SOUTH CAROLINA

Digital Resources Enabling Achievement and Milestones

A vision without a plan is just a dream. A plan without a vision is just drudgery. But a vision with a plan can change the world.

—Old Proverb

Issued by the
State Department of Education
Office of Technology
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Inez Moore Tenenbaum
State Superintendent of Education

November 2003

STATE OF SOUTH CAROLINA
DEPARTMENT OF EDUCATION

INEZ MOORE TENENBAUM
STATE SUPERINTENDENT OF EDUCATION

November 2003

Dear Citizens of South Carolina:

We are living in the rapidly developing information age, where technology plays a pivotal role in supporting the very fabric and operation of a global society. South Carolina's citizens, business leaders, and educators must work together to prepare our students for meaningful, productive citizenship in this world of the twenty-first century.

The 1995 *South Carolina Educational Technology Plan* encompassed planning, investigation, and experimentation to set forth the principles and standards that should guide technology education in South Carolina in the years immediately before the dawn of the twenty-first century. The 1998 plan, *Connecting Learners*, reflected the rapidly changing world of learning and technology by setting standards for information and technology literacy through connectivity.

Although the 1995 and 1998 strategic plans led to commendable progress, we must now embark on a new era in technology education where accountability, access, and achievement are the paramount objectives. The 2003 plan will take this next step in the technology planning process by providing a map of measurable activities and milestones for using technology as a tool to enhance learning, the learning environment, professional development, instructional capacity, support capabilities, and community connections. Through this plan, key technology dimensions will be intertwined with South Carolina student academic standards; the No Child Left Behind Act of 2001; the Education Accountability Act of 1998; and Proviso 1.29 of 2003, titled "SDE: Teacher Technology Proficiency."

In today's world, traditional methods of schooling are rapidly becoming obsolete. Unprecedented economic, political, and cultural changes have taken place, with technology as the major force in society's information revolution. The new world is creating challenges, demands, and expectations for educators that we cannot ignore. By working together, all the citizens of South Carolina can ensure that technology resources are available to help our schools and students achieve success in the twenty-first-century environment.

We must ensure that South Carolina's students and educators are technologically proficient. We must also make data-driven decisions that promote continuous improvement in education. The 2003–08 *State Technology Plan* is designed to help school districts provide a curriculum-aligned technology education that will place all the state's students, regardless of their demographic subgroup or background, on a level playing field for academic success.

Very truly yours,

Inez Moore Tenenbaum
State Superintendent of Education

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ACKNOWLEDGEMENTS

The State Department of Education extends its deepest gratitude to the committee and staff members who carried the vision that resulted in the *South Carolina State Technology Plan 2003–08: Realizing the Dream.*

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We are most grateful to the Southeast Disability and Business Technical Assistance Center for a grant that enabled us to include accessible information technology elements into the state plan. This assistive technology component was done with the help of the staff at the South Carolina Assistive Technology Project, directed by Evelyn Evans: Mary Alice Bechtler, Kara Bui, Janet Jendron, and Lily Nalty. Consultants included Michelle Bishop, Tim Conroy, Rebecca Evers, Jane Madden, Mary Mauldin, Mark Sakata, Robert Steussey, Jan Weber, and Cheryl Wissick.

We likewise extend thanks to the outside evaluators and members of the advisory committee who provided invaluable feedback during the development of the plan: Steve Abbott, Louise Amos, Vesta Baughman, Dean Bergman, Mark Bounds, Margaret Bingham, Helen Brantley, Maurice Bresnahan, Murray Brockman, Cherry Daniel, Judith Dellicolli, Marc Drews, Jan Ferrell, Virginia Friedman, Joellen Harris, Lisa Harris, Prentiss Herron, John Holton, Jake Jacobs, Ji-Yeon Lee, Michael Madden, Susan McDonald, Thomas Mendes, Pat Mohr, Michael Osterowski, Bill Paige, Senn Paige, Linda Shaylor, Terry Smithson, Jim Spencer, Ellen Still, Scott Talley, Bob Taylor, Katherine Watkins, and Joe Winslow.

