the program, the program still saw an increase of seven percent in student enrollments from the 2017-2018 school year.

In addition to the 45,906 student enrollments served in high school level courses taught by VirtualSC teachers, the program also served an additional 71,744 elementary school students in grades K-6 through its free blended elementary keyboarding course offered in 46 school districts across the state.

VirtualSC Course Offerings

VirtualSC offered courses in 10 subject areas including the following:

- Career and technology education.
- English and language arts.
- ► Fine arts.
- ► Health and physical education.
- Mathematics.



- ► Science.
- Social studies.
- ► World languages.
- Skills recovery and test preparation.

The program also offered 81 diverse 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 courses in four languages — Spanish, Latin, German and French — as well as a variety of electives in such popular career majors as health occupations, family and consumer science and business education.

During the 2018-19 school year, VirtualSC added several new course options for students and continued to seek feedback from stakeholders on additional course needs. Some of the new high school credit courses released include: IT Fundamentals, French 3, German 3 and Parenting Education 1.

VirtualSC Partnerships

As in previous years, VirtualSC has continued to partner directly with schools to offer its Virtual Learning Labs in an effort to help schools fulfill several needs resulting from budget cuts, reduced funding and teaching vacancies at smaller schools across the state. Through these learning labs, schools are provided a standardsbased virtual course as well as a highly qualified state certified teacher who meets virtually, utilizing a robot, with students during a set period of the school day to provide instruction.

In the 2018-19 school year, the program served 482 students through offering Virtual Learning Labs to six different schools.

VirtualSC also continued to expand its flexible Franchise Program to schools and districts across the state. This program allows schools to use VirtualSC developed course content, the program's learning management system, Moodle and its student information system. VirtualSC developed and began offering the Franchise Program to districts during the 2014-15 school year with one pilot district, Aiken County Public School District.

During the 2018-19 school year, the Franchise Program expanded from 12 districts to 15 franchises, serving 5,576 student enrollments with an overall success rate of 75 percent.

Participating school districts included:

- Aiken County Public Schools
- Berkeley County School District
- Colleton County School District
- Charleston County School District
- Colleton County School District
- Dorchester School District Four
- Edgefield County School District
- ► Fox Creek Academy
- Greenville School District
- Greenwood School District 50
- Jasper County School District
- Lexington School District 1
- Pickens County School District
- Spartanburg School District 1
- ► Tall Pines Academy

Each of the 15 districts use its VirtualSC franchise in a slightly different way to fit its own unique needs and meet a specific district purpose. As an example, Greenville County School District utilizes the Franchise Program to offer content recovery options to their students while several other districts utilize the program to offer options to their alternative schools.

As part of the program's strategic planning, a Student Advisory Board and School Advisory Board was developed in 2019. Both boards will meet throughout the year to discuss programmatic changes, program policies, courses and many other topics to assist the program with making strategic program changes to ensure that the program is meeting the needs of all stakeholders. Since the two advisory boards have just begun meeting, the program is excited to continue working with them to gain impactful insight into needed changes.

VirtualSC will be expanding and implementing a plethora of ways to ensure that students obtain world class knowledge and skills, as well as the 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

The VirtualSC program continues to expand 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 the state they live. The program was featured in the report "Digital Learning Strategies for Rural America" that discussed the programs continued growth to serve students in rural areas of South Carolina.

Approximately 39 percent of the program's enrollments come from small rural schools throughout the state, which provides an option for students in those districts to be able to keep pace and have similar options as students in larger school districts across the state.

Additionally, the report examines how the program is providing equitable options to students statewide in response to the Abbeville County School District v. State of South Carolina.

During the 2018-19 school year, the program was forced to turn away students for the second year in a row due to continued positive program growth; however, no additional funds have been provided to serve the additional students seeking online course options through VirtualSC. Approximately 4,881 student enrollments were turned away due to a lack of funding for certified adjunct teachers. While the program was able to continue the pace of growth with other surrounding states, that rapid growth has caused funds for additional adjunct teachers to become depleted.

A request for additional funding was made based

upon the program's continued growth; however, additional funding for adjunct teachers was not approved by the General Assembly in the 2020 budget year.

For Additional Information

To learn more about SCDE's VirtualSC, please visit <u>virtualsc.org</u>.



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 networks that connect us — whether in our school, libraries or home — are arguably the most mission-critical infrastructure in today's public education system. As such, the partners of the South Carolina K-12 School Technology Initiative assist the state's public schools and libraries in providing the necessary technology tools and resources to help ensure a robust, secure and cost-effective infrastructure.

The support provided by the federal E-Rate program continues to be critically important in helping address the connectivity needs of the state's schools and libraries, while helping further develop the network infrastructure necessary to support K-12 education and administration.

While the importance of connectivity cannot be understated, the need for enhanced information security is increasing on a seemingly endless basis. Cybersecurity threats are continually evolving and affect the internet, public and private networks and individual computing devices.

The following section of this document explains how the partners in FY 2018-19 supported the enhancement of the infrastructure and security needs of public schools and public libraries.

INFRASTRUCTURE & SECURITY

The partners that make up the K-12 School Technology Initiative engage in a wide variety of activities and programs designed to improve infrastructure and security. Such activities and programs are detailed throughout this section of the 2018-19 Progress Report.

EXPANSION OF HIGH-SPEED BROADBAND INFRASTRUCTURE

The South Carolina Department of Administration (Admin) works to expand network connectivity of the state's K-12 public schools and libraries. The focus of this effort is 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 effort, fiber-based high-capacity broadband connectivity continues to be expanded on a statewide basis among school and library entities.

Internet connectivity for South Carolina's public schools and libraries has indeed seen tremendous growth over this time. As evidence of this fact, since June 2015, the number of districts with 1,000 Mbps or more bandwidth has grown from 22 to 47.

Bandwidth Usage

As of FY 2018-19, school districts accounted for 154 Gbps of internet bandwidth capacity, 5.84 Gbps to library systems and 6.59 Gbps to charter schools. While the average library system and charter school had roughly 142 Mbps of internet bandwidth capacity, the average school district in South Carolina had 1,878 Mbps of internet bandwidth capacity. Looking ahead, the Initiative will need to consider the network connectivity needs of schools and libraries over the next decade and set forth new connectivity goals that support the Initiative's vision.

Internet Bandwidth by District (2014-15 to 2018-19)

Bandwidth (Mbps)	Districts 2014-15	Districts 2018-19
0-499	46	16
500-999	14	19
1,000-2,499	17	26
2,500-4,999	5	12
5,000-7,500	0	9
Over 1 Gbps	22	47

Category Two Funding

In FY 2018-19, Admin received \$2.6 million from the K-12 Schools Technology Initiative for the Category Two (C2) E-Rate State Match Program. The program reimbursed school districts, library systems and charter schools for the nondiscounted share of their FY 2018-19 Category Two E-Rate applications.

