



2020-21 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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SOUTH CAROLINA
DEPARTMENT OF EDUCATION
ed.sc.gov



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 and 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**
1200 Senate Street, Columbia, SC 29201
Phone: 803-734-8120
Website: admin.sc.gov
- ▶ **SC Department of Education**
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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
- ▶ **AT&T**
1441 Main Street (Suite 305), Columbia, SC 29201
Phone: 803-401-2206
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- ▶ **SC Telecommunications and Broadband Association**
1122 Lady Street (Suite 840), Columbia, SC 29201
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Website: sctba.org



ABOUT THE INITIATIVE

INITIATIVE PRINCIPALS AND COMMITTEE CHAIR

- ▶ **SC Department of Administration**
Marcia Adams, Executive Director
- ▶ **SC Department of Education**
Molly Spearman, State Superintendent of Education
- ▶ **SC Education Oversight Committee**
Matthew Ferguson, 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 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



1,266
Public Schools



208
Public Libraries



51,972
Instructional Staff



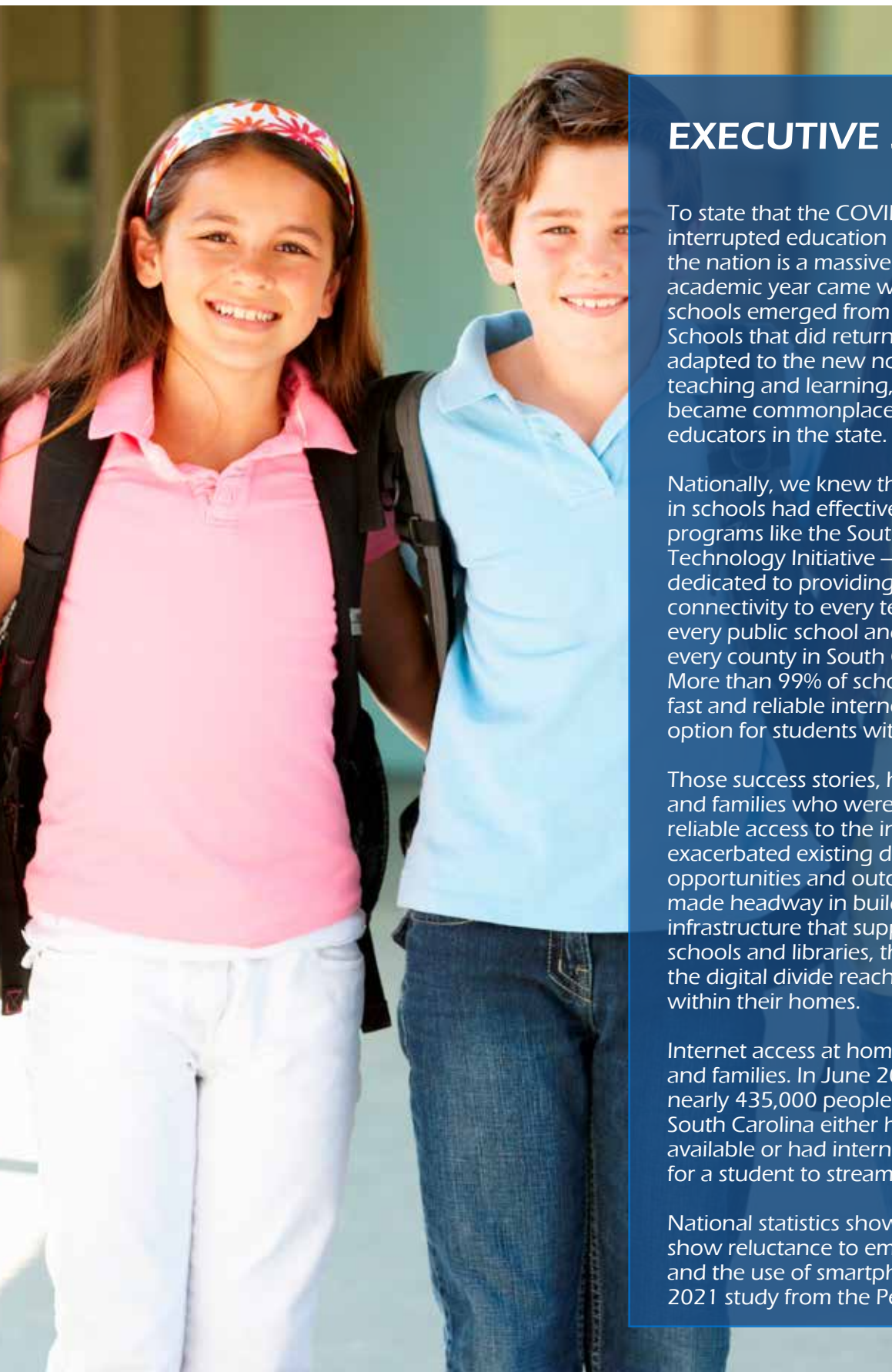
766,819
School Students



5,277,830
State Citizens



1
South Carolina



EXECUTIVE SUMMARY

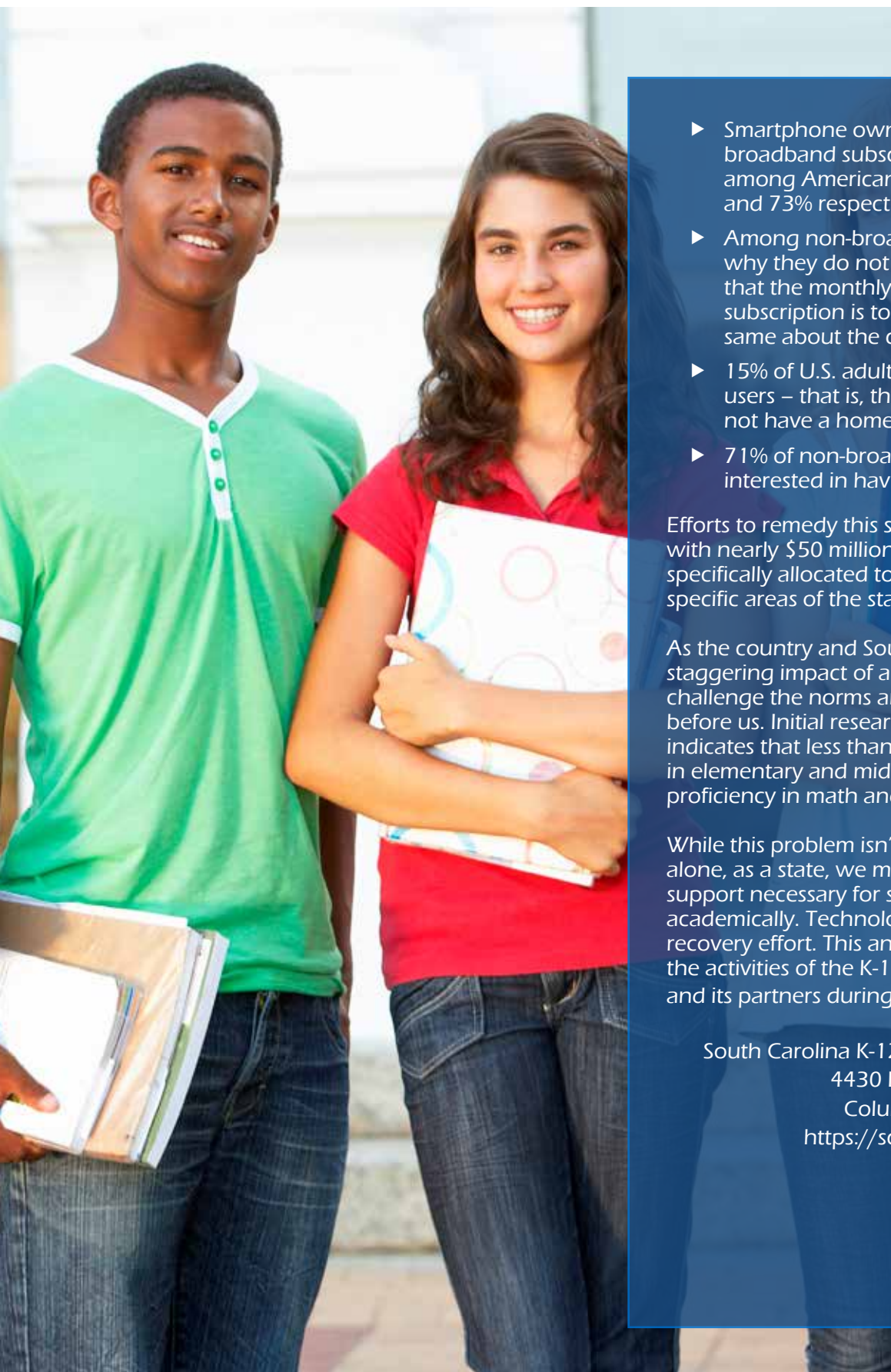
To state that the COVID-19 global pandemic interrupted education in South Carolina and across the nation is a massive understatement. The 2020-21 academic year came with additional challenges as schools emerged from the cloud of remote learning. Schools that did return to face-to-face instruction adapted to the new norms of socially distanced teaching and learning, while remote learning became commonplace for many students and educators in the state.

Nationally, we knew the classroom connectivity gap in schools had effectively been closed. Successful programs like the South Carolina K-12 School Technology Initiative — 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 — were working. More than 99% of schools nationwide had access to fast and reliable internet, making online learning an option for students within schools.

Those success stories, however, didn't help students and families who were learning from homes without reliable access to the internet. The pandemic exacerbated existing disparities in educational opportunities and outcomes. While we may have made headway in building and supporting an infrastructure that supports technology within schools and libraries, the pandemic reminded us that the digital divide reaches to students and families within their homes.

Internet access at home is a barrier for many students and families. In June 2020, it was estimated that nearly 435,000 people in 192,000 households in South Carolina either had no internet service provider available or had internet service that wasn't capable for a student to stream a video for a lesson.

National statistics show progress, but some results show reluctance to embrace available broadband and the use of smartphones only. According to a 2021 study from the Pew Research Center:



- ▶ Smartphone ownership (85%) and home broadband subscriptions (77%) have increased among American adults since 2019 – from 81% and 73% respectively.
- ▶ Among non-broadband users, 45% say a reason why they do not have broadband at home is that the monthly cost of a home broadband subscription is too expensive, while 37% say the same about the cost of a computer.
- ▶ 15% of U.S. adults are “smartphone-only” internet users – that is, they have a smartphone, but do not have a home broadband connection.
- ▶ 71% of non-broadband users say they are not interested in having such a connection at home.

Efforts to remedy this situation were quickly developed, with nearly \$50 million in federal COVID relief monies specifically allocated to expanding broadband access to specific areas of the state.

As the country and South Carolina emerge from the staggering impact of a global pandemic, it is time to challenge the norms and take the opportunities set before us. Initial research on the resulting COVID slide indicates that less than 30% of South Carolina students in elementary and middle school will reach grade level proficiency in math and reading.

While this problem isn't to be solved by schools alone, as a state, we must commit to help provide the support necessary for students who are far behind academically. Technology access is a big part of this recovery effort. This annual Progress Report documents the activities of the K-12 School Technology Initiative and its partners during FY 2020-21.

South Carolina K-12 School Technology Initiative
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INFRASTRUCTURE, CONNECTIVITY, SECURITY AND PRIVACY

South Carolina Technology Plan Goal:

To support the state's learning goals, by 2024 South Carolina's public schools will have more secure networks, fast and stable technology infrastructure, and up-to-date computing devices. Public school students will have improved access to broadband internet at school and at home.

INFRASTRUCTURE, CONNECTIVITY, SECURITY AND PRIVACY

Partner Efforts to Support the Goal:

The partners that make up the K-12 School Technology Initiative engage in a wide variety of activities and programs designed to improve the areas of infrastructure, connectivity, security and privacy. Such activities and programs are detailed throughout this section of the 2020-21 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.

Bandwidth Growth

Internet connectivity for South Carolina's public schools and libraries has seen tremendous growth over this time. Since June 2015, the number of districts with 1,000 Mbps or more internet bandwidth has grown from 22 to 66.