The Department of Education also gratefully acknowledges the public-private partnership that guides the School Technology Initiative. This partnership includes the Office of Information Resources at the Budget and Control Board, South Carolina Educational Television, the South Carolina State Library, and BellSouth and LightStar, who are our telecommunications providers. In addition, we acknowledge the support of the Governor's Office and members of the South Carolina General Assembly.

PREFACE

South Carolina K–12 schools have achieved tremendous growth in the use of technology over the past decade. *Connecting Learners: The South Carolina Educational Technology Plan,* published in 1998, effectively built on the 1995 plan and provided the strategic vision for South Carolina schools. With its emphasis on connectivity and acquisition, the 1998 plan provided an excellent road map for successful technology implementation. As a reflection of the state's early commitment to connectivity, the Educational Testing Service recognized South Carolina as one of five states where 100 percent of the public schools have Internet access (ETS 1997) .

The *South Carolina State Technology Plan 2003–08: Realizing the Dream* acknowledges the successes of the previous plans while admitting the challenges of the current educational environment. The DREAM (Digital Resources Enabling Achievement and Milestones) is the logical step to lead South Carolina's schools to the next level in an enjoyable, challenging, and never-ending journey. The DREAM celebrates the unlimited capacity of the human intellect and recognizes the boundless possibilities grounded in our achievements thus far. The DREAM embraces the No Child Left Behind legislation and affirms the limitless possibilities that effective education can provide. The DREAM encourages the educational community to set lofty goals, devise measures of achievement, apply technology effectively, and demonstrate accountability. Above all, the DREAM reminds South Carolina educators, students, parents, and community members to imagine the possibilities, for they are truly infinite.

With these possibilities in mind, the statewide team who were to be the Executive Writing Committee came together at the SouthEast Initiatives Regional Technology in Education Consortium (SEIR*TEC) leadership academy to devise a plan to develop South Carolina's strategic technology direction. Working with the guidance of *Technology in American Schools: Seven Dimensions for Gauging Progress—A Policymaker's Guide,* published by the Milken Exchange on Education Technology (Lemke and Coughlin 1998), the Executive Writing Committee began the process of analysis and evaluation that resulted in the five essential technology dimensions that are the basis of South Carolina's technology plan for a five-year period, from 2003 to 2008.

After the Committee had shaped the essential framework of the state technology plan, a larger committee of stakeholders, each assigned to an essential area, worked to produce a goals-based, measurable plan that will assist districts in meeting technology goals for the twenty-first century. The insightful thinking and collective experience of many South Carolinians contributed to the vision that became the DREAM.

EXECUTIVE SUMMARY

The document *South Carolina State Technology Plan 2003–08: Realizing the Dream* provides the framework for elucidating, monitoring, and evaluating South Carolina's pathway to continuous progress and advancement through technology implementation. Included in this framework are specific guidelines to aid the SDE and the school districts in the technology planning process. The plan is designed to allow the districts and the state not merely to satisfy but to exceed the requirements established by the Education Oversight Committee as well as those requirements set forth in the state strategic plan; the federal No Child Left Behind Act of 2001; and Proviso 1.40 of 2001, which is Proviso 1.29 in the 2003–04 General Appropriations Bill and is titled "SDE: Teacher Technology Proficiency":

> To ensure the effective and efficient use of the funding provided by the General Assembly in Part IA, Section 1 XI.A.1 for school technology in the classroom and internet [*sic*] access, the State Department of Education shall approve teacher technology competency standards and local school districts must require teachers to demonstrate proficiency in these standards as part of each teacher's Professional Development plan. Evidence that districts are meeting the requirement is a prerequisite to expenditure of a district's technology funds.

The *South Carolina State Technology Plan 2003–08* begins with an explanation of the planning processes used and the key stakeholders' roles and responsibilities in devising their subsection of the overall strategic plan. Throughout the document the plan is correlated with key state and federal legislation, including legislative acts such as the Education Accountability Act and the No Child Left Behind Act.