The reimbursed funds were reinvested by the beneficiary to continue to upgrade network infrastructure. The program provided funding to 12 library systems, 5 charter schools, 16 plaintiff school districts and 29 non-plaintiff school districts.

Below are two examples of how these funds were reinvested into network infrastructure.

 Union County Library recently completed an extensive renovation of the Union Carnegie Library. The library used the C2 E-Rate State Matching Funds to purchase new, state of the art network infrastructure and cabling for the 114-year-old library.

 Florence School District One used their C2 State E-Rate Matching funds to purchase network video recording (NVR) servers which will be used to improve security for students and teachers.

SCHOOLS & LIBRARIES E-RATE PROGRAM

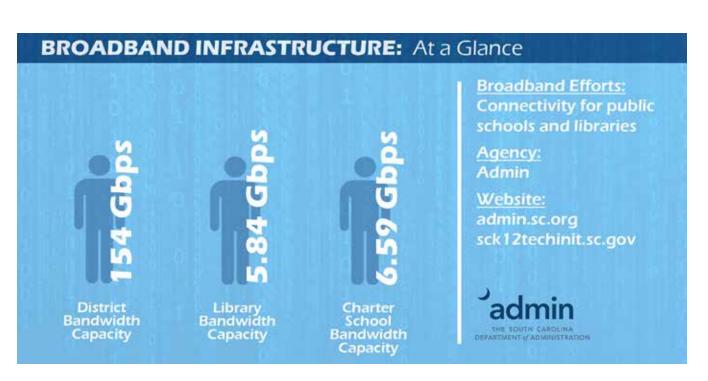
Since 1998, the Schools and Libraries E-Rate Program has proved to be transformational for education technology in public schools and libraries across South Carolina. Today the support provided by this program is being utilized by the South Carolina Department of Administration (Admin) to acquire broadband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

Admin is also responsible for the administration of the South Carolina E-Rate Consortium (Consortium) which includes 82 school districts, 46 charter and special schools, and 40 library systems. As of FY 2018–2019, the Consortium is the sixth largest E-Rate consortium in the United States with a total funding request amount exceeding \$20 million. The Consortium prepares and files annual applications for network connectivity on behalf of the majority of the state's public schools and libraries, removing the administrative burden on those organizations.

In addition, the Consortium staff assists school districts and libraries with navigating the complex process of filing their own E-Rate applications. Such assistance is provided through the K-12 School Technology Initiative website with current program news, resources and deadlines. Assistance is also provided through a series of live training sessions held in multiple locations throughout the state.

To support the Consortium, Admin manages funding from the K-12 School Technology Initiative that is used to pay service providers who supply internet access to connect public schools and libraries with wide area network (WAN) services. These high-speed networks are being built to meet the ever-expanding needs of students, teachers and library patrons for enriching content.

The funding support offered by the Schools and Libraries E-Rate program is essential to the continued expansion of education technology in districts and libraries throughout the state.



E-Rate Program Trends

Despite significant challenges to the Schools and Libraries E-Rate Program — such as the troubled roll out of the E-Rate Productivity Center (EPC) and the phasedown eligibility of voice services — schools and libraries in South Carolina have been able to fund drastic improvements to network infrastructure. Such improvements have been possible due in part to the Schools and Libraries E-Rate Program's Category Two funding mechanism.

In FY 2018-19, 47 South Carolina school districts, 12 library systems and seven charter schools requested over \$12.3 million in reimbursements for Category Two products and services such as routers, switches and other internal connections. Of the \$12.3 million requested, \$10.4 million has been approved for funding. In June 2018, those school districts and library systems were disbursed \$7.1 million in reimbursements from the E-Rate program.

The amount of reimbursements disbursed to school districts and library systems for FY 2018-19 will continue to rise well into 2020, as districts and libraries continue to submit invoices to the E-Rate program for payment.

If all \$10.4 million in requested funds are ultimately disbursed to school districts and library systems, the value of the products and services would exceed \$14.7 million, which includes the reimbursed funds and the cost share funds from school districts. When comparing the FY 2017-18 and FY 2018-19 Category Two E-Rate filing data, several program trends were identified that should be highlighted. First, the number of libraries participating in the C2 E-Rate program increased from seven to 12.

Secondly, while approximately \$1.8 million more C2 funds were requested in FY 2017-18, applicants were much more successful in seeing their E-Rate applications approved resulting in an E-Rate Efficiency Factor of 85 percent, far exceeding the prior year's factor of 70 percent. It should be noted that E-Rate program rules allow applicants to invoice as late as two years after the funding year, which will cause these figures to change over time.

With the goal to reach 100 percent E-Rate Efficiency Factor, the Consortium and the K-12 School Technology Initiative must continue to provide additional opportunities for E-Rate training for school districts and library systems.

For Additional Information

To learn more about the E-Rate program, please visit <u>sck12techinit.sc.gov/e-rate/program-</u><u>information</u>.

VALUE OF STATE MASTER CONTRACTS

In many states, school districts and library systems don't have a statewide E-Rate consortium that provides broadband connectivity services, files required documentation, and coordinates service ordering on their behalf. In this scenario, these schools and libraries must devote more personnel to procurement, E-Rate compliance, and ultimately pay more for those broadband connectivity services.

Fortunately, schools and libraries in South Carolina benefit from the avoided administrative burden of filing for E-Rate discounts on broadband connectivity and very low costs for those services through state term procurement.

Reduced Costs, Increased Capacity

In January 2019, Admin awarded a seven-year state master contract for network services to AT&T. Most notably, the new state master contract lowers the cost for wide area network (WAN) circuits by 29 percent. Additionally, the new contract provides circuit bandwidth capacity speeds of 15 Gbps and 20 Gbps to schools and libraries for the first time. These new, high capacity circuits will allow the state's largest school districts to continue to grow their networks.

Cost savings from state master contracts fuels internet and WAN bandwidth capacity increases

and, in many cases, lowers the cost shares for South Carolina E-Rate Consortium members. The Consortium is able to provide higher circuit bandwidth on best-in-class service for a fraction of the cost of similar services a decade ago.

INTERNET SECURITY PROTECTION

In an effort to help the state's schools and libraries combat the increased number and complexity of malware, ransomware and other advanced security threats, the K-12 School Technology Initiative provided Cisco Umbrella to districts, library systems and charter schools. Cisco Umbrella is an industry leading, cloudbased, internet security product which complements the school or library's current internet security measures. Specifically, Cisco Umbrella leverages its constantly updated list of known domain named server (DNS) security threats with internet security policies providing drastically improved defense and user-friendly experience.