As of May 2021, school districts accounted for over 274 Gbps of internet bandwidth capacity, including 7.46 Gbps to library systems and 15.3 Gbps to charter schools. While the average library system and charter school had roughly 215 Mbps of internet bandwidth capacity, the average school district had a capacity of 3,426 Mbps. Looking ahead, the K-12 School Technology

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.

Category Two State Matching Funds Program

In FY 2020–21, Admin received \$2.4 million from the K-12 School Technology Initiative for the Category Two (C2) E-Rate State Match Program. The program reimbursed school districts, library systems and charter schools for the non-discounted share of their FY 2020–21 Category Two E-Rate applications. The reimbursed funds were reinvested by the beneficiary to continue to upgrade network infrastructure. The program provided funding to 25 library systems, 19 charter schools, 29 plaintiff school districts and 38 non-plaintiff school districts.

SCHOOLS AND LIBRARIES E-RATE PROGRAM

Since 1998, the Schools and Libraries E-Rate Program has proven to be transformational for education technology in public schools and libraries across South Carolina. 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 80 school districts, 67 charter and special schools and 40 library systems. As of FY 2020–21, the Consortium was one of the largest E-Rate consortia in the United States with a total funding request amount of over \$22 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, Consortium staff assist 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.

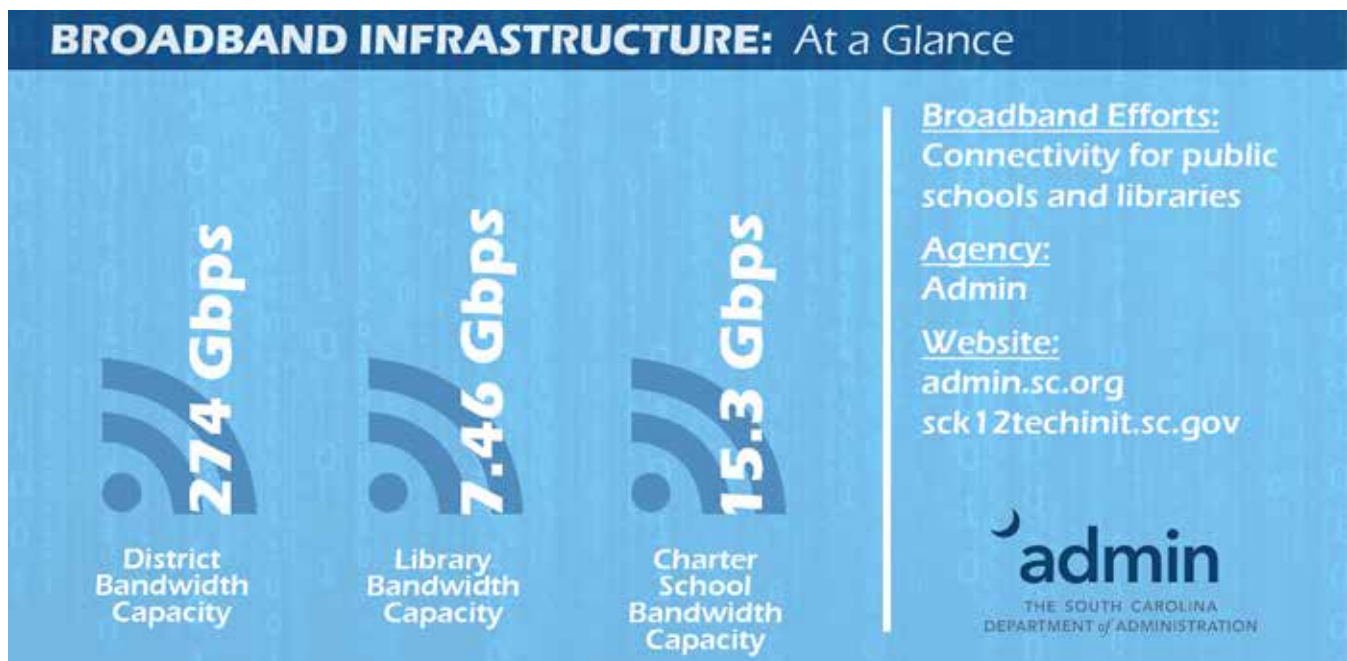
The funding support offered by the Schools and Libraries E-Rate program is essential to the continued expansion of education technology in districts and libraries throughout the state.

E-Rate Program Trends

State schools and libraries 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 (C2) funding mechanism.

In FY 2020–21, 65 school districts, 25 library systems and 25 charter schools requested over \$21.9 million in reimbursements for Category Two products and services such as routers, switches and other internal connections. Of this amount, \$17.3 million has been approved for funding. In June 2020, those school districts and library systems were disbursed \$9.6 million in reimbursements from the E-Rate program.

The amount of reimbursements disbursed to school districts and library systems for FY 2020–21 will continue to rise well into 2022, as districts and libraries continue to submit invoices to the E-Rate program for payment. If all \$17.3 million in requested funds are ultimately disbursed to school districts and library systems, the value of the products and services would exceed \$22.4 million, which includes the reimbursed funds and the cost share funds from school districts.



When comparing the FY 2019-20 and FY 2020-21 Category Two E-Rate filing data, several notable program trends were identified. First, the number of schools and libraries participating in the C2 E-Rate program increased from 94 to 115. Secondly, applicants requested over \$6.4 million more C2 funds in FY 2019-20 than in the previous year. However, applicants were not as successful as last year in seeing their E-Rate applications approved. The FY 2020-21 E-Rate Efficiency Factor of 87% was down from 94% the year before. It should also 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% 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 sck12techinit.sc.gov/e-rate/programinformation.

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, schools and libraries must devote more personnel to procurement, E-Rate compliance, and ultimately pay more for 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, the South Carolina Department of Administration (Admin) awarded a seven-

year state master contract for network services to AT&T. Most notably, the contract lowers the cost for wide area network (WAN) circuits by 29%. These new, lower rates went into effect July 2020. 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 fuel 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 provides Cisco Umbrella to districts, library systems and charter schools.

Cisco Umbrella is a leading, cloud-based, 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 name server (DNS) security threats with internet security policies providing drastically improved defense and a user-friendly experience.

Cisco Umbrella Usage

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.

In total, 156 school districts, library systems and charter schools are currently using Cisco Umbrella. Between July 1, 2020, and April 30, 2021, over 121.3 billion queries from South Carolina's schools and libraries were handled by

Cisco Umbrella. Of those queries, 46.5 million security threats and potentially harmful or inappropriate websites were blocked. In addition, 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.

OVERCOMING AT-HOME CONNECTIVITY CHALLENGES

The South Carolina Department of Education (SCDE), in conjunction with the Office of Regulatory Staff (ORS), distributed mobile hotspots and secured monthly broadband service to assist students with obtaining home-based internet access. This initiative was taken in an effort to help address the at-home learning "secure connectivity gap" highlighted during the COVID-19 global pandemic.

This action was taken in accordance with state legislation regarding the distribution of federal Coronavirus Aid, Relief, and Economic Security Act (CARES Act) appropriations, and was limited to households with an annual income of 250% or less of federal poverty guidelines that did not previously have home internet access. To provide

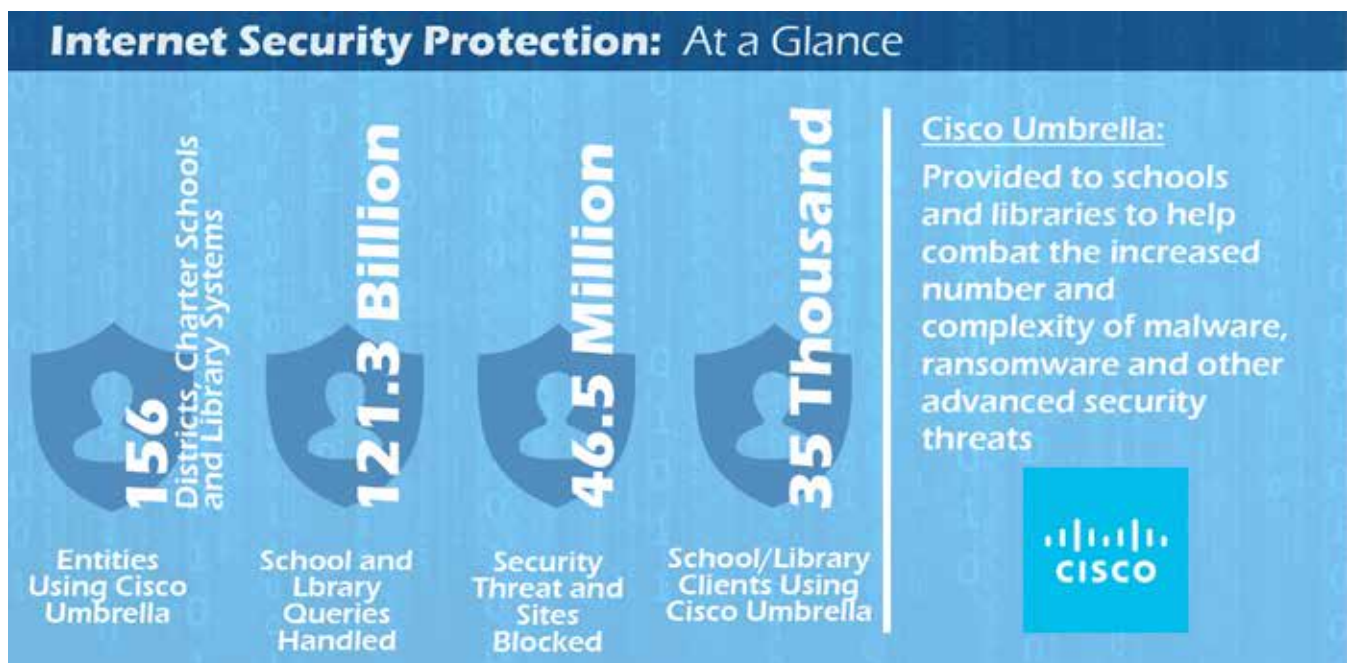
this capability, contracts were negotiated with Verizon, AT&T, T-Mobile and several wired service providers.

The project began in June 2020 and was originally designed to conclude Dec. 31, 2020. With the availability of additional funding, this initiative was extended to June 30, 2021, with plans to potentially extend it through December 2021.

As a result of this effort, over 90,000 homes are receiving services, representing 81 school districts, two Governor's schools, two charter schools, 72,742 hot spots and 1,033 wired line services. In two cases, student homes were in an area where cell service was degraded, which affected hot spot coverage. SCDE purchased cell signal boosters as part of a pilot test. This pilot proved successful as the service signal increased from one bar to five, thereby allowing students to continue their participation in remote learning.

At-Home Learning Devices

SCDE also assisted four districts with acquiring Chromebooks to provide to their students. The agency purchased 1,122 devices and received a donation of 550 devices from the South Carolina Department of Administration (Admin). These



districts included the following:

- ▶ McCormick Co. School District (300 devices)
- ▶ Anderson School District 4 (762 devices)
- ▶ Lexington School District Two (60 devices)
- ▶ Greenwood Co. School District 52 (550 devices)

EXPANDED EDUCATOR ACCESS

South Carolina Educational Television (SCETV) expands access to web resources like Knowitall and PBS LearningMedia to educators across the state through the provision 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 371 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 STEM skills before and after school. The initiative also supports the work of SCETV to engage parents and caregivers. To date, nearly 1,250 teachers, parents and students have received training as a result of the work in this area. The program continues to grow each year.

EXPANDED STUDENT ACCESS

ETV Learning+, formerly known as At-Home

Learning, is SCETV's newly branded at-home learning initiative. In an effort to decrease cases of interrupted learning due to the coronavirus pandemic, resources made available on Knowitall, including those newly created resources, were included in the ETV main channel modified broadcast schedule. These modifications provided middle and high school learning content to student households between 1-4 p.m., Monday through Friday. Learning supplements for each program were made available on Knowitall and on the agency's remote learning webpage. Programming reached households in all 46 counties statewide.