After setting the stage for the necessity of a new strategic plan that uses goals-based, measurable activities, the *South Carolina State Technology Plan 2003–08* presents five core technology dimensions that must be addressed in order for us to begin improving student achievement through the use of technology as an integrated tool. All strategic actions are designed to increase student achievement through the effective integration of technology into the core curriculum. Measurable goals, objectives and strategies, an action list, an evaluation plan, and benchmarks are given for each core technology dimension.

The five core technology focus dimensions and the major goals set forth for these areas are as follows:

Technology Dimension 1: Learners and Their Environment
Goal: The SDE, the school districts, and the schools will use research-proven strategies to provide home, school, and community environments conducive to our students' achieving technological literacy by the end of the eighth grade and to raise the overall level of academic achievement in South Carolina.

Technology Dimension 2: Professional Capacity
Goal: The SDE, the school districts, and the schools will provide curriculum development and professional development to increase the competency of all South Carolina educators so that

research-proven strategies and the effective integration of instructional technology systems can be used to increase student achievement.

Technology Dimension 3: Instructional Capacity
Goal: The SDE, the school districts, and the schools will use current and emerging technologies to create learner-centered instructional environments that enhance academic achievement.

Technology Dimension 4: Community Connections
Goal: The SDE, the school districts, and the schools will increase student achievement through the use of technology, including assistive technology, by maximizing community involvement and community partnerships.

Technology Dimension 5: Support Capacity
Goal: The SDE, the school districts, and the schools will expand and support technology resources to assist educators and learners in meeting the state academic standards.

Each of these goals is followed by recommended implementation strategies and considerations that reflect aspects of the particular core dimension. Provided at the end of the five dimensions sections in the document is a cumulative list of benchmarks that are crafted to enable the technology planning committee to validate progress on an annual basis. Ensuring accountability, increasing access, and funding strategies are addressed after the operational plan. The final section provides a detailed framework for districts to use in writing their technology plans. Adherence to this framework will ensure that districts are in compliance with state and federal guidelines for creating local strategic technology plans.

The technology planning committee has infused several mechanisms for soliciting feedback for plan modifications on an ongoing basis. The plan will be reviewed annually, and the collected data will be used to make decisions regarding improvement and change. The *South Carolina State Technology Plan 2003–08* is a dynamic document designed to be flexible and updated to support continuous growth and progress.

CORE BELIEF

The SDE believes that high standards for student achievement are the heart of education reform in South Carolina, driving the goals we set for learning and directing every other aspect of what we do to support teaching and learning in our classrooms. The *South Carolina State Technology Plan 2003–08: Realizing the Dream* sets forth high expectations for our students, educators, and educational systems.

STATE STRATEGIC VISION

It is our vision that as we complete the first decade of the twenty-first century, all of South Carolina's students and teachers have access to the latest technology and are proficient in the use of technology to increase knowledge, create strong and healthy communities, and promote lifelong learning. No longer are classrooms confined by time and space. Our children are truly connected learners who share, explore, and evaluate information through many forms of interactive technology. Teachers are able to use the latest techniques for total integration, encouraging the use of technology by all students. All teachers and students collaborate on standards-based projects and keep a record of their technology journey in education. We are developing community and business partnerships that assist in providing all children equal access to technology and promote priority funding for equipment, technical support, and professional development opportunities for all South Carolina educators. No child is left behind as our local communities cross the digital divide together, with support in prioritized funding for all districts statewide in integrating technology and creating learner-centered environments. The result will be a generation of adults who successfully live, work, and participate in our rapidly changing information-based society.

STATE STRATEGIC MISSION

The mission of the State Department of Education (SDE) is to provide leadership and services to schools and communities to enable all students, regardless of circumstance, to achieve world-class academic standards.