It is important to note that South Carolina is the only state which provides Cisco Umbrella internet security services to all public school districts, library systems, and charter schools through a coordinated statewide effort.

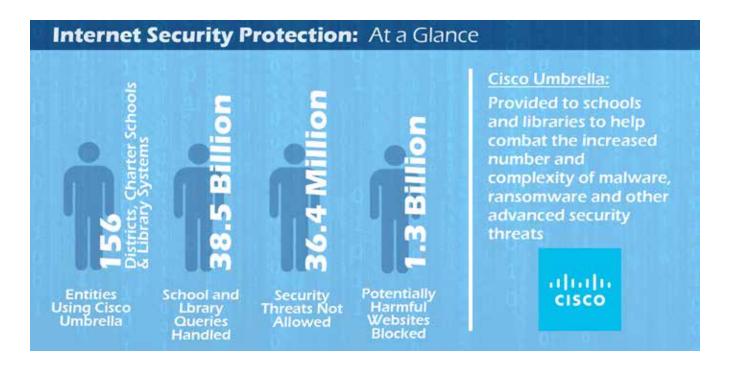
Cisco Umbrella Usage

In total, 156 school districts, library systems and charter schools are currently using Cisco Umbrella.

Between Nov. 1, 2018, and April 30, 2019, over 38.5 billion queries from South Carolina's schools and libraries were handled by Cisco Umbrella. Of those queries, Cisco Umbrella did not allow 36.4 million security threats and blocked over 1.3 billion potentially harmful or inappropriate websites. Additionally, South Carolina schools and libraries have over 35,000 roaming clients, such as laptops, smartphones and other devices, which use the school or library's network using Cisco Umbrella's internet security features.

REPORT ON DISTRICT EXPENDITURES OF EIA FUNDS

Since FY 2014-15, the South Carolina General Assembly has appropriated lottery revenues and Education Improvement Act (EIA) revenues of approximately \$112 million to improve external and internal technology infrastructure and to increase one-to-one computing initiatives in the state's public schools.



A breakdown of the yearly amounts, previously known as the K-12 Technology Initiative, is provided below. However, it should be noted that the General Assembly did not appropriate any funds for this initiative in FY 2019-20.

- ► FY 2014-15 \$29,288,976 (Lottery)
- ► FY 2015-16 \$29,288,976 (Lottery)
- ► FY 2016-17 \$29,288,976 (Lottery)
- ► FY 2017-18 \$12,000,000 (EIA)
- ► FY 2018-19 \$12,000,000 (EIA)
- ▶ Total \$111,866,928

In June 2019, the Education Oversight Committee (EOC) provided a report documenting how school districts expended FY 2018-19 EIA funds appropriated by the General Assembly for technology infrastructure to the K-12 School Technology Initiative Committee.

EOC Survey Effort

EOC staff surveyed school districts between March 1, 2019, and April 12, 2019. All 82 school districts, including the South Carolina Public School Charter District, responded to the K-12 Technology Initiative survey. In addition, the Charter Institute at Erskine, the South Carolina School for the Deaf and Blind, and the South Carolina Department of Juvenile Justice responded to the survey. The self-reported responses were analyzed by the EOC staff and documented as reported by the districts.

EIA Funding

In FY 2018-19, the General Assembly approved \$12.0 million in EIA revenues for Aid to District – Technology. Of this amount, \$350,000 was retained by the South Carolina Department of Education (SCDE) pursuant to Proviso 1.73 of the 2018-19 General Appropriation Act to "provide technology technical assistance to school districts."

Approximately \$11,612,705 was allocated to the 82 school districts and the Charter Institute at Erskine, and \$29,938 to the South Carolina School for the Deaf and Blind, the Department of Juvenile Justice and the Palmetto Unified School District.

In FY 2018-19, school districts reported having \$15.6 million in funds for technology, which included \$11.6 million in EIA funds allocated during FY 2018-19 and \$4.0 million in unexpended funds from the program carried forward from FY 2017-18 to FY 2018-19.

Of these available funds, school districts reported that they will expend \$13.1 million and will carry forward 15 percent, or \$2.4 million, into FY 2019-20. Of the funds to be expended in FY 2018-19, districts reported that they will spend \$11.5 million in the following manner:

- 56 percent on expanding and developing 1:1 computing initiatives through the replacement of existing devices and the purchasing of new devices;
- 28 percent on improving internal connections;
- 13 percent on other non-approved expenditures as reported by eight school districts that did not receive waivers from the K-12 School Technology Initiative Committee;
- Three percent spent on improving external connections.

As of May 1, 2019, no school district had requested a waiver from the K-12 Technology Committee for FY 2018-19 to expend its allocation on other technology-related issues outside the restrictions of Proviso 1A.76. However, eight school districts responded to the survey by indicating they had received waivers from the K-12 School Technology Initiative Committee and documented how they had spent their allocation.

These eight districts reported spending \$1.7 million, or 12.6 percent of all expenditures, for other technology-related issues. For comparison purposes, the EOC documented that in FY 2017-18, districts spent 22 percent of available funds on other non-approved expenditures as reported by 12 school districts who did not receive waivers from the K-12 School Technology Initiative Committee. Of the funds to be carried forward from FY 2018-19 to FY 2019-20, districts reported they will carry forward \$2.4 million and expend these funds accordingly:

- Thirty-one percent on improving internal connections;
- Sixty-three percent on expanding and developing 1:1 computing initiatives through the replacement of existing devices and the purchase of new devices;
- Two percent on improving external connections; and
- Four percent on other expenditures.

E-Rate Reimbursement Filings

Finally, regarding the E-Rate program, 81 of 82 districts reported filing for E-Rate reimbursements. One district reported not filing for E-Rate reimbursements, and for the Erskine Institute, filing for reimbursements was a school decision, and not universal in the district.

Of these 81 districts, 62 indicated they used an outside vendor/consultant to assist in filing E-Rate reimbursements. Among districts that reported using an outside vendor/consultant to assist in filing E-Rate reimbursements:

- Fifty-eight percent indicated that five percent or less of these funds went to an outside vendor/consultant.
- Ninety-two percent of districts indicated that 10 percent or less of E-Rate funds went to an outside vendor/consultant.

DISTRICT BACKUP RECOVERY SERVICES INFRASTRUCTURE

The South Carolina Department of Education (SCDE) received \$174,132 from the K-12 School Technology Initiative. Ransomware situations in some districts highlighted a need for district backup and recovery services, especially in smaller districts.