Where internet access is unavailable or limited, SCETV offers datacasting as a complementary solution. Datacasting is a one-way communication system that allows educators to send learning content to student devices using the broadcast signal. Funding from this initiative supported the development of a learning content deliverable using datacasting technology and the development of end-user resources like setup tutorials, learning management system simulations, student engagement videos and general informationals.

For Additional Information

To learn more about the ETV Learning+ and datacasting initiatives, please visit scetv.org/learning and scetv.org/datacasting.

DISTRICT BACKUP RECOVERY SERVICES INFRASTRUCTURE

The South Carolina Department of Education (SCDE) provides data backup recovery services to participating districts throughout the state. The infrastructure for this effort includes an Avamar data domain backup and recovery system, which has 82 terabytes (TB) of usable storage and is located in Columbia, South Carolina. SCDE also provided funding to procure Meraki communication devices needed for school districts to participate in the service.

The response from districts to this shared services offering has been greater than expected.

Originally, only small school districts were targeted for this initiative; however, since April 2021, SCDE has been providing data backup for 16 school districts of various sizes and is actively working to onboard four additional districts.

Of the 16 school districts implemented to date, SCDE is backing up 103 servers and 68TB of data. Some school districts back up a portion of their data while others are using the service to back up all data. SCDE will continue to review current storage resources as usage continues to grow.

IMS GLOBAL LEARNING CONSORTIUM MEMBERSHIP

The South Carolina Department of Education (SCDE) purchased an IMS Global Learning Consortium affiliate membership to expand the support it offers to the state's school districts. Membership in the consortium provides a wide variety of benefits, including access to development tools not available to the public, guidance on the effective implementation of IMS specifications, and information on new innovations in the learning industry.

In addition, membership also provides districts with the ability to access the TrustedApps utility. This tool provides access to an application vetting rubric and a set of applications that meet the defined security and privacy requirements. It also provides district level support for implementing IMS global standards around developing a digital learning environment.

DISTRICT TECHNOLOGY TRAINING

The South Carolina Department of Education (SCDE) coordinated technical and non-technical training opportunities for school districts throughout the state.

District Technologist Training

Through this effort, district technologists were provided with an eight-part live virtual training session conducted by state-contracted training vendor, WeKnowIT. More than 200 school

participants attended these sessions which focused on a variety of privacy, security and technology-related topics. Topics covered during these training sessions included the following:

- ▶ Family Education Rights Privacy Act.
- ▶ Business and privacy impact assessments.
- ▶ Center of Internet Security and Information Security Framework controls.
- ▶ Policy and procedures writing.
- ▶ Incident response.
- ▶ Auditing tools and techniques.
- ▶ Vulnerability and patch management.
- ▶ Map networking, network diagram and router/switch management.
- ▶ Active Directory policies and cleanup.

District Online Professional Development

SCDE offered school districts the opportunity to acquire a three year site license for online professional development courses through SkillSets of Silicon Valley. The site license provides unlimited dashboards and access to a large variety of both technical and non-technical courses, assessments and practice labs.

With unlimited access, this resource can be extended to both school district staff and students. As of June 14, 2021, 71 school districts have taken advantage of this opportunity, including 1,399 courses (both technical and non-technical), 162 certification assessments, 181 practice labs and 35 job aids.

Electronic Document Accessibility Training

SCDE also offered virtual training on how to make online documents accessible to school district educators and support staff. This two-day, hands-on training by WebAIM.org reviewed how to check for and repair common accessibility issues in Microsoft, Google and PDF documents. This training focused on online instruction and content development for posting online. Over 250 participants registered for this training session, including 18 of 32 priority districts (original Abbeville Plaintiff school districts) representing 30% of the overall participants.



TEACHING AND LEARNING

South Carolina Technology Plan Goal:
To promote students' meeting the Profile of the South Carolina Graduate and to support Personalized Learning, by 2024 South Carolina's public schools will have more accessible tools for "anytime, anywhere, any pace" learning.

Partner Efforts to Support the Goal:

The partners that make up the K-12 School Technology Initiative engage in a wide variety of activities and programs designed to improve the areas of teaching and learning. Such activities and programs are detailed throughout this section of the 2020-21 Progress Report.

DISCUS

South Carolina's virtual library, Discus, provides free access to an electronic library of over 70 subscription databases that's available on a 24/7 basis. Administered by the South Carolina State Library (State Library), Discus – which stands for Digital Information for South Carolina Users – is a vital resource for students of all ages.

Discus offers teaching aids to educators as well as a safe place for students to learn and develop research skills through the use of trusted, reliable websites without outside distractions such as advertisements. These vetted electronic resources align with state curriculum standards and are available to all residents from home, schools, institutions of higher education, and public libraries. Access to Discus means thousands of videos, journals, eBooks, primary sources, current events, career assessments, live tutors, and much more are just a click away.

Discus ensures a level playing field for students throughout the state by providing access to the type of high-quality, scholarly information that is necessary to help our students be successful. The subjects considered essential to the Profile of the South Carolina Graduate – including science, technology, mathematics, language arts, engineering and the arts – are readily available within Discus. Ensuring equal access to such information helps to support intellectual growth,

education and economic development, and helps to improve the quality of life for all.

Discus utilizes EZproxy, a state-of-the-art central authentication solution that provides seamless access for residents. Through this solution, users are automatically granted access without the need for usernames, passwords or other credentials.

Enhanced Discus Resources

During the COVID-19 pandemic, the State Library recognized the lack of in-person classroom instruction and the shift to at-home learning would necessitate the need for tutoring assistance in all subjects, particularly math. To assist in this effort, the State Library – with the assistance of the K-12 School Technology Initiative – was able to subscribe to two new electronic resources for the Discus collection; TumbleMath and Tutor.com.

TumbleMath is the most comprehensive collection of math picture books available for K-6 education and includes resources such as lesson plans and student quizzes. TumbleMath is aligned with Common Core curriculum and provides teachers with the ability to connect literacy and numeracy into an engaging platform for learning.

The TumbleMath collection consists of 250 eBooks targeting kindergarten through grade six on various subjects, including counting, addition, subtraction, multiplication, division, word problems, geometry, fractions, place value, probability and finance. In addition to the read aloud eBooks, the collection contains videos, lesson plans and quizzes. To date, over 29,000 TumbleMath items have been accessed.

Tutor.com is a one-to-one platform for English

and Spanish speakers that matches students with live tutors to assist with homework assignments. Such assistance is provided in nine subject categories as well as paper writing, test preparation and job searches.

Live tutoring assistance is available through Tutor.com for K-12, seven days a week from 8 a.m.-10 p.m. for math, reading, writing, science and foreign languages. Since July 2020, there have been 14,518 tutoring sessions used by students with a 99% positive feedback response rate. Having access to Tutor.com has been a tremendous asset to students and caregivers by providing support during virtual learning.

A second eBook collection for teenagers called TeenBookCloud was also added to Discus, which ensured literacy options were available for students without access to their school or public library. The State Library recognized that supporting students and families while learning remotely was essential to educational progress. TeenBookCloud contains 1,000 graphic novels, enhanced eBooks, literary classics, nonfiction, educator resources, and audiobooks for students in grades 7-12. In the eight months of the subscription, this exciting collection has had 30,967 titles accessed.

Discus Usage

During the first three quarters of FY 2020-21, South Carolinians retrieved 14,558,620 items using Discus databases, the majority of these by the K-12 community. This 17% increase compared to the previous year includes gains from Britannica (up 5%), Infobase (up 18%), ProQuest (up 16%), and BrainPOP Jr. (up 46%). As evidenced by these increases, Discus electronic resources continue to be extremely popular with students and educators.

While many resources had increases in usage, two Infobase subscriptions continue to stand out: Magic School Bus and Learn360. Magic School Bus usage increased 43% from year two to year three, while Learn360 views increased 28% during the same time. In the first three quarters of FY 2020-21, there were 231,816 Magic School Bus videos watched and 748,046 Learn360 items used, which proves the desire and need for high quality, multimedia resources to support educators in the classroom.

With the assistance of the K-12 School Technology Initiative, the World Almanac for Kids – Elementary and the World Almanac for Kids – Intermediate were also added in FY 2019-20. These research databases for grades 2-9 contain



articles, videos, reference guides, science projects and various debate topics. The easy to navigate resources experienced an 18% usage increase from year one to year two.

CultureGrams by ProQuest experienced a 16% increase in usage compared to the previous year. CultureGrams provides students of all ages with a window to world cultures and history, customs and the economy of more than 200 countries.

Discus Return on Investment

Each database offered through Discus is thoroughly evaluated and aligns with South Carolina curriculum standards for all grade levels. Resource usage is closely monitored, and the collection is regularly evaluated for redundancy or potential gaps and the necessity of each resource in relation to the Discus program goals and vision. In addition to aiding South Carolina learners, Discus is essential for educators by providing lesson plans, full text eBooks, science experiments and other teaching tools. Discus resources also easily integrate into the most popular learning management systems.

The State Library negotiates with vendors when purchasing statewide subscriptions to get the best possible rate. As a result, millions of dollars are saved each year by bundling packages that are beneficial to all. Licensing agreements are studied to ensure a fair price along with ample technical and marketing support.

The State Library consulted with its vendor partners to determine the cost avoidance for each school district, academic institution, and public library if each were required to purchase access separately. This amount was determined to be in excess of \$32 million, which assumes libraries and districts have the technical infrastructure such as hardware, software and digital bandwidth for these resources. Discus database license costs budgeted for FY 2020-21 were \$3,019,550, proving that the return on investment for Discus is excellent from both a learning perspective and cost efficiency, with all state funding for Discus going directly to database acquisition.

For Additional Information

To learn more about the State Library's Discus, please visit scdiscus.org.

DISCUS PROFESSIONAL DEVELOPMENT

Discus Professional Development, offered through the South Carolina State Library, provided online presentations and training opportunities for educators, librarians, students, caregivers and home-school families. Due to the pandemic and the need for eLearning assistance, many sessions focused on navigating the online resources, including Tutor.com and the support it provides students and caregivers. The presentation topics varied depending upon the audience; however, many training sessions and webinars discussed career exploration, literacy, eBooks and Learn360.

Discus Professional Development Offerings

The requirement to exclusively provide virtual training became an opportunity to reach a variety of audiences, including parents and caregivers, students, support groups and new educators. Through a newly formed partnership with the South Carolina Department of Social Services, Discus provided training to regional group home managers to assist foster families and residents with electronic resource navigation and instruction. Discus also formed a partnership with ENGAGE South Carolina, which strives to create equitable learning experiences for students who might otherwise struggle in school. Both of these support groups found Tutor.com to be especially beneficial for their teams and students.

The Discus Training and Outreach Coordinator presented to 53 groups who requested training sessions for school districts, organizations, libraries and adult education programs. These specific training sessions were attended by 1,291 participants. There were also 31 live webinars hosted by vendor partners and the Discus training coordinator. These sessions were open to educators, parents and the general public with

284 attendees participating. Recordings of these webinars were viewed 272 times throughout the year. In addition, presentations were made to the following groups:

- ▶ SC Office of Early Learning and Literacy
- ▶ SC Department of Education
- ▶ SC Library Association
- ▶ SC Public Charter School Alliance
- ▶ SC Council for Exceptional Children
- ▶ SC Early Childhood Association

eLearning Pilot Program

The State Library and Discus also provided support for the third year of the eLearning pilot program by presenting to a statewide group of district administrators and educators. The Discus overview was an opportunity to introduce the resources to those unfamiliar with the program and remind them of the ability to integrate the collection into a variety of learning management systems being used by public schools.

STUDY SC

In 2010, the South Carolina State Library (State Library) launched StudySC, a K-12 educational resource that provides online content designed to support state-specific curriculum standards for third and eighth grades. StudySC includes South Carolina-related web resources for homework and project assistance while also offering lesson plans and other content designed to support classroom activities. Information in StudySC consists of links to high-quality websites, multimedia content and Discus articles that have been researched and vetted.