A DECADE OF TECHNOLOGY GROWTH

South Carolina is proud of its progress in the development and implementation of technology initiatives to better the educational system in the state. Educators have seen increased access to technology, and surveys indicate that teachers are integrating technology into instructional activities on a more frequent basis (KPMG Consulting 2000). Professional development in technology has become paramount in the effort to ensure that all the state's students are technologically literate by the end of the eighth grade. Enhancing Education through Technology (E2T2) competitive and formula grants, and technical and renovation grants are providing opportunities for high-needs districts to increase student performance and educator proficiency. Districts are increasingly using student data management for informed data-driven decision making at all levels of the educational system. The timeline in the following section demonstrates that the implementation of administrative and instructional technologies in South Carolina has been a process of continuous improvement and progress.

SOUTH CAROLINA TECHNOLOGY MILESTONES

1985

- Limited instructional computing consisting largely of Apple IIs were being used by a few pioneers.
- South Carolina became the first state in the nation to provide a school administration system (Osiris), a computer, a printer, a scanner and free training to every school in the state.

1992

- South Carolina Educational Television (SCETV) hosted the first National Teacher Training Institute (NTTI) to instruct master teachers in hands-on interactive methods for using television and technology in mathematics and science instruction. Many training sessions were conducted by the SDE's regional technology specialists.
- The South Carolina EdTech conference was held. The first collaborative technology meeting in the state, it boasted ten exhibit booths.
- The state's thirteen Regional Technology Centers were created.
- South Carolina won national attention as the first state to implement a cost management system in all districts and schools. This system, In$ite™, tracked how federal, state, and local education dollars were spent at the state, district, and school levels.

1995

- The *South Carolina Educational Technology Plan* was published.

1996

- The School Technology Initiative committee was created.
- The School Technology Initiative began funding two-way video projects across South Carolina.

1997

- IBM awarded a grant of $875,000 to the SDE to develop a data warehouse.
- South Carolina was recognized by Educational Testing Service as one of five states to provide telecommunications access in all schools.

1998

- South Carolina received $26,356,050.78 in E-rate funding.

- South Carolina strongly encouraged districts to adopt the International Society for Technology in Education's National Educational Technology Standards for Students (ISTE NETS-S) and National Educational Technology Standards for Teachers (ISTE NETS-T). [These ISTE standards are available on-line at http://cnets.iste.org/students/s_stands.html and at http://cnets.iste.org/teachers/t_stands.html.]

- By 1998, South Carolina had invested more than $84 million in hardware, software, and professional development opportunities for schools and districts.
- The School Technology Initiative began funding professional development in technology.

- Accountability was addressed, requiring districts to submit local technology plans to the SDE for approval.

- The *Connecting Learners* state technology plan was published.

- *Education Week*'s *Technology Counts '98* reported that 86 percent of South Carolina's schools have satellite dishes to receive education programming, compared to a national average of 29 percent.

- Sixty-seven percent of South Carolina classrooms were connected to local-area computer networks (LANs), compared to 53 percent nationwide.

- *Technology Counts '98* reported that South Carolina was one of only five states where 100 percent of schools have Internet access.

1999

- The South Carolina State Library's virtual library, DISCUS (Digital Information for South Carolina Users), became available throughout the state via the Internet.

- South Carolina received $42,278,032.18 in E-rate funding.

- The SDE awarded a contract to National Computer Systems to provide a set of four Windows-based software systems customized to meet South Carolina needs for statewide implementation. The new electronic student-information collection system, SASIxp, was provided to all school districts at no cost.

- A partnership between the SDE and Manning Correctional Facility was formed to upgrade computers donated from local and state government as well as businesses across the state.

2000

- South Carolina received $52,048,008.78 in E-rate funding.

- KPMG Consulting reported that the average student-to-computer ratio in South Carolina was 5:1 and that two-thirds of schools used some type of filtering software to control Internet access.

- KPMG Consulting reported that 90 percent of South Carolina public school faculty and staff communicated with students' homes via electronic methods such as e-mail and Web sites.

- KPMG Consulting reported that 50 percent of South Carolina's teachers, 37 percent of the schools' technical staff, and 21 percent of administrative staff received some type of technology training.