Initiative funds were used to procure an Avamar

Data Domain Backup/Recovery system with 82TB of usable storage to be located in Columbia, South Carolina. School district data captured on this device is then replicated to existing storage resources located in Clemson, South Carolina. SCDE has provided funding to procure Meraki communication devices required at district sites.

Response to this shared services offering has been greater than expected as SCDE originally targeted smaller school districts in the state. SCDE expected 8-10 districts to express interest, however, 25 districts have already indicated their wish to participate.

As of June 2019, SCDE is providing data backup for 10 school districts, working with another district on initial installation, and has another 14 districts to be scheduled. Some districts back up a portion of their data while others are using the service to back up all data. While each school district is somewhat unique in their configuration, SCDE is adapting to the process and expects current storage resources to be sufficient during the initial rollout.

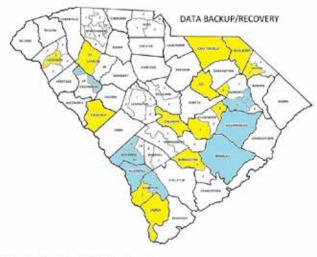


Figure 1 - Blue=Completed, Yellow=Planned



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:

The partners that make up the South Carolina K-12 School Technology Initiative are committed to improving the integration of technology in the classroom and in the overall learning process.

Professional development for classroom teachers and school-level leaders is critical to ensuring that technology is imbedded in student learning. The 21st century teacher must serve as both an educator and as a classroom technology facilitator. In this role, a teacher is not only a primary source of instruction, but also a technology facilitator, assisting students in identifying and making the best use of the myriad online resources at their disposal.

Initiative partners have recognized this transformational shift, and in response, have assisted our schools and libraries in providing innovative methods designed to further develop and enhance the technology skills necessary to keep pace with today's rapidly evolving educational landscape.

The initiatives, programs and efforts described in this section help provide South Carolina's public schools and libraries with the professional development opportunities necessary to efficiently and effectively integrate technology resources in the classroom.

PROFESSIONAL DEVELOPMENT

The partners that make up the K-12 School Technology Initiative engage in a wide variety of activities and programs designed to improve professional development. Such activities and programs are detailed throughout this section of the 2018-19 Progress Report.

SCETV TRAINING & RECERTIFICATION EFFORTS

South Carolina Educational Television (SCETV) has historically committed to serving the state's districts, schools and educators by providing quality online courses for teacher recertification and face-to-face professional development. Meeting the needs of educators who affect learning each day in classrooms across the state is one of SCETV's top priorities.

SCETV Teacher Courses

To stay abreast of educators' needs, SCETV engages the educational community in a variety of ways. Responses to the 2018-19 annual educator survey revealed a preference for self-paced, online professional development opportuunities. Through SCETV, educators can save valuable time and effort in finding online certificate renewal and graduate-level courses using the searchable SCETV <u>Teacher Courses</u> website. This website contains all courses offered by SCETV Teacher Recertification, TeacherLine Southeast and TeacherStep. Through this site, educators can search by interest, professional development and credit needed, and find out if courses qualify for technology credit.

For Additional Information

To learn more about SCETV Teacher Courses, please visit SCETV's <u>scetv.org/teachercourses</u>.

SCETV Hands-On Training

The annual survey also revealed an increased interest in personalized and 1:1 student learning. To assist in this ongoing transformation, SCETV conducts hands-on training on how to use such content as Knowitall.org, SCETV's PBS LearningMedia and LearningWhy, which are all projects supported by K-12 School Technology Initiative funding. Training is free and offered in face-to-face and blended formats for public, private and home-school teachers, staff and administrators.

During the 2018-19 academic year, SCETV staff facilitated in-person/blended training for approximately 5,000 educators and shared information about SCETV resources at numerous education-related conferences across the state.

PROFESSIONAL DEVELOPMENT FOR CERTIFIED STAFFF

The South Carolina Department of Education's (SCDE) Office of Virtual Education recognizes the importance of improving teacher technology proficiency to help ensure students are receiving the appropriate instruction to become productive citizens in the 21st century.

SCDE Online Professional Development

The Office of Virtual Education has continued to offer online professional development courses for South Carolina certified staff. The courses offered are all technology integration courses and courses that help to lead to the Online Teaching Endorsement, as well as other endorsements, for certified teachers and administrators.

Courses are offered for both renewal credits and graduate credits to assist teachers in renewing

their teaching license. Courses are taught by current classroom or former classroom teachers with 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.

Online Professional Development Growth

In 2018-19, the program saw continued growth by serving 11,854 educators. The program is further supporting the Read to Succeed legislation by developing and offering several new custom courses that will meet the required components of the Read to Success Legislation.

Currently, the program is an approved provider of the full suite of courses required to complete the Read to Succeed endorsement, as well as the online teaching endorsement. Popularity has been growing for both of these endorsements.

The Online Professional Development for Certified Staff program will continue to expand and explore online professional development opportunities for educators that are needed to ensure that teachers can best serve their students in their classrooms.

For Additional Information

To learn more about SCDE's Online Professional Development program, please visit <u>ed.sc.gov/</u> <u>districts-schools/virtual-education/online-courses-</u> <u>for-educators/online-professional-development/</u>.

DISCUS PROFESSIONAL DEVELOPMENT

Discus Professional Development, offered through the South Carolina State Library, provides online and on-site presentations and training opportunities for educators, public and academic librarians, and homeschool families. Topics included music and art content in Discus; South Carolina history; African-American history; New to Discus; Science, Technology, Engineering and Math (STEM); summer reading and eLearning, among others.

Discus Professional Development Offereings

The variety of training venues provides the opportunity to introduce parents, students and new educators to the electronic resources available in Discus while reminding veteran educators of the new resources and the robust technology tools found within the databases. Educators had access to 48 online Discus training webinars and 60 live presentations, with 1,714 participants. In addition, exhibit booths at 19 local and statewide conferences further extended the Discus message to 3,102 booth visitors.

Discus presented at statewide conferences, school district professional development days, public library staff development days, adult education centers, homeschool conferences and technology fairs. Presentations were made to the South Carolina Independent School Association (SCISA), the South Carolina Association for School Librarians (SCASL), South Carolina Public Charter Schools, South Carolina Council on Social Studies (SCCSS), South Carolina EdTech, South Carolina Association of Middle Level Education (SCAMLE), Library Resource Information Sharing Conference (LIBRIS) and the Lowcountry Homeschool Convention.

eLearning Pilot Program

The State Library and Discus were instrumental in the eLearning pilot program, which was constructed and implemented by the Education Oversight Committee for alternative methods of instruction for school makeup days. A series of five videos promoting Discus resources for the eLearning pilot program was created and includes a Discus overview, Google and Microsoft integration in Discus, lesson plans and other educator resources, and Discus multimedia. In addition, on-site and live webinars were held for the eLearning pilot school district teachers and administrators to demonstrate ways Discus supports eLearning and integrates into many school district Learning Management Systems.