The development of StudySC emerged from feedback indicating the need for a comprehensive portal to assist in locating age-appropriate state information. StudySC is arranged by grade level and subject area, so students can easily access the information they need using this user-friendly website. Subjects include authors, Civil War, Gullah culture, local government, music, and famous South Carolinians.

During 2020-21, StudySC's design was updated with new colors and subtle improvements for better content presentation. Famous South Carolinians are highlighted on the homepage in a scrolling column which changes at selected intervals. Counties are also highlighted on the homepage to showcase each county's history and interesting facts. Terms of the day from the site's SC Glossary are listed as well as popular grade level articles that provide a starting point for student research.

StudySC continues to be a valuable and popular resource. In FY 2020-21, the portal's usage included 107,343 page views.

For Additional Information

To learn more about the State Library's StudySC, please visit studysc.org.

ACADEMIC COMPETENCY AND STANDARDS AUTHORIZING TOOL

During the 2018-19 academic year, the South Carolina Department of Education (SCDE) procured an academic competency and standards authoring tool (ACMT) with funding from the K-12 School Technology Initiative. Because of this project, SCDE is able to provide machine-readable standards with an interoperable foundation that can be loaded into a state-level learning object repository (LOR) and district learning management systems (LMS). This is a key component for providing direct access to state standards and the resources needed to facilitate remote K-12 learning opportunities in a digital ecosystem.

The ACMT tool has been developed and deployed. SCDE worked with LearningMate to build out the authoring platform and Competencies and Academic Standards Exchange (CASE) server.

SCDE has published the 2020 social studies standards and the 2015 English language arts standards on the CASE server in a machine-readable format. The CASE standard is being revised to support rich text publication. The math

standards are under conversion to a machine-readable format and will be released soon.

After the initial investment by the K-12 School Technology Initiative, SCDE has continued to invest in the ACMT. During this fiscal year, SCDE enhanced and expanded use of ACMT so the machine-readable standards can be used by the learning object repository — Safari Montage — and learning management systems purchased by the state for school districts with federal Elementary and Secondary School Emergency Relief (ESSER) funds in response to the COVID-19 pandemic. Career and technology education standards are also being added to the system.

[For Additional Information](#)

To learn more about the South Carolina Department of Education's Academic Competency and Standards Authoring tool, please visit standards.ed.sc.gov.

DIGITAL TOOLS FOR TEACHING AND LEARNING

The South Carolina Department of Education (SCDE) purchased and deployed a robust, integrated digital learning solution designed to support teaching and learning during the COVID-19 pandemic and throughout the immediate future.

The solution — which includes the purchase of four learning management systems (LMS), a learning object repository (LOR), and a suite of standards-based digital learning resources from Discovery Education — will provide every student and educator the ability to access high-quality, standards-aligned content, ready-to-use digital lessons, and professional learning resources no matter their location or learning environment.

Funding for the three programs amounts to more than \$15.3 million over a three-year period and is provided through appropriations made to the agency under the Coronavirus Aid, Relief, and Economic Security Act (CARES).

In regard to these tools, State Superintendent of

Education Molly Spearman stated, “The purchase of these three platforms and the seamless ability for every South Carolina teacher to access them and incorporate high quality content into their classroom instruction can be a game changer for our state. COVID-19 has presented enormous challenges to teaching and learning but this digital platform will help level the K-12 education playing field this school year and beyond.”

[Learning Management System](#)

The LMS deployed by SCDE is a software framework through which education content is delivered and managed. Students and educators are assigned licenses to access content and complete assignments.

SCDE allowed districts to choose from one of four LMS platforms; [Canvas](#), [Schoolology](#), [Blackboard](#), and [Google Classroom](#). Based on these choices, SCDE provided the following:

- ▶ Blackboard to one school district and three public charter schools (3,593 licenses).
- ▶ Infrastructure (Canvas) to 19 school districts and five public charter schools (239,442 licenses).
- ▶ Schoolology to 51 school districts and 15 public charter schools (363,098 licenses).
- ▶ Google Enterprise (Google Classroom) to 11 school districts (89,641 licenses).

In addition, 13 school districts were partially reimbursed for LMS expenses they incurred before the statewide offering.

[Learning Object Repository](#)

The LOR deployed by SCDE acts as a digital library of educational content. The content can be seamlessly shared with the LMS, and teachers can use LOR resources to develop lesson plans and find compelling content to help streamline activities and assignments for students.

SCDE selected [SAFARI Montage](#) as the state's LOR provider with teacher access paid through 2023. SAFARI Montage provides outstanding educational video resources, including all of the original Bill Nye: The Science Guy episodes, the

current PBS, BBC, A&E and National Geographic documentaries, plus video from hundreds of the finest educational video publishers for all grade levels and subject areas.

In addition, there are tens of thousands of free web resource links which have been curated to save teachers and students time. All resources are aligned with South Carolina College and Career Ready Standards.

Discovery Education Resources

SCDE partnered with [Discovery Education](#), a Charlotte-based leader in standards-aligned digital curriculum resources, to populate the learning object repository. All teachers and students in South Carolina's public schools will receive access to [Discovery Education Experience](#), which connects educators to a vast collection of high-quality, standards-aligned content, ready-to-use digital lessons, and professional learning resources. Together, these resources provide educators with everything they need to facilitate instruction in any learning environment and create lasting educational impact.

Discover Education will provide South Carolina's teachers with dedicated interactive professional development sessions designed to help integrate the new digital resources into classroom and online instruction. These best practices will help maximize the state's investment, increase student engagement, and support students' continued academic development.

VIRTUAL SC

In 2007, the South Carolina Department of Education (SCDE) developed VirtualSC, the state's virtual school program. Since that time, VirtualSC has become an invaluable resource by offering online courses for credit, free-of-charge to all South Carolina students.

Rise in Popularity

VirtualSC has become increasingly popular since its inception and has now grown to become the fifth largest state virtual school program in the

nation based on student enrollments, according to the latest Keeping Pace with K-12 Online Learning Report.

VirtualSC courses are available to any public, private, home-schooled or adult education student in the state, and are provided through the Moodle online LMS. Registration for these courses takes place in the program's recently implemented student information system, Genius.

Teachers remain in contact with their students through a variety of methods, including via telephone, web conferencing and instant messaging systems like Skype. Live lessons are also 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 comprised of instruction designers, media specialists and curriculum coordinators. This team is responsible for the design, development, and reviews and revision of courses and related learning objects. VirtualSC continues to align all courses to the Quality Matters (QM) framework to ensure accessibility standards are met and external review guidelines are followed.

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 SCDE. In addition to their outstanding credentials, all full-time and part-time teachers must undergo in-service online professional development training to teach through the program.

VirtualSC consisted of 45 full-time teachers for the academic year, in addition to 143 part-time instructors and language coaches. The number of full-time and part-time teachers has consistently grown over the past several years due to the increased student demand for courses.

VirtualSC Enrollments

The popularity of the virtual school program continues to grow. During the 2020-21 school year, the program consisted of 51,319 student enrollments, which included students from:

- ▶ 343 schools
- ▶ 83 public school districts
- ▶ 26 home school associations
- ▶ 80 private schools
- ▶ 20 adult education centers

VirtualSC had a successful course completion rate of 83% for the school year. Despite the lack of new funding for the program, the program still saw an increase of 9.5% in student enrollments from the 2019-20 school year.

In addition to the 51,319 enrollments for high school level courses, the program also served an additional 282 middle school students (grades 6-8) as well as 91,213 elementary school students through its free blended elementary typing course offered in 41 public schools, charter schools, and home schools across the state. In 2021-22, VirtualSC will begin exploring the feasibility of integrating the elementary typing course into the statewide learning object repository.

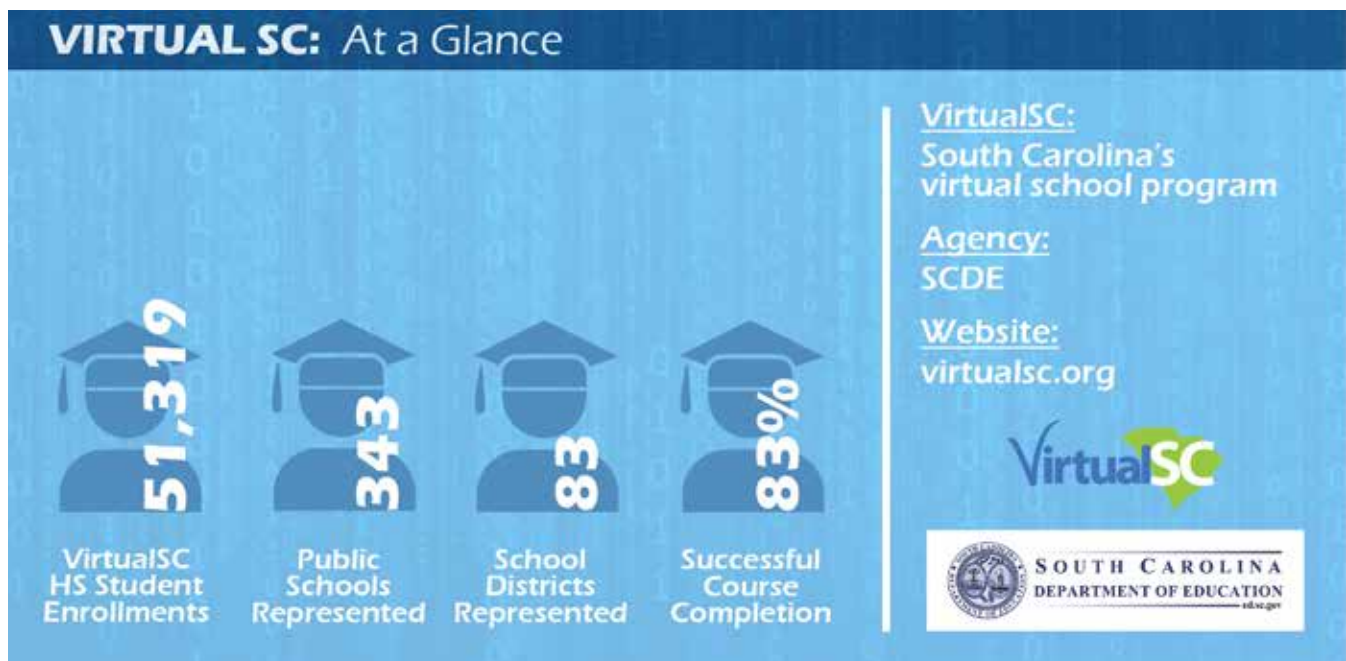
VirtualSC Course Offerings

VirtualSC offered courses in the following 10 subject areas:

- ▶ Academic electives
- ▶ Career and technology education
- ▶ English and language arts
- ▶ Health and physical education
- ▶ Mathematics
- ▶ Science
- ▶ Social studies
- ▶ Visual and performing arts
- ▶ World languages
- ▶ Skills recovery and test preparation

The program offered 98 diverse courses of varying levels, including advanced placement, honors, college preparatory, middle school 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 2020-21 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 piloted this year include: Fundamentals of Computing, Discovering Computer Science and AP Research, as well as new versions of Algebra 1 CP, Probability and Statistics CP, Sociology CP, Credit Recovery Chemistry and Credit Recovery Algebra 2.

VirtualSC Middle School Program

In the spring semester of 2021, VirtualSC began a pilot middle school program serving public, private and home-schooled students in grades 6-8. The pilot — which consisted of 11 courses in the four core subject areas of English, mathematics, science and social studies — served 282 middle school students, with a completion rate of 78% and a success rate of 71%.

VirtualSC plans to continue the pilot until 2024 to learn best practices in course design and virtual instruction for middle school students. In January 2022, the program plans to begin offering shorter semester-long exploratory classes to help students in middle school grades develop interests before to moving into high school.

In an effort to expand course opportunities for middle school students, the program intends to offer niche courses that many middle schools across the state cannot offer to their students and further expand the virtual course catalog beyond the existing core academic courses. The program is currently being funded through the Elementary and Secondary School Emergency Relief Fund; however, additional state funds will be necessary to sustain the program once fully implemented, and emergency funds have been utilized.