- The SDE received a three-year Technology Opportunities Program Grant from the U.S. Department of Commerce.

- State appropriations for educational technology funding increased from $23 million in 1997 to $40 million.

2001

- The South Carolina General Assembly passed the teacher technology proficiency proviso (Proviso 1.40, titled "SDE: Teacher Recertification—Technology"), requiring districts to verify that teachers demonstrate technology proficiency during each recertification cycle.

- South Carolina received $44,280,175.16 in E-rate funding.

- South Carolina became a partner with ThinkQuest, Inc. (http://www.thinkquest.org/), a nonprofit organization that offers programs designed to advance education through the use of technology.

- The SDE obtained funding from the School Technology Initiative for FY 2001–02 to provide technical training for school districts. Each district was awarded money from the total $400,000 allocation.

- SCETV's Knowitall Web portal (http://www.knowitall.org) was officially launched.

- South Carolina's distance education learning centers were operational in all school districts.

- The School Technology Initiative provided $2 million directly to districts for professional development in technology.

- The South Carolina Education Oversight Committee issued its long-range planning document (EOC 2001), which cites technology use as necessary for South Carolina to reach its 2010 goal of being ranked in the top half of states nationwide with regard to student achievement.

- An on-line professional development reporting system was created by the SDE's Office of Technology.

- Six hundred new Gateway computers were furnished to districts in the greatest need of technology in the classroom.

- The SDE formed a partnership with the MarcoPolo Education Foundation to deliver high-quality, standards-based commercial-free Internet content for the state's K–12 classrooms.

- The MarcoPolo state administrator coordinated free technology training in school districts across the state.

- The SCTLC (South Carolina: Teaching, Learning, Connecting) Web portal, a one-stop resource for teachers, was established at http://www.sctlc.com.

2002

- The SDE's Technology Counts survey became a fully automated Internet application allowing districts to submit, add, edit, and view district technology information. [The survey form is on-line at https://www.myscschools.com/apps/techsurvey/default.cfm.]

- South Carolina was awarded $14,515,953 in School Renovation, IDEA, and Technology Grants for technology activities in connection with school renovations.

- The School Technology Initiative funding decreased from a high of $40 million in 2001 to a five-year low of $19 million.

- The MarcoPolo state administrator began the alignment of the MarcoPolo lesson plans with the South Carolina academic standards.

- The *Report of the Superintendent's Ad Hoc Technology Committee* addressed how the state could best meet the stringent requirements of the No Child Left Behind federal legislation.

- Acceptable use policies were now required of all South Carolina schools.

- South Carolina strongly encouraged its school districts to adopt the International Society for Technology in Education's National Educational Technology Standards for Administrators (ISTE NETS-A). [The ISTE standards for administrators are available on-line at http://cnets.iste.org/administrators/a_stands.html.]

- Since 1997, South Carolina had awarded a total of $24,017,606 in Technology Literacy Challenge Fund competitive grants to school districts.

- South Carolina awarded $8,393,257 in E2T2 formula and competitive grants.

- The EdTech conference had grown from ten exhibit booths in 1992 to one hundred seventy booths and many workshops.

2003

- All districts in South Carolina successfully completed the SDE's Technology Counts survey providing crucial data about technology implementation in the state.

- The Office of Technology received a grant from the SouthEast Disabilities and Technical Assistive Center to add an assistive technology component to the new state technology plan.

- The Office of Technology filed the calculations for all schools and districts for the E-Rate Discount Program. This resulted in $49,256,677.44 for the state and school districts in telecommunications and equipment discount payments.

- The Office of Technology received a grant from the "Professional Development for Arts Educators" initiative that resulted in $317,938 for visual art, music, theater, and dance teachers from across the state to attend summer professional development institutes and receive computers, peripherals, and special software.

- MarcoPolo lessons in Science, Math and Language Arts were aligned to the South Carolina standards and placed in a searchable lesson plan database on South Carolina: Teaching, Learning, Connecting (www.sctlc.com.)

- Intel Teach to the Future classes were offered to educators across the state.