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 South Carolina K-12 School Technology Initiative's partners are committed to finding unique and innovative ways to collaborate with the state's public schools and libraries, families, agencies and businesses to further develop the educational opportunities provided to students through technology.

At the core level, the Initiative leverages information technology and connectivity to enhance collaboration among schools, districts, the South Carolina Department of Education (SCDE) and the surrounding communities.

Initiative partners work to raise awareness of the successes of our education system as well as the challenges facing it, and seek to enlist the support of all citizens in the effort to provide students with an education that will make them competitive and productive in today's workplace.

Such success benefits the entire state and produces graduates who will share and lead in our economic growth for decades. Leveraging resources through such collaborations expand the access and usage of technology for all South Carolinians.

COLLABORATION OPPORTUNITIES

The partners that make up the K-12 School Technology Initiative engage in a wide variety of activities and programs designed to improve collaboration opportunities. Such activities and programs are detailed throughout this section of the 2018-19 Progress Report.

SCETV PUBLIC AWARENESS EFFORTS

In an effort to help inform citizens about the availability of educational programs, services and technologies, South Carolina Educational Television (SCETV) and South Carolina Public Radio share stories of projects that serve to address the needs of the state's educational community. Content broadcast through SCETV's television and radio mediums provide case studies and best practices for use throughout the state. Several national and statewide television series and educational specials — including SCETV's Palmetto Scene, Carolina Classrooms, Walter Edgar's Journal, South Carolina A – Z, and Science Friday — are broadcast and streamed for use in schools and classrooms, providing significant reach to both SCETV's television and radio audiences.

Carolina Classrooms

SCETV's <u>Carolina Classrooms</u>, a school-year series designed for teachers, educators and parents, features educational initiatives in South Carolina schools. The most recent season highlighted a variety of topics including college and career readiness, science education, literacy, assessment and workforce development. State and local educators, as well as policy and business leaders, participated in efforts to inform stakeholders about a diverse number of topics impacting South Carolina education. Promotion of Carolina Classrooms and other aforementioned programs is provided through a variety of platforms, including the SCETV Press Room, educational websites and broadcast interstitials. Further, education outreach efforts take place consistently throughout the year through staff participation in K-12 conferences, community engagement events, presentations and the submission of awards. Recently, SCETV has begun hosting educator listening sessions across the state to increase awareness of educational resources and services, and to identify gaps among available resources and educator needs.

SCETV Education Blog

Throughout the year, SCETV provides an education-related newsletter and blog site in collaboration with the South Carolina Education Oversight Committee (EOC) and the South Carolina Department of Education for the promotion of SCETV education features. The monthly newsletter is designed for pre-K-12 administrators, teachers and staff, to assist in informing teachers of timely resources and services. SCETV also uses social media including Facebook, Twitter, Instagram and YouTube to engage the education community.

For Additional Information

To learn more about SCETV's Education Blog, please visit the website at <u>https://www.scetv.org/</u><u>stories/education</u>.



REPORT CONCLUSION

The partners that make up the South Carolina K-12 School Technology Initiative are dedicated to ensuring the state's public school students, teachers, administrators and libraries are provided with the classroom technology, infrastructure and security, professional development and resources to ensure that all students graduate from public high school with the world-class knowledge, skills and characteristics of the Profile of the South Carolina Graduate. When stating the desire for "all" students to graduate with this knowledge, this means <u>every</u> student and teacher in <u>every</u> public school classroom and <u>every</u> public library, regardless of physical location or background.

The efforts of the Initiative's partners, working in conjunction with our schools and libraries, are essential to the success of the state's public education system. While much was accomplished in FY 2018-19, the continual evolution of educational technology creates new and more complicated challenges to address and overcome.

Technology is not a one-time expense but rather an ongoing financial investment that requires purchases and updates annually. The infrastructure that undergirds technology and the devices, software and training that support teachers and students requires significant investment of time and resources. As evidenced in this report, our public education system is not a static environment.

As the needs and expectations associated with schools and libraries continue to evolve, the South Carolina K-12 School Technology Initiative willingly and energetically accepts these challenges and will continue to assist in providing the tools and resources necessary to ensure our students success.

APPENDIX A: INITIATIVE BUDGET

FY 2018-19 K-12 School Technology Initiative Budget

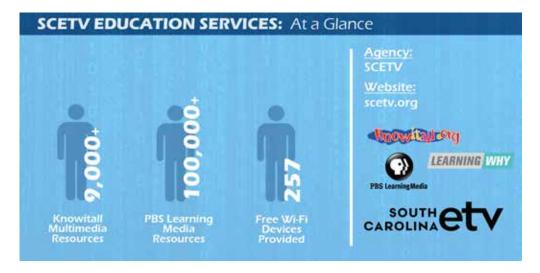
Base Appropriation: School Technology	\$12,271,826
Total Appropriations :	\$12,271,826
Carry Forward:	
State Library	\$0
SCETV	\$0
SCDE	\$0
Department of Administration	\$0
Total Carry Forward :	\$0
Total Available Funds:	\$12,271,826
E-Rate Funds (Estimated)	\$20,789,258
Total Funds Anticipated:	\$33,061,084
Total Budget Requested:	\$33,061,084
Net Remaining Funds:	-

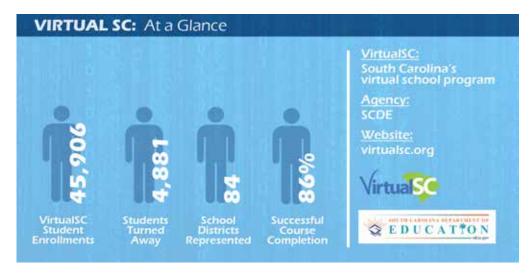


Priority	Principals Budget Requests	Budget Requests	School Technology Appropriation	E-Rate Funds (Estimated)	Approved Budgets
	Non-Discretionary				
	Department of Administration				
1	Network Connectivity Costs	\$28,472,756	\$7,683,498	\$20,789,258	\$28,472,756
2	E-Rate Field Training and Outreach	\$8,100	\$8,100		\$8,100
3	DNS-based Internet Security License Renewal	\$1,085,672	\$1,085,672		\$1,085,672
4	Infrastructure Upgrades Schools & Libraries*	\$2,600,000	\$2,600,000		\$2,600,000
5	Proviso 1A.86 - SDE-EIA: Digital Learning Plan	\$50,000	\$50,000		\$50,000
	Total:	\$32,216,528	\$11,427,270	\$20,789,258	\$32,216,528
	Total Non-Discretionary:	\$32,216,528	\$11,427,270	\$20,789,258	\$32,216,528
	Total Available Budget	\$844,556	\$844,556		\$844,556