VirtualSC Partnerships

As in previous years, VirtualSC has continued to partner directly with schools to offer its Virtual Learning Labs (VLL) program 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 standards-based 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 2020-21 school year, the Virtual Learning Lab program served 61 students with a focus on improving outcomes and expanding options. The VLL program had a 90% completion rate and a 95% success rate.

For Additional Information

To learn more about SCDE's VirtualSC, please visit virtualsc.org.

SCETV EDUCATIONAL RESOURCES

South Carolina Educational Television's (SCETV) Education Services delivers a wide range of high-quality digital learning content for students and educators. Additionally, SCETV provides 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, while also providing a variety of online and face-to-face professional development opportunities for teachers, staff and administrators.

Over the past two decades, funding from the K-12 School Technology Initiative has been used to help provide resources used extensively by pre-K-12 children throughout the state. This funding has helped support SCETV's on-demand multimedia curriculum resource sites, including Knowitall, LearningWhy, and PBS Learning Media. This funding now supports the development of user resources for SCETV's datacasting initiative.

Knowitall

[Knowitall.org](https://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 are standards-based and include cross-curricular lessons and assessments.

During the 2020-21 academic year, funding from the K-12 School Technology Initiative supported the consolidation of SCETV's Knowitall and LearningWhy websites into one curriculum resource hub. The newly consolidated hub offers a streamlined user experience that connects media assets to related learning supports and includes features that allow educators to create collections specific to their teaching needs. Funding provided for 2020-21 also supported SCETV in initiating API documentation for Knowitall integration in the state's learning object repository.

The newly branded Knowitall now contains more than 9,400 multimedia resources, including:

- ▶ 4,872 mobile-friendly videos.
- ▶ 1,337 audio resources.
- ▶ 2,080 photos.
- ▶ 385 documents.
- ▶ 149 interactives.

During this year of remote learning, Knowitall average monthly page views increased from 20,000 to 140,000, reflecting a growth rate of 600%.

New resources developed with the support of 2020-21 K-12 School Technology Initiative funding include the [RiverVenture: Table Rock](#), a science and geography resource that provides an interactive tour of South Carolina's showcase landmark for watershed. Beyond its availability on Knowitall, the interactive is currently exhibited at Roper Mountain Science Center in Greenville, South Carolina.

In addition to the RiverVenture interactive, 2020-21 funding also supported the creation of new episodes of the [History in a Nutshell](#) series. Segments on topics such as suffrage, reconstruction amendments, and the Cold War filled standard-aligned content gaps on the platform.

Other Knowitall content includes short digital features of the 2021 [South Carolina African American History Calendar](#) honorees in

partnership with the South Carolina Department of Education; [StoryTime with SCETV](#), a summer virtual reading series featuring notable South Carolinians and stories featuring South Carolina; and a series of in-studio recorded lessons facilitated by South Carolina teachers. Funds from this initiative also supported initial efforts to translate Knowitall resources into Spanish.

PBS Learning Media

In addition to Knowitall, SCETV is expanding access to web resources through the continued utilization of [PBS LearningMedia](#). In 2019-20, South Carolina PBS's LearningMedia library included more than 150,000 multimedia resources for pre-K-12 educators boasting an average of 231,081 users and 83,966 page views per month from South Carolina. During most months, both data points are well above the national average. Peak usage during the past year, reflected 139,310 page views in October 2020. Training on PBS Learning Media is incorporated into customized workshops designed for educators across the state.

SCETV Survey Efforts

All 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, 1,700 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 85% of participants that utilized SCETV educational resources and services indicated that they helped to improve student engagement in the classroom.

Of respondents that use Knowitall as a teaching and learning resource, 98% found it very valuable or valuable. Similarly, 99% of respondents familiar with PBS Learning Media rated it as a very

valuable or valuable resource. Of users taking advantage of virtual professional development resources made available on the At-Home learning webpage, 98% considered it a very valuable or valuable resource.

Survey responses indicated interest and need for resources related to teaching students with disabilities, STEM/STEAM, learning assessments, world languages and classroom management. In addition to content needs, responses gave insights regarding ways SCETV could continue to enhance provided services and resources. 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.

For Additional Information

To learn more about SCETV and the resources it has to offer, please visit scetv.org.

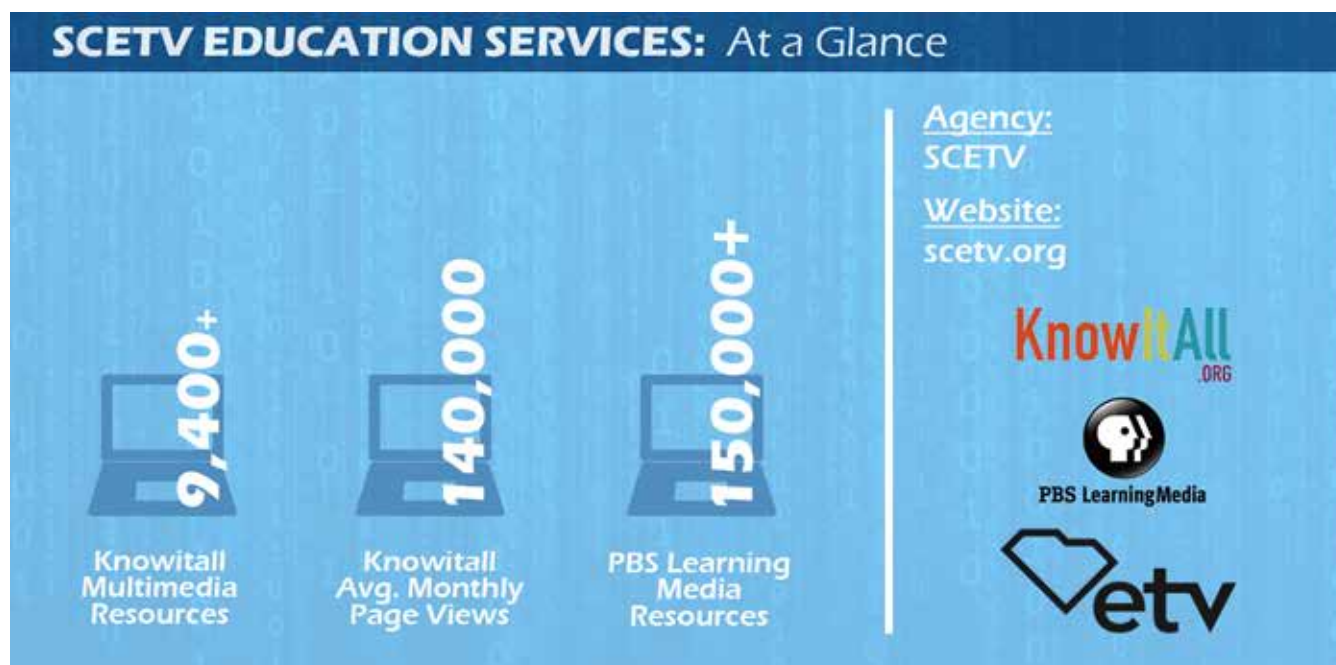
SCETV Professional Development

Meeting the needs of educators who affect learning each day in classrooms across the state is one of South Carolina Educational Television's (SCETV) top priorities.

SCETV has historically committed to serving South Carolina's districts, schools and educators by providing free professional development sessions on a variety of teaching and learning topics, including how to effectively integrate SCETV resources into instruction. Typically, sessions are hosted in a face-to-face or blended format, reaching approximately 5,000 persons each year. Sessions are hosted locally in districts, at SCETV and at numerous education-related conferences around the state.

During the 2020-21 academic year, SCETV reimagined training efforts and hosted Back to School PD, a three-week series of professional development webinars covering topics such as social and emotional learning, social studies and geography, new approaches to math instruction, and best practices for virtual and hybrid learning. The Social Emotional Learning Alliance of South Carolina, the South Carolina State Museum, PBS Education and Historic Columbia served as partners for this initiative.

In addition to synchronous professional development webinars, funding for this initiative supported the development of PD At Home, a set of free on-demand self-paced webinars housed on SCETV's learning management system, ETVLearn. These synchronous webinars were



offered during the height of the 2020-21 remote learning and later segmented for upload on the LMS. The self-paced versions were developed with safeguards in place to ensure that users receiving the auto-generated certificate watch the entire video.

Training statistics for the funding period show a total of 5,200 attendees. Moreover, evaluation results from the annual survey of educational services show that 97% of attendees found the presenters knowledgeable and the sessions valuable in supporting their respective roles.

The free professional development sessions offered through SCETV are complemented by recertification courses available for certificate renewal and graduate-level credit. Courses are made available directly through SCETV and TeacherStep (Converse College).

Educators can search courses through a centralized website by curriculum interest, professional development and credit needed, and they can also readily find out if courses qualify for technology credit. Some courses qualify for Read to Succeed credit, while others place emphasis on topics such as assessment, early childhood pedagogy, digital storytelling, project-based learning, flipped classrooms and culturally relevant pedagogy. The completion of each term yields an overwhelming majority of positive feedback from participants.

In October 2020, PBS retired its recertification program TeacherLine. Efforts to use permitted content from TeacherLine courses to develop recertification courses for local offerings are underway.

For Additional Information

To learn more about SCETV's free professional development sessions and the SCETV Teacher Recertification Courses, please visit scetv.org/education/services-school-districts/group-trainings or scetv.org/education/recertification.

eLearning Pilot Project Conclusion

The South Carolina Education Oversight Committee (EOC) completed the third and final year in a statewide eLearning pilot project designed to examine the use of alternative methods of instruction when schools are forced to close (or separate students from the physical space) for a short period of time in cases of inclement weather, utility emergencies, out of school suspension or student illness.

When schools closed due to the COVID-19 global pandemic, EOC staff pivoted for year three of the project as it was clear that eLearning for the short term was not the same as virtual learning that is exclusively online. The committee issued the following recommendations in its final report:

- ▶ The development of the South Carolina Digital Ecosystem (for the state and within each district) is critical to systemic student achievement. State level support and guidance is necessary to ensure resources and equity of access.
- ▶ The use of up to five eLearning days should be continued for all current eLearning districts in the 2021-22 school year to allow for the make up for short-term disruptions. Districts should report the use and reasons for eLearning days in the state level Student Information System (SIS).
- ▶ Additional research and resulting state level guidance is needed for the effective utilization of virtual classes, programs and schools.
- ▶ There is a need for intentional work to standardize and collect data, particularly as it relates to attendance, virtual offerings and conditions for success measures, such as access to high-speed internet at home.



STATE-HOSTED SERVICES, COLLABORATION OPPORTUNITIES AND SHARED SERVICES

South Carolina Technology Plan Goal:

To better support districts, create efficiencies and improve effectiveness and quality, by 2024 the state will increase and expand state-level technology systems and services, including state-hosted regional technology support centers, backup and recovery services, procurement assistance, coordination of training, an updated student information system (SIS) with district operational data stores, and single sign-on.

STATE-HOSTED SERVICES, COLLABORATION OPPORTUNITIES AND SHARED SERVICES

Partner Efforts to Support the Goal:

The partners that make up the K-12 School Technology Initiative engage in a wide variety of activities and programs designed to improve the areas of state-hosted services, collaboration opportunities and shared services. Such activities and programs are detailed throughout this section of the 2020-21 Progress Report.

SCETV COLLABORATIVE INITIATIVES

In an effort to help inform citizens about the availability of educational programs, services and technologies, South Carolina Educational Television (SCETV) shares stories of projects that serve to address the needs of the state's educational community.

Content broadcast by SCETV provides case studies and best practices for use throughout the state. Several national and statewide television series and educational specials are broadcast and streamed for use in schools and classrooms, providing significant reach to both SCETV's television and radio audiences.

Carolina Classrooms

South Carolina Educational Television's Carolina Classrooms, a school-year series designed for teachers, educators and parents, features educational initiatives in South Carolina schools. Episodes aired during the funding period focused on topics such as Read to Succeed, female participation in nontraditional career pathways, kindergarten readiness and equity. These episodes were produced in collaboration with partners like the South Carolina Department of

Education (SCDE), South Carolina First Steps and PRISMA Health, in addition to various colleges, universities, schools and districts in the state.