- The new state technology plan, 2003-08, Realizing the Dream, was presented to all South Carolina stakeholders.

- South Carolina: Teaching, Learning, Connecting (www.sctlc.com) Web site training for educators took place statewide and was conducted by the Office of Technology and the Office of Curriculum and Standards.

- South Carolina was awarded $8,393,257.00 in Enhancing Education Through Technology competitive and formula grants.

- The EdTech conference grew from one hundred seventy booths to one hundred eighty booths and many workshops.

- Annual SASI upgrades were implemented by the Office of Technology

- The Office of Technology released the SASI state template.

- The Office of Technology revised the Data Collections Manual and accepted data collection registrations.

- The South Carolina Online Professional Development (SCOPD) Initiative was launched providing educators statewide with access to high quality professional development.

- Technology coaches were hired in all districts receiving E2T2 competitive grants.

- A new Training Teachers in Technology (T3) professional development CD ROM entitled "The Nature and Needs of Gifted and Talented Students" was offered to districts. This course was is one of two required in South Carolina for teachers of gifted and talented students.

- A new web-based Professional Certified Staff system that calculates over $200 million dollars of state funds to be paid to each school district based on teaching professionals' primary assignments, teacher certification credentials, and activity was implemented.

- A School Nutrition Administrative Claims System was implemented to collect, maintain, and report all school lunch/breakfast program data as well as expense and revenue data. The system calculates almost $150 million dollars of reimbursements for districts.

- The South Carolina Educational Data System was begun which will become one of the main sources of information for offices in the agency reducing demands on school districts. This system contains data from PACT, PCS, SASI and Teacher Certification.

OVERVIEW OF THE TECHNOLOGY DIMENSIONS

In its 1998 educational technology plan, *Connecting Learners*, the SDE published eight belief statements related to education and technology:

1. Student learning is the focus and goal for all technology applications in our schools.
2. Technology is a tool and a means to achieve specific goals—technology is not the goal nor the end to be achieved.
3. Every student must be ensured equity of access to all available technologies regardless of circumstances.
4. Students must become information literate if they are to face the challenges and enjoy the opportunities of working and living in a global economy and society.
5. Students will become lifelong learners and active participants in our democratic society by effectively and critically using technology applications.
6. Professional development for current and pre-service educators in the use and integration of instructional technologies is essential for student achievement.
7. Truly collaborative partnerships with parents and businesses are essential for the use of instructional technology to have the impact on student learning envisioned by South Carolina.
8. We must break the cycle of illiteracy by working with families and communities in South Carolina using available technologies and forming collaborations with state agencies and educational institutions. (SDE 1998, 15)

These core beliefs served as the foundation for the *South Carolina State Technology Plan 2003–08: Realizing the Dream*. Reaffirming the statement of beliefs from the earlier state technology document, the Executive Writing Committee realized that an effective planning framework was needed if these beliefs were to have "life beyond a document." This framework would serve to infuse the core beliefs into the overall planning process.

Having conducted research on the subject, the Committee determined that the *Technology in American Schools: Seven Dimensions for Gauging Progress—A Policymaker's Guide,* published by Milken Exchange on Education Technology's (Lemke and Coughlin 1998), provided a planning framework that not only would be adequate for South Carolina's needs but also would align with the core belief statements of the previous state technology plan.

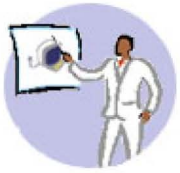
The seven Milken dimensions of progress—"Learners," "Learning Environments," "Professional Competency," "System Capacity," "Community Connections," "Technology Capacity," and "Accountability" (Lemke and Coughlin 1998, 3)—are regarded as synergistic parts of a single system. The framework they create emphasizes a combination of critical elements that are necessary for a school district and/or school to effectively use technology to accelerate student achievement and learning.