	Discretionary				
	Department of Administration				
1	Non-E-Rate Network Infrastructure Match	\$333,374	\$333,374		\$333,374
2		\$0	\$0		\$0
	Total:	\$333,374	\$333,374		\$333,374
	State Library				
1	Learn360	\$198,500	\$198,500		\$198,500
2		\$0	\$0		\$0
	Total:	\$198,500	\$198,500		\$198,500
	Department of Education				
1	District Backup-Recovery Services Infrastructure	\$174,132	\$174,132		\$174,132
2		\$0	\$0		\$0
Total:		\$174,132	\$174,132		\$174,132
	SCETV				
1	Knowitall.org content upgrade	\$138,550	\$138,550		\$138,550
	Total:	\$138,550	\$138,550		\$138,550
Total Before Carry Forward:		\$33,061,084	\$12,271,826	\$20,789,258	\$33,061,084
	Total Carry Forward from Previous year:	\$0	\$0		\$0
	Grand Total for a Balanced Budget:	\$33,061,084	\$12,271,826	\$20,789,258	\$33,061,084
		\$0		Balanced	
* Co	mmittee funding will be leveraged with the Category	/ 2 federal share. F)	/ 2018-19 financial i	mpact will be \$16 mi	llion.



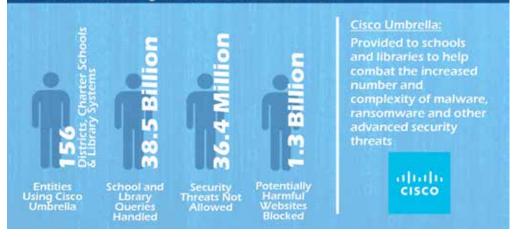




BROADBAND INFRASTRUCTURE: At a Glance



Internet Security Protection: At a Glance



Internet Bandwidth by District (2014-15 to 2018-19)

Bandwidth (Mbps)	Districts 2014-15	Districts 2015-16	Districts 2016-17	Districts 2017-18	Districts 2018-19
> 10	0	0	0	0	0
10-20	0	0	0	0	0
30-90	0	0	0	0	0
100-150	24	17	9	5	3
200-250	9	6	10	10	8
300-350	9	9	6	5	5
400-450	4	5	3	2	0
500-550	6	11	14	11	8
600-900	8	4	5	10	11
1000	12	14	15	11	14
1500	1	1	2	6	3
2000	4	6	6	7	9
2500	1	1	3	3	4
3000	2	5	3	3	4
3500	0	0	0	1	0
4000	2	2	4	2	2
4500	0	0	0	0	2
5000	0	2	2	3	5
6000	0	0	1	2	2
7500	0	0	1	2	2
Over 1 Gbps	22	31	37	40	47

District Expenditures of EIA Funds (FY 2018-19)

Amount	Percentage	
\$3,968,914	25.4% of Total Available	
s \$11,632,518 74.6% of Total Available		
\$15,601,432*		
Amount	Percentage	
\$356,215	2.7% of Expenditures	
\$3,717,452	28.1% of Expenditures	
\$3,189,462	24.1% of Expenditures	
\$4,207,625	31.8% of Expenditures	
\$0	0% of Expenditures	
\$1,674,455	12.6% of Expenditures	
\$13,145,209*	84.3% of Total Available	
\$2,363,678*	15.2% of Total Available	
ues due to incomplete dat	a provided by districts.	
	\$3,968,914 \$11,632,518 \$15,601,432* Amount \$356,215 \$3,717,452 \$3,189,462 \$4,207,625 \$0 \$1,674,455 \$13,145,209* \$2,363,678*	

Source: SC Education Oversight Committee FY 2018-19 Survey

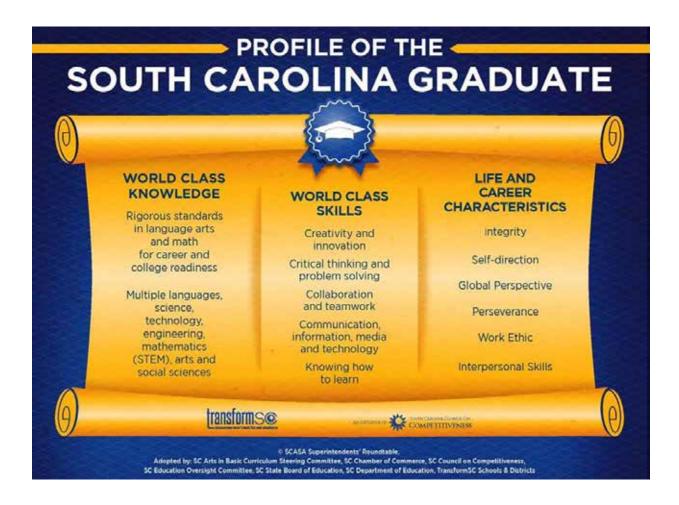
Allocation of K-12 Technology Initiative Funds, FY 2018-19, Subfund 307, Revenue Code 3507

District	Allocation
Abbeville	\$41,250.83
Aiken	\$338,181.65
Allendale	\$31,231.69
Anderson 1	\$138,514.65
Anderson 2	\$51,754.42
Anderson 3	\$35,091.30
Anderson 4	\$39,523.41
Anderson 5	\$179,847.85
Bamberg 1	\$26,643.09
Bamberg 2	\$18,098.83
Barnwell 19	\$16,754.16
Barnwell 29	\$17,700.72
Barnwell 45	\$42,733.67
Beaufort	\$300,311.67
Berkeley	\$475,521.06
Calhoun	\$33,777.10
Charleston	\$655,291.79
Cherokee	\$120,705.40
Chester	\$102,848.11
Chesterfield	\$97,774.67
Clarendon 1	\$20,306.43
Clarendon 2	\$79,220.94
Clarendon 3	\$17,221.27
Colleton	\$110,140.38
Darlington	\$196,455.81
Dillon 3	\$22,358.10
Dillon 4	\$114,725.81
Dorchester 2	\$361,884.14
Dorchester 4	\$32,208.52
Edgefield	\$47,781.76
Fairfield	\$70,958.33
Florence 1	\$225,800.78
Florence 2	\$15,858.84
Florence 3	\$95,522.04
Florence 4	\$18,300.21
Florence 5	\$16,866.64
Georgetown	\$128,718.47
Greenville	\$1,043,656.52
Greenwood 50	\$123,103.32
Greenwood 51	\$17,924.10
Greenwood 52	\$21,663.04
Hampton 1	\$44,169.12
Hampton 2	\$19,042.71
Horry	\$615,773.50
Jasper	\$70,953.79
Kershaw	\$149,222.18