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.

An advisory group of educators from across the state continues to assist the station in increasing awareness of educational resources and services.

SCETV Education Newsletter, Guest Blog and Social Media

Throughout the year, SCETV provides an education-related newsletter in collaboration with the South Carolina Education Oversight Committee (EOC) and SCDE 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.

Additionally, SCETV has a monthly Educator blog which features perspectives on a variety of topics from educators across the state. Further, SCETV also uses social media including Facebook, Twitter, Instagram, Pinterest and YouTube to engage the education community.



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 every student and teacher in every public school classroom and every 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 2020-21, 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 2020-21 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)	\$20,361,089
Total Funds Anticipated:	\$32,632,915
Total Budget Requested:	\$32,632,915
Net Remaining Funds:	\$0



Priority	Principals Budget Requests	Budget Requests	School Technology Appropriation	E-Rate Funds (Estimated)	Approved Budgets
	Non Discretionary				
	DEPARTMENT of ADMINISTRATION				
1	Network Connectivity Costs	\$28,485,313	\$8,124,224	\$20,361,089	\$28,485,313
2	E-Rate Field Training and Outreach	\$10,000	\$10,000		\$10,000
3	DNS-based Internet Security License Renewal	\$899,774	\$899,774		\$899,774
4	Infrastructure Upgrades Schools & Libraries*	\$2,411,978	\$2,411,978		\$2,411,978
	Total:	\$31,807,065	\$11,445,976	\$20,361,089	\$31,807,065
	SCDE				
1	School District Technology Technical Assistance	\$350,000	\$350,000		\$350,000
	Total:	\$350,000	\$350,000	\$0	\$350,000
	Total Non Discretionary:	\$32,157,065	\$11,795,976	\$20,361,089	\$32,157,065
	Total Available Budget	\$475,850	\$475,850		\$ 475,850
	Discretionary				
	DEPARTMENT of ADMINISTRATION				
1	Non-E-Rate Network Infrastructure Match	\$75,850	\$75,850		\$75,850
	Total:	\$75,850	\$75,850		\$75,850
	STATE LIBRARY				
1	TumbleMath	\$50,000	\$50,000		\$50,000
2	Tutor.com	\$100,000	\$100,000		\$100,000
	Total:	\$150,000	\$150,000		\$150,000
	SCDE				
1	Rescinded Request	\$0	\$0		\$0
2		\$0	\$0		\$0
3		\$0	\$0		\$0
	Total:	\$0	\$0		\$0
	SCETV				
1	KnowItAll and LearningWhy Content Upgrades	\$225,000	\$225,000		\$225,000
2	Datacasting Training, Development, & Assessment	\$25,000	\$25,000		\$25,000
	Total:	\$250,000	\$250,000		\$250,000
	Total before Carry forward	\$32,632,915	\$12,271,826	\$20,361,089	\$32,632,915
	Total Carry Forward From Previous year:	\$0			\$0
	Budget Surplus/Shortfall	\$0	\$0		\$0
	Grand Total for a Balanced Budget:	\$32,632,915	\$12,271,826	\$20,361,089	\$32,632,915
	\$0		Budget Available		
* Committee funding will be leveraged with the Category 2 federal share, FY 2020-21 financial impact will be \$21.9 million.					

APPENDIX B: BY THE NUMBERS

BROADBAND INFRASTRUCTURE: At a Glance


274 Gbps
District
Bandwidth
Capacity


7.46 Gbps
Library
Bandwidth
Capacity


15.3 Gbps
Charter
School
Bandwidth
Capacity

Broadband Efforts:
Connectivity for public
schools and libraries

Agency:
Admin

Website:
admin.sc.org
sck12techinit.sc.gov



Internet Security Protection: At a Glance


156
Districts, Charter Schools
and Library Systems

Entities
Using Cisco
Umbrella


121.3 Billion

School and
Library
Queries
Handled


46.5 Million

Security
Threat and
Sites
Blocked


35 Thousand

School/Library
Clients Using
Cisco Umbrella

Cisco Umbrella:
Provided to schools
and libraries to help
combat the increased
number and
complexity of malware,
ransomware and other
advanced security
threats



DISCUS: At a Glance


14,558,620

Discus
Items
Retrieved


\$32,267,735

Cost
Avoidance
Provided


743,046

Learn360
Item
Views


231,816

Magic
School Bus
Title Views

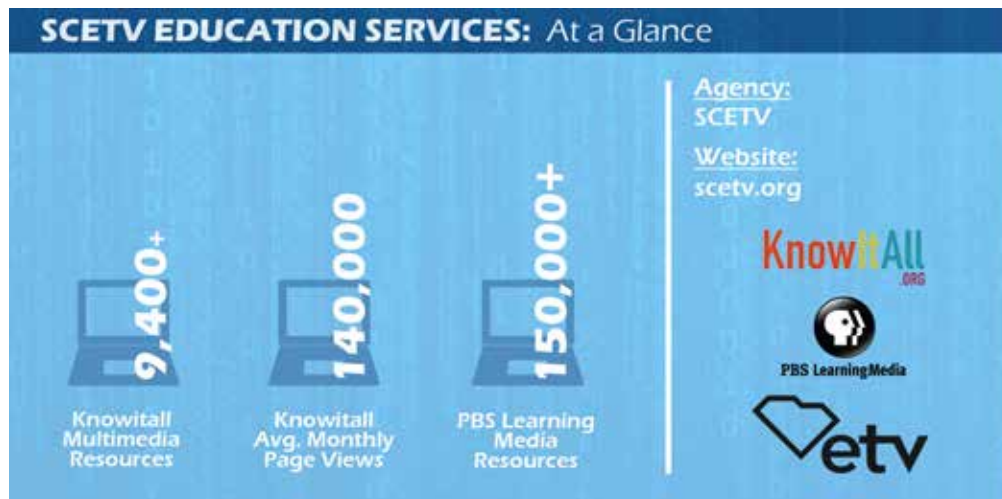
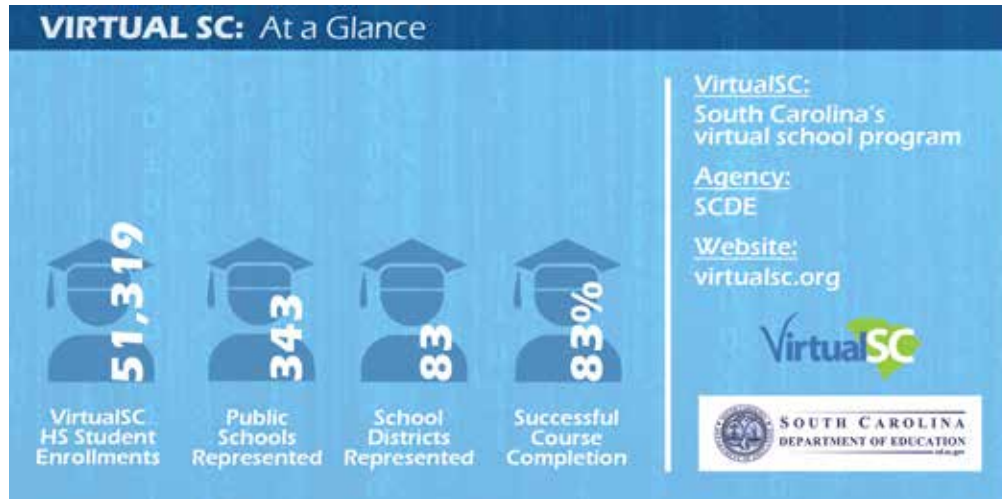
Discus:
South Carolina's
virtual library

Agency:
SC State Library

Website:
scdiscus.org

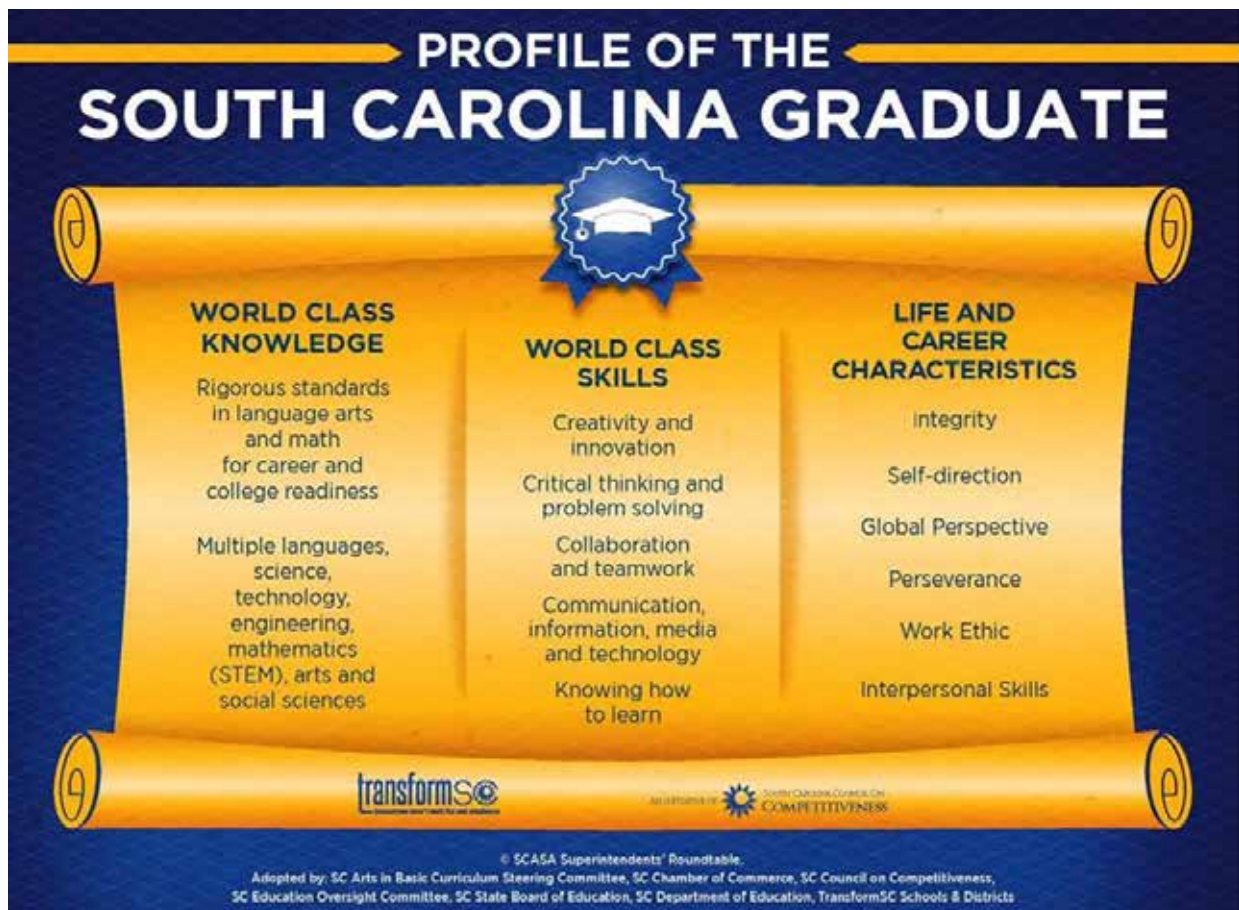


APPENDIX B: BY THE NUMBERS



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.
- ▶ 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.
- ▶ 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.
- ▶ 86% of schools were equipped with satellite dishes to receive education programming, compared to 29% nationally.
- ▶ 67% of classrooms were connected to local-area computer networks, compared to 53% nationally.
- ▶ Technology Counts '98 reported South Carolina was one of only five states to provide internet access to 100% of schools.

1999-2000

- ▶ South Carolina received over \$42 million in E-Rate funding.
- ▶ The State Library launched the Discus website.
- ▶ The student-information collection system, Schools Administrative Student Information (SASlxp), was provided free to all districts.