In seeking to tailor the Milken framework to fit the current and future needs of South Carolina, the Executive Writing Committee paid particular attention to recent trends affecting education,

particularly the No Child Left Behind Act of 2001, and the goals of the South Carolina Education Oversight Committee (EOC). The federal No Child Left Behind legislation emphasizes accountability for results, promotes equity of access for all students, including those with special needs, and supports teaching methods that have a solid foundation in scientific research. In addition, in its 2001 long-range plan, the EOC had set the following goal: "By 2010, South Carolina's student achievement will be ranked in the top half of the states nationally. To achieve this goal, we must become one of the five fastest improving systems in the country" (EOC 2001, 1).

With these facts in mind, the Executive Writing Committee modified the Milken dimensions of progress to create for the South Carolina technology plan a framework of five dimensions that closely align with three of the nine "areas for public action" enumerated in the EOC long-range plan: "Early Childhood Education and Development," "Parental Support and Involvement," and "Safe and Healthy Schools" (EOC 2001, 1). These five technology dimensions support the No Child Left Behind goals of improving student achievement in the core curriculum through technology proficiency and encouraging the effective integration of technology resources and systems through teacher training and curriculum development. The five dimensions also support the state strategic plan as well as the teacher technology proficiency proviso.

Learners and Their Environment: This dimension emphasizes helping students use technology in ways that advance their understanding of the content in the state curriculum standards while improving their real-life problem-solving and inquiry skills. The environment should be one of shared learning and should be designed to enhance student academic achievement through scientifically based learning practices and modern technologies.



Professional Capacity: This dimension emphasizes strategies to develop ongoing and sustained professional development programs for all educators—teachers, principals, administrators, and school library media personnel. Utilizing a broad definition for the term *professional capacity*, this dimension is also aligned with the EOC action area called "Leadership and Coalition Building."

Instructional Capacity: This dimension is the Executive Writing Committee's further refinement of the Milken dimension "Professional Competency." South Carolina's "Instructional Capacity" dimension specifically targets the development of strategies to integrate technology into curricula and teaching and also explores ways to promote teaching methods that are based on solid and relevant scientific research. This dimension also aligns with the EOC action area "Teacher Quality."

Community Connections: This dimension emphasizes strategies for the development of partnerships and collaborative efforts to support technology-related activities and to maximize community involvement in education. This dimension promotes school and district partnerships with such entities as private schools, higher education institutions, public libraries, museums, nonprofit organizations, adult literacy providers, and business and industry in ways that will increase student achievement and teacher technology proficiency. This dimension aligns with the EOC action areas "Education for Economic Development" and "Community and Parental Support and Involvement."

Support Capacity: This dimension seeks to combine the Milken progress dimensions "Technology Capacity" and "System Capacity." South Carolina's "Support Capacity" dimension emphasizes the development of strategies to provide the necessary physical infrastructure and supporting resources such as services, software and other electronically delivered learning materials, and print resources in order to ensure efficient and effective uses of technology. This dimension aligns with the EOC action areas "The Governance and Structure of the System" and "Efficient Use of Resources and Accountability."

On the following pages of this document, operational plans for the individual technology dimensions are proposed. The process of developing these plans began with the identification of South Carolina's current needs and future directions by a group of the state's educators and community members. The group then analyzed these needs to create action plans with measurable goals, which they chiseled into separate objectives. Action lists to monitor progress were also created. Each objective was then correlated with evaluation criteria, and benchmarks to be assessed on an annual basis.

LEARNERS AND THEIR ENVIRONMENT

GOAL

The SDE, the school districts, and the schools will use research-proven strategies to provide home, school, and community environments conducive to our students achieving technological literacy by the end of the eighth grade and to raise the overall level of academic achievement in South Carolina.

Actively embracing the charge by the Education Oversight Committee and the No Child Left Behind legislation to raise the state's level of student achievement, South Carolina has reached many milestones in its journey toward making technology a reality in all of our school districts. With the help of the School Technology Initiative, a public-private partnership established by the General Assembly in 1996, South Carolina is fostering the effective use of technology to support teaching and learning throughout the state.