Lancaster	\$184,873.90
	\$78,019.00
Laurens 55 Laurens 56	\$59,153.96
	\$52,760.37
Lee	\$362,319.01
Lexington 1	
Lexington 2	\$122,178.75
Lexington 3	\$27,546.90
Lexington 4	\$64,748.03
Lexington 5	\$237,524.34
McCormick	\$14,778.09
Marion	\$124,424.55
Marlboro	\$77,441.64
Newberry	\$82,554.78
Oconee	\$142,542.98
Orangeburg 3	\$71,626.97
Orangeburg 4	\$70,913.86
Orangeburg 5	\$177,217.59
Pickens	\$223,028.78
Richland 1	\$463,628.47
Richland 2	\$386,915.10
Saluda	\$31,705.33
Spartanburg 1	\$68,986.49
Spartanburg 2	\$138,527.57
Spartanburg 3	\$39,328.98
Spartanburg 4	\$37,869.98
Spartanburg 5	\$117,047.17
Spartanburg 6	\$155,843.57
Spartanburg 7	\$101,175.55
Sumter	\$228,325.95
Union	\$78,474.14
Williamsburg	\$106,169.22
York 1	\$71,074.36
York 2	\$106,438.92
York 3	\$242,664.01
York 4	\$211,637.26
SC Public Charter	\$291,693.01
Erskine Institute	\$118,153.82
TOTAL:	\$11,612,705.22
Wil Lou Gray	\$0.00
Deaf & Blind	\$6,097.90
DJJ	\$13,714.87
Palmetto Unified	\$10,125.22
Special Total	\$29,937.99
State Expenses	\$350,000.00
Grand Total:	\$11,992,643.21
	,=,=

APPENDIX C: PROFILE OF THE SC GRADUATE

The Profile of the South Carolina Graduate is designed to identify the knowledge, skills and characteristics high school graduates should possess in order to be prepared for success as they enter college or pursue a career. The profile is intended to guide all that is done in support of college and career-readiness.



APPENDIX D: INITIATIVE MILESTONES

1996-97

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

1997-98

- The Initiative distributed over \$12 million to districts for local IT implementation.
- South Carolina Educational Television (SCETV) began digitizing its video resources for school use.
- 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.
- The Initiative began distributing funding for IT professional development and implementation to districts, sending over \$16 million statewide.
- Eighty-six percent of schools were equipped with satellite dishes to receive education programming, compared to 29 percent nationally.
- Sixty-seven percent of classrooms were connected to local-area computer networks, compared to 53 percent nationally.
- Technology Counts '98 reported South Carolina was one of only five states to provide internet access to 100 percent of schools.

1999-2000

- South Carolina received over \$42 million in E-Rate funding.
- ► The South Carolina State Library's (State

Library) Discus website was launched.

- The student-information collection system, Schools Administrative Student Information (SASIxp), was provided free to all districts.
- 100 percent of all state K-12 schools have digital satellite reception.

2000-01

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

2001-02

- South Carolina received over \$44 million in E-Rate funding.
- The Initiative provided over \$18 million to districts for local technology and training.
- The Initiative provided \$400,000 for training of district technology support personnel.
- The General Assembly passed the Teacher Technology Proficiency Proviso.
- SCETV's Knowitall.org was launched.
- SCETV's Distance Education Learning Centers were operational in all school districts.

2002-03

 Initiative funding decreased to a five-year low of \$19 million.

2003-04

- The student-information collection system SASIxp was implemented in all districts.
- The Division of State Information Technology (DSIT) filed E-Rate Discount Program calculations for all schools and districts, resulting in over \$49 million in discount payments.

- The South Carolina Department of Education (SCDE) released its State Educational Technology Plan for 2003-08.
- Initiative funding supported 30 Technology Coaches.
- SCDE's South Carolina Online Professional Development (SCOPD) program was launched.

2004-05

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

2005-06

- The General Assembly called for a feasibility study to investigate computerbased 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

- SCDE launched its South Carolina Virtual School pilot program.
- SCETV's Knowitall.org launched two new sites, Knowitall Healthy! and Road Trip.

2007-08

- The State Library's Discus launched a redesigned website.
- The State Library began the implementation of SchoolRooms.
- The Initiative approved the implementation of a DSIT service for security/monitoring of K-12 internet bandwidth usage.

2008-09

 SCETV launched OnePlaceSC, its newest K-12 education web portal. SCETV launched Digital Education Services (DES) to transition existing analog and digital broadcasts to live and video streaming on-demand systems.

2009-10

- SCDE released its State Educational Technology Plan for 2009-13.
- The State Library's Discus program launched SmartSearch.
- The State Library launched StudySC to provide multimedia content for homework, project and classroom assistance.
- DSIT, part of Admin's predecessor agency the Budget and Control Board, filed E-Rate applications for network connectivity costs of \$22.7 million in eligible services and received federal E-Rate reimbursements of \$13.8 million.
- The Initiative published an updated internet policy to help ensure the equitable use of available funds to supply sufficient internet bandwidth to all districts.

2010-11

 SCETV's website "Web of Water," received the Corporation for Public Broadcasting (CPB) Innovation in Education Award.

2011-12

► SCETV launched PBS Learning Media.

2012-13

- SCETV added PBS LearningMedia, a media-on-demand service featuring PBS content.
- South Carolina Virtual School Program (SCVSP) legislation was amended to lift the credit limitations placed on students using the SCDE program.
- SCVSP partnered with schools to offer blended learning opportunities to help fulfill needs resulting from budget cuts, reduced funding and unfilled teaching vacancies at smaller schools.

2013-14

- SCVSP was officially rebranded and renamed VirtualSC by SCDE.
- SCETV launched ETV Teacher Courses to provide teachers the ability to easily search and find relevant recertification credit information.
- SCETV began offering recertification courses using the blended "Using Video in the Classroom" curriculum.
- SCETV introduced a simplified and improved OnePlaceSC website.

2014-15

- SCETV aired its documentary titled "180 Days: Hartsville."
- SCETV began an extensive redesign of Knowitall.org and rebranded the service as Knowitall.org Media.
- DSIT's Bandwidth Monitoring Program deployed monitoring sensors in each public school district, as well as six charter schools and 42 public library systems, to ensure connectivity and internet bandwidth are best being used to serve the state's educational needs.
- The Initiative began a distributed denial of service (DDoS) Protection Service designed to help schools and libraries detect and mitigate the risks associated with this form of cyber-attack. The service is offered through an agreement between DSIT, Spirit Communications and AT&T.
- The Initiative, through DSIT, began a Security Training Voucher Program designed to enhance cyber and information security defense proficiencies among the state's public school districts.