- ▶ 100% of all state K-12 schools received 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

- ▶ SASlxp was implemented in all districts.
- ▶ The Division of State Information Technology filed E-Rate Discount Program calculations for all schools and districts, resulting in over \$49 million in discount payments.
- ▶ SCDE released its State Educational Technology Plan for 2003-08.
- ▶ Initiative funding supported 30 Technology Coaches.
- ▶ SCDE's South Carolina Online Professional

Development program was launched.

2004-05

- ▶ SCDE's ePortfolio 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 computer-based assessment in the state.
- ▶ SCETV's StreamlineSC reached 100% 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 program 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.
- ▶ 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 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 Web of Water website received the Corporation for Public Broadcasting Innovation in Education Award.

2011-12

- ▶ SCETV launched PBS Learning Media.

2012-13

- ▶ SCETV added the media-on-demand service, PBS LearningMedia.
- ▶ South Carolina Virtual School Program (SCVSP) legislation was amended to lift credit limitations placed on students using the SCDE program.

2013-14

- ▶ SCVSP was officially rebranded as VirtualSC by SCDE.
- ▶ SCETV launched ETV Teacher Courses.
- ▶ 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 DDoS protection service to help schools and libraries detect and mitigate risks associated with this form of cyber-attack.
- ▶ The Initiative, through DSIT, began a Security Training Voucher Program to enhance cyber security defense proficiencies among public school districts.

2015-16

- ▶ SCETV launched its first station-branded public media application.

2016-17

- ▶ The Initiative's 2014-15 Progress Report received a Notable Document Award from the South Carolina State Library.
- ▶ SCETV launched the LearningWhy website 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.
- ▶ SCDE procured an academic competency and standards authoring tool which moves the creation, authoring and publishing of

standards to an all-digital environment.

- ▶ SCDE's VirtualSC became the fifth largest state virtual school program in the nation, based on student enrollments.
- ▶ The South Carolina Department of Administration awarded a network services contract to AT&T, lowering the cost for WAN circuits by 29% and providing circuit bandwidth capacity speeds of 15 Gbps and 20 Gbps to schools and libraries for the first time.

2019-20

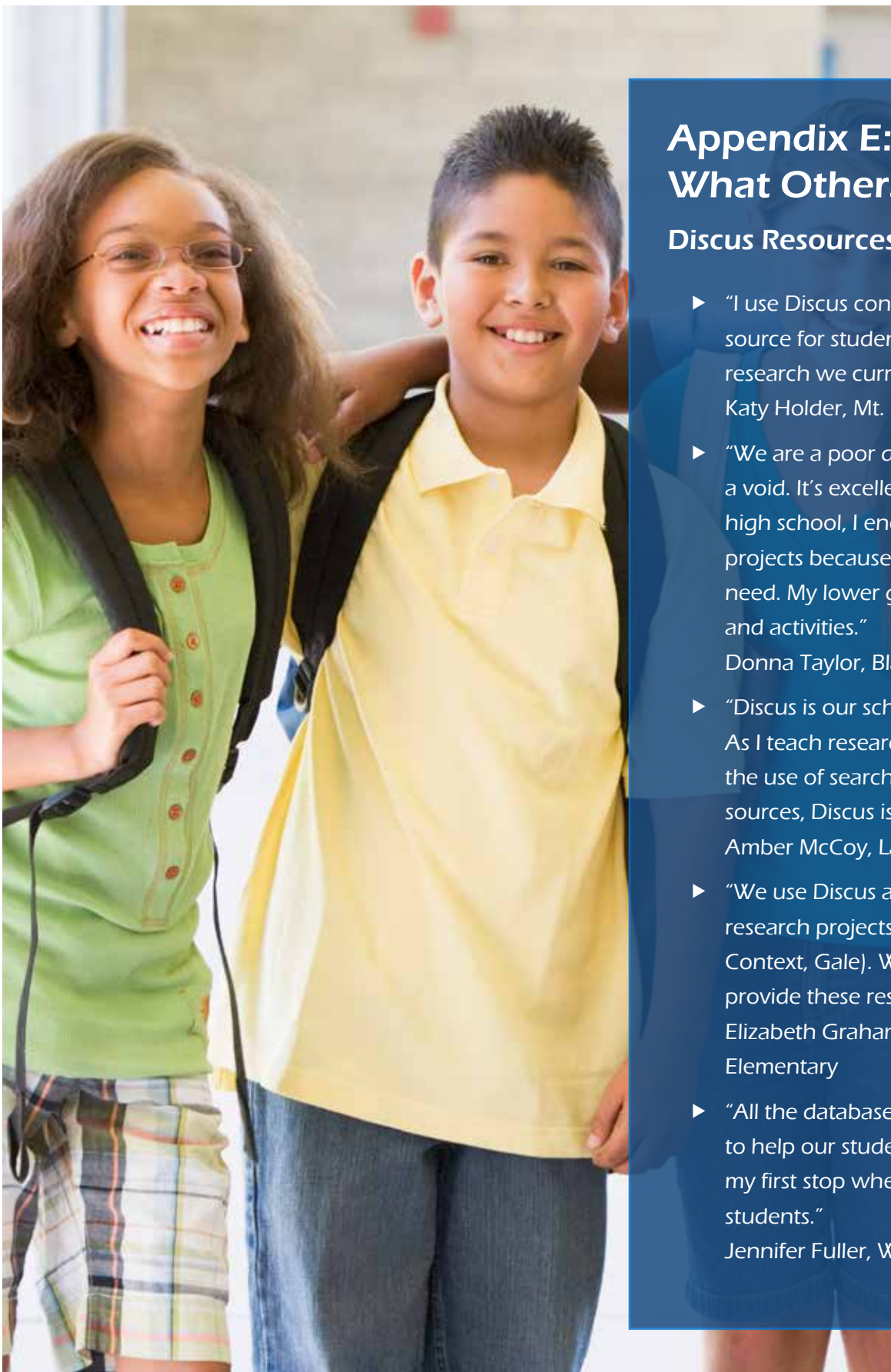
- ▶ SCETV received a Telly Award for Let's Go, a series available through KnowItAll.org that offers virtual reality tours of South Carolina's most historical sites.
- ▶ SCETV launched Let's Go Careers, a new series available through KnowItAll.org that provides 360-degree exploration of careers in high-demand job fields.
- ▶ SCETV developed a new eLearning site that includes curated resources and self-paced modules from PBS Learning Media, Knowitall and LearningWhy.
- ▶ In response to the COVID-19 pandemic, SCETV launched a new At-Home Learning Initiative in partnership with SCDE that makes many SCETV online learning resources available via television broadcast.

2020-21

- ▶ In response to the COVID-19 pandemic, the State Library added Tutor.com, TumbleMath and Teen BookCloud to Discus to supplement the lack of classroom instruction and shift to at-home learning.
- ▶ Niche Academy, a collection of short database video tutorials, was added to Discus to assist users with content and navigation questions. Niche contains a great deal of continuing education for all types of library staff.
- ▶ The State Library added an eLearning FAQ and a collection of Discus lesson plans submitted by media specialists and teachers for educators and home school parents to use.
- ▶ SCETV combined LearningWhy and

Knowitall under the Knowitall umbrella, creating a more streamlined user experience for educators.

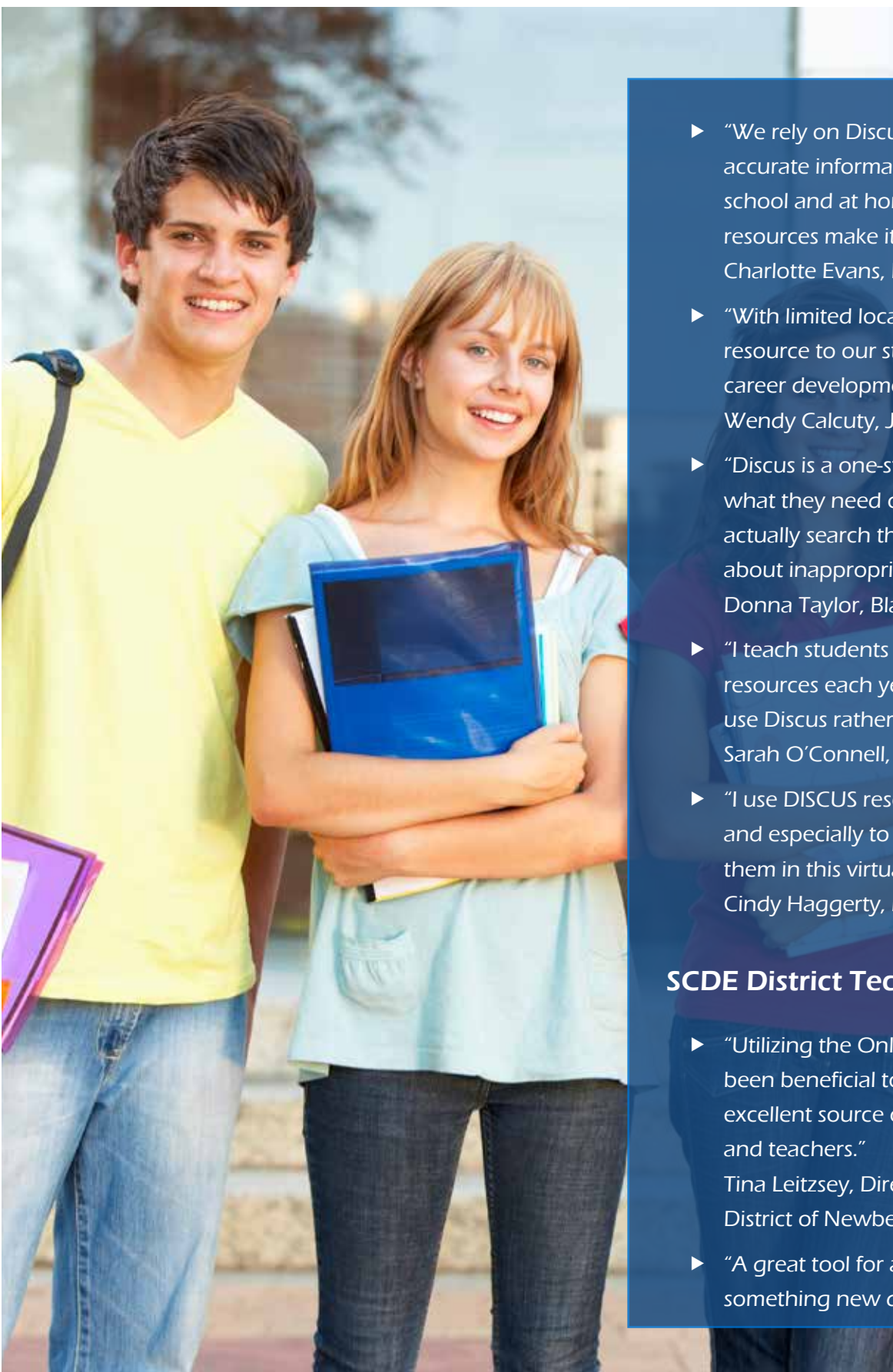
- ▶ SCETV became the first public media station in the country to implement datacasting as an educational technology. The pilot includes 4 SC school districts: York 1 School District 1, Dillon School District 4, Fairfield County School District, Jasper County School District, in addition to one public charter school, Virtus Academy.
- ▶ SCETV's datacasting initiative garnered national attention including a feature at SXSW Edu, a segment on Bloomberg TV's "World's Greatest" national television series, and recognition for SCETV as Innovators of the Year by America's Public Television Stations.
- ▶ SCETV's Let's Go Careers received a Bronze Telly award.
- ▶ SCETV's newest module in the RiverVenture series, RiverVenture: Table Rock, was introduced to the public as part of an exhibit in partnership with Roper Mountain Science Center.
- ▶ SCETV's At-Home Learning Initiative was rebranded to "Learning+" as the agency prepares to continue enhanced remote learning support beyond the pandemic.
- ▶ SCETV created a new "PD at Home" initiative which includes a series of self-paced learning modules designed for educators and parents and housed in the Moodle Learning Management System.



Appendix E: What Others Are Saying

Discus Resources

- ▶ “I use Discus constantly. It is my go-to trusted source for students and the only one for research we currently use.”
Katy Holder, Mt. Holly Elementary School
- ▶ “We are a poor district and Discus materials fill a void. It’s excellent for all grade levels. At the high school, I encourage Discus for all research projects because you can find everything you need. My lower grades love the online books and activities.”
Donna Taylor, Blackville-Hilda High School
- ▶ “Discus is our school’s only access to databases! As I teach research skills and moving beyond the use of search engines to find credible sources, Discus is my go to!”
Amber McCoy, Lamar High School
- ▶ “We use Discus all the time for class/library research projects (Britannica, Biography in Context, Gale). We would not be able to provide these resources without Discus.”
Elizabeth Graham, Woodland Heights Elementary
- ▶ “All the databases provide reliable resources to help our students with research! They are my first stop when doing research with my students.”
Jennifer Fuller, Woodmont Middle School



- ▶ “We rely on Discus to provide safe, reliable and accurate information for our students to use at school and at home. The features and range of resources make it indispensable.”

Charlotte Evans, Ebenezer Avenue Elementary

- ▶ “With limited local funding, Discus is a valuable resource to our students for research, test prep, career development and eBooks.”

Wendy Calcuty, Johnsonville High School

- ▶ “Discus is a one-stop shop. Students can find what they need on Discus without having to actually search the web. I do not have to worry about inappropriate material.”

Donna Taylor, Blackville-Hilda High School

- ▶ “I teach students how to use a variety of Discus resources each year and encourage them to use Discus rather than less reliable sources.”

Sarah O’Connell, JET Middle School

- ▶ “I use DISCUS resources for teaching classes, and especially to show students how to access them in this virtual environment.”

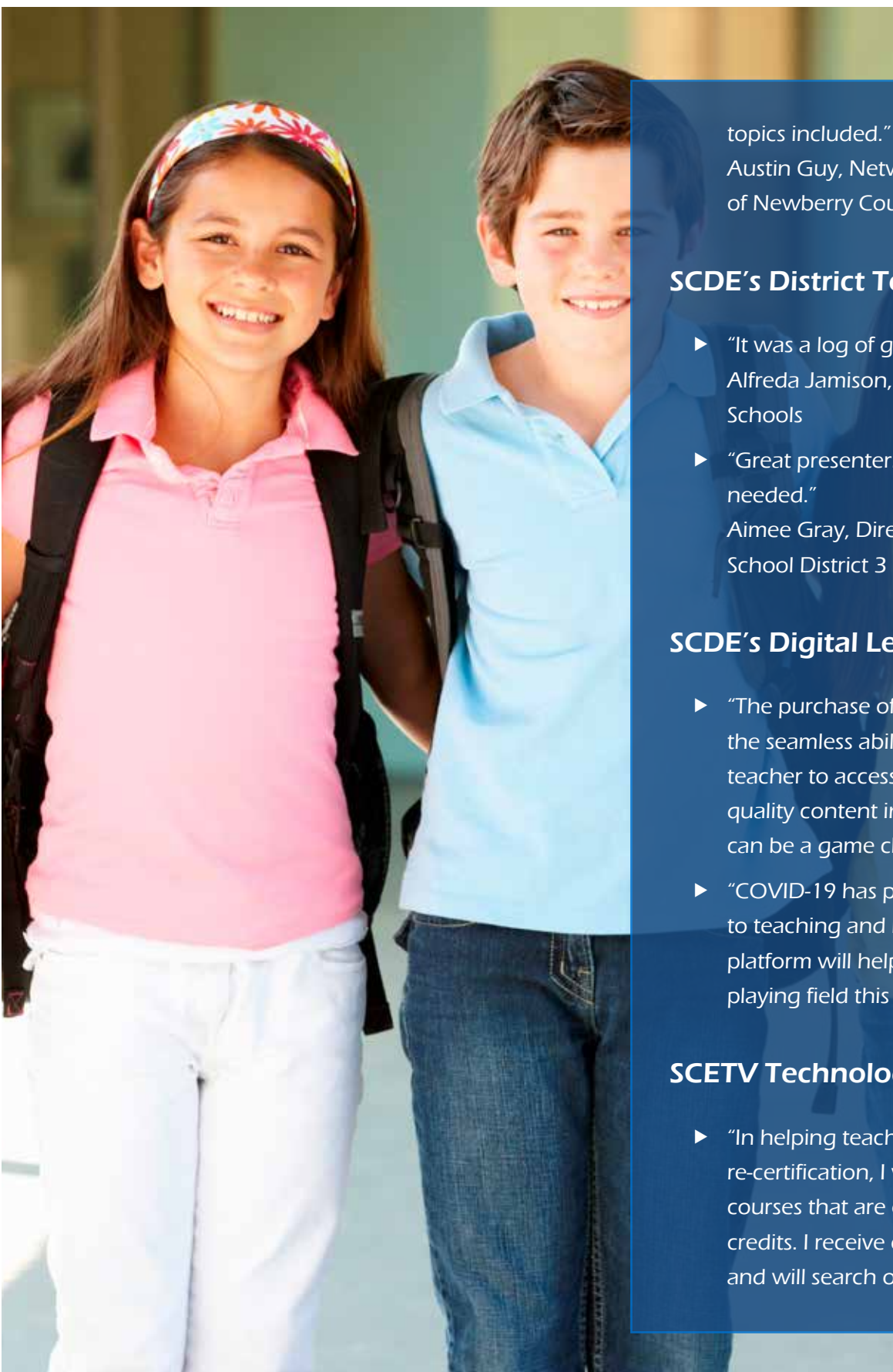
Cindy Haggerty, Mary H. Wright Elementary

SCDE District Technology Assistance

- ▶ “Utilizing the Online Skillset PD courses has been beneficial to our district. It provides an excellent source of PD for our technology staff and teachers.”

Tina Leitzsey, Director of Technology, School District of Newberry County

- ▶ “A great tool for any system admin to learn something new due to the tons of different



topics included.”

Austin Guy, Network Manager, School District
of Newberry County

SCDE’s District Technologist Training

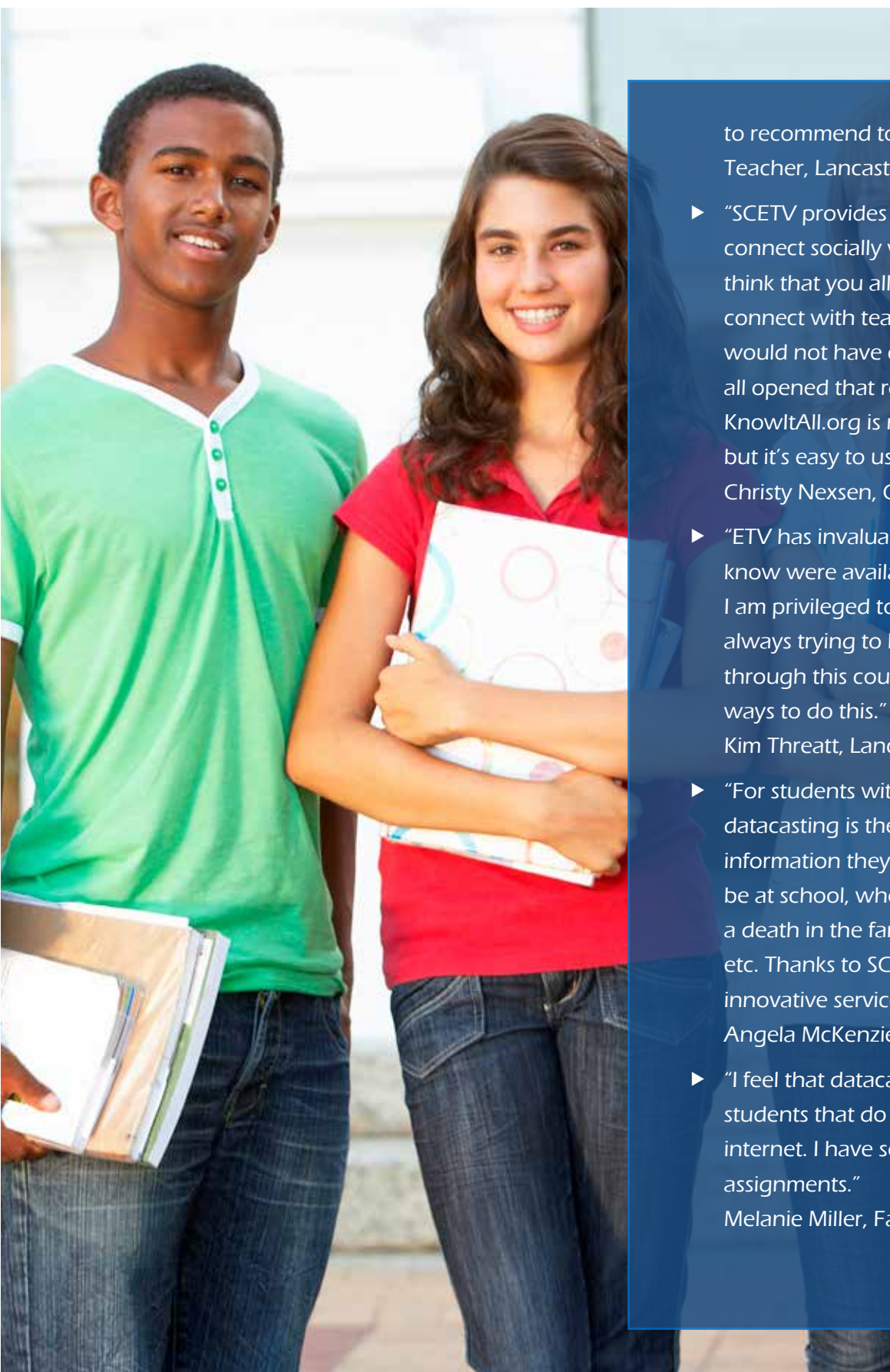
- ▶ “It was a log of great information.”
Alfreda Jamison, IT Director, Allendale County
Schools
- ▶ “Great presenter. Concise and just the info
needed.”
Aimee Gray, Director of Technology, Anderson
School District 3

SCDE’s Digital Learning Solution

- ▶ “The purchase of these three platforms and
the seamless ability for every South Carolina
teacher to access them and incorporate high
quality content into their classroom instruction
can be a game changer for our state.”
- ▶ “COVID-19 has presented enormous challenges
to teaching and learning but this digital
platform will help level the K-12 education
playing field this school year and beyond.”

SCETV Technology Initiatives

- ▶ “In helping teachers with their certification/
re-certification, I value the information and
courses that are offered by ETV for renewal
credits. I receive email as well as the newsletter
and will search on the ETV website for classes



to recommend to teachers.”

Teacher, Lancaster County Schools

- ▶ “SCETV provides a chance for us to reflect and connect socially with other teachers and I just think that you all are so good at that. I now connect with teachers across the state that I would not have connected with because you all opened that resource up for us. Plus the new KnowItAll.org is not just updated technically but it’s easy to use.”

Christy Nexsen, Clarendon School District 2

- ▶ “ETV has invaluable resources that I didn’t know were available until this course. Because I am privileged to teach a science lab, I am always trying to bring science to life and through this course have found many different ways to do this.”

Kim Threatt, Lancaster County School District

- ▶ “For students with limited or no internet access, datacasting is the key to a child getting the information they need to get when they can’t be at school, when they’re sick, when there’s a death in the family, when there’s hurricanes, etc. Thanks to SCETV for providing this innovative service.”

Angela McKenzie, Dillon School District 4

- ▶ “I feel that datacasting is a great idea for students that do not have access to the internet. I have sent several different types of assignments.”

Melanie Miller, Fairfield County School District



- ▶ “I appreciate, as a teacher, the work and research that is put into the resources you all provide. You have condensed and streamlined the available information so that it is ready for teachers in an organized manner. Thank you!”
- ▶ “SCETV is doing a wonderful job and creating a variety of webinars for parents and educators.”
- ▶ “Thank you for offering these sessions during this challenging time!”
- ▶ “I find the recordings of past sessions listed on the website to be helpful.”



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