2015-16

- SCETV offered a new Wi-Fi service to support reading and STEAM in pre-K-12 communities, increasing access to SCETV content to students before and after schools through Wi-Fi facility hotspots and quality professional development.
- SCETV launched its first station-branded public media application.

- The Initiative's 2014-15 Progress Report received a 2016 Notable Document Award from the South Carolina State Library.
- SCETV launched LearningWhy, a new innovative lessons website intended for 1:1 and project-based learning environments.

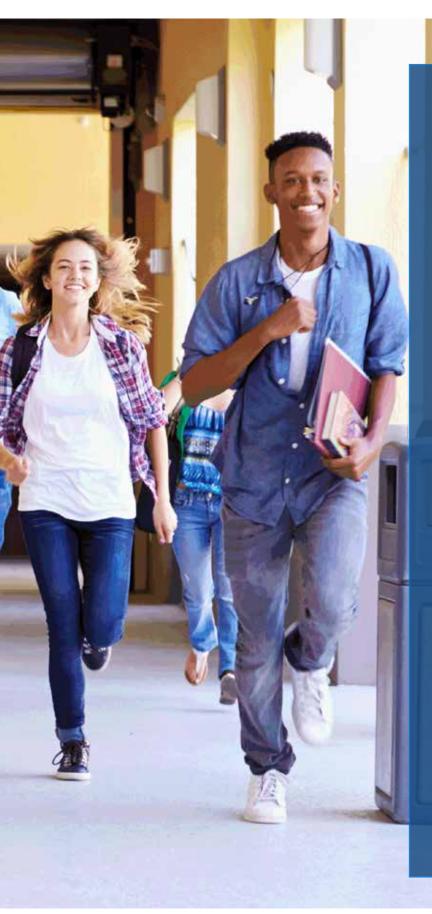
2017-18

- The Initiative's goal to increase external connections to schools to 100 kbps per student by 2017 is met with average internet service capacity among all schools totaling 226 kbps.
- South Carolina becomes the first state to provide Cisco Umbrella to all school districts, library systems and charter schools free of charge.
- SCETV won an AVA International Competition award for Let's Go!, part of Knowitall.org.

2018-19

- The State Library added Career Transitions, Learn360, Magic School Bus and AutoMate to Discus.
- The State Library announced several content additions and updates to StudySC including a new "Notable Women of South Carolina" page.
- SCDE procured an Academic Competency and Standards Authoring Tool which moves the creation and authoring of standards to an all-digital environment and publishes the standards in machine readable and human consumable formats.
- SCDE's VirtualSC became the fifth largest state virtual school program in the nation based on student enrollments.
- The South Carolina Department of Administration (Admin) awarded a network services contract to AT&T, lowering the cost for WAN circuits by 29 percent. The contract also provides circuit bandwidth capacity speeds of 15 Gbps and 20 Gbps to schools and libraries for the first time.
- Cisco Umbrella, provided through Admin, has been implemented by 156 school districts, library systems and charter schools.

2016-17



Appendix E: What Others Are Saying

Discus

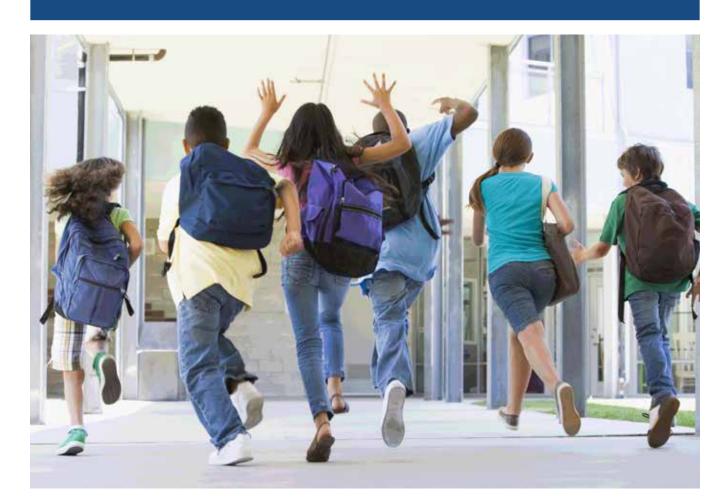
- "Students can continue their research at home using the same trusted databases we work with at school." – Kristen Smith, Carolina Park Elementary
- "It (Discus) narrows down places they can find info on specific topics. Helps everyone know they are using creditable sources." – Katrina McRae, North Mullins Primary
- "It (Discus) is an invaluable resource that we are able to offer our students. We would not be able to afford this otherwise." – Debbie Huntley, New Heights Middle School
- "It (Discus) makes it much easier for elementary students to access resources!!" – Lisa Chapman, Belvedere Elementary
- "Such a valuable source for reliable, ageappropriate info. Love that it (Discus) reads to them and is available in Spanish." – Charlotte Evans, Ebenezer Avenue Elementary School
- "It (Discus) is our 'go to' resource for all research." – Allison Bird, Spring Valley High School
- "Our students are able to find resources easily as they navigate through the many reputable databases that are available. This (Discus) has increased their knowledge of research skills."
 – Kimberly Rush, Rudolph Gordon Elementary School
- "I helped a teacher use LearningExpress Library for her students to study for the GED, which will improve their lives!" – Jamie Gregory, James F. Byrne High School



Appendix E: What Others Are Saying

SCETV Services

- "I chose to look at the content page on Learning Why and was blown away. I am so excited to be able to use these lessons and activities in my classroom, and love that the materials are already planned out for you." -Ashley Hepner, Lexington 1
- "I went into Learning Why and found readymade lessons for third grade math and science. Excited to see worksheets were available to download, resources were listed, and lessons were already matched to standards." – Ann Riley, Dorchester 2
- "I love that teachers can research so many topics on Knowitall.org and that teachers can provide students with videos to watch and real pictures to view. This helps to make the learning personal and real because they can see it. I also love the layout of the PBS LearningMedia site! I especially love that you can break the resources down by grade level and subject." – Teacher Recertification course participant
- "KnowitAll.org is a valuable resource and it keeps students' attention. I highly recommend it." – Third and fourth grade teacher, York County School District
- "ETV resources are exceptional and very useful in my classroom." – Kindergarten Teacher, Marlboro County School District
- "I like the newsletter updates and Carolina Classroom offers a variety of subjects that I otherwise wouldn't know about." – Staff member, Palmetto State Teachers Association



South Carolina K-12 School Technology Initiative 4430 Broad River Road Columbia, S.C. 29210 Website: sck12techinit.sc.gov