Technology resources are now widely available in South Carolina's schools, and many districts have followed the state's recommendation to adopt the International Society for Technology in Education's National Educational Technology Standards for Students (ISTE NETS-S). Increasingly districts are using portfolios and other performance-based methods to conduct needs assessments and to measure students' technological proficiency. South Carolina continues to partner with private business and higher education to offer technology training and resources to educators and students. In addition, the SDE has established the SCTLC (South Carolina: Teaching, Learning, Connecting) Web portal at http://www.sctlc.com, which serves as a unique one-stop resource enabling teachers to align their daily lessons with the state curriculum standards.

Heavy emphasis has been and continues to be placed on helping students master the state academic standards, and technology is the key to this effort. As evidenced by the Mentor software program and other instructional aids, integrating technology into the core curriculum is a major focus of technology initiatives in the state. The Office of Technology closely partners with the Office of Curriculum and Standards to ensure that technology is integrated throughout the curriculum rather than being isolated as a stand-alone tool. The state's MarcoPolo administrator has begun to align technology integration mathematics and science lesson plans with state standards.

The No Child Left Behind Act of 2001 charges that all students in America score at the proficient level on state tests by the year 2014. In 2002 South Carolina experienced its second year of school report cards that showed progress as mandated by the Education Accountability Act. In that year, as compared to 76 percent in 2001, 80 percent of the state's approximately 1,100 public schools received ratings of excellent, good, or average: 19.7 percent of elementary, middle, and high schools rated excellent; 32.5 percent rated good; 27.4 percent rated average; 15.0 percent rate

SNAPSHOT OF CURRENT TECHNOLOGY USE

below average; and 5.3 percent rated unsatisfactory. Forty-three percent of schools with poverty composites of 80 percent or higher earned ratings of average, good, or excellent (SDE 2002).

State and federal grants have encouraged the innovative implementation of technology in the classroom to address state standards and increase student achievement. In addition, accountability and measurement of technology's impact in the schools have become a major area of focus. South Carolina teachers, having a strong desire to use the skills they have acquired through professional development opportunities, are receptive to the idea of integrating technology not only into the core curriculum but into all curricula. Our students are ready for the twenty-first century's learning environment and the hands-on technology applications and project-based learning that it offers.

According to the Taking a Good Look at Instructional Technology (TAGLIT) on-line survey in 2002, between 60 and 70 percent of South Carolina students perceive themselves to be proficient in "technology basic tools," "multimedia," "communication," and "research tools." Over 50 percent of South Carolina's students use the Internet for educational purposes more than once a week.

A critical component of the educational effort is an environment conducive to technology integration. In 1997, South Carolina was recognized by the Educational Testing Service as one of five states in the nation to provide Internet access to all its schools (ETS 1997). Presently, 96 percent of the state's schools have T1 connectivity or greater. And according to the KPMG survey (KPMG Consulting 2000) and the SDE's Technology Counts 2002 on-line survey, our average student-to-computer ratio is 5:1, which makes South Carolina a high-tech state. In 1999, South Carolina's virtual library, DISCUS, became available via the Internet to the entire state. All school districts have acceptable use policies regarding the Internet and use some type of filtering to comply with E-rate and federal grant requirements.

According to the 2002 TAGLIT survey, 60 percent of South Carolina school districts make technology resources available to parents and the community. Many districts operate extended programs after school hours and on weekends to allow students access to technology. Through grants and other sources of technology funding, many districts have utilized mobile laptop carts to make computers accessible in the maximum number of classrooms and to allow technology to touch every aspect of the student's environment including home, school, and community. All South Carolina public school buildings are linked to the DISCUS databases to enable educators, parents, and students to access a wide range of information and learning resources.

Although tremendous strides have been made in the use of technology to create interactive learning environments that enhance student achievement, many steps in the process still remain. Equity of access and accountability must be addressed. Students must be provided with a level playing field within the state as well as the nation. The operational plan that follows should ensure that South Carolina reaches its goal of providing home, school, and community environments conducive to assisting students in using technology to communicate effectively, achieve high academic standards, and achieve technological literacy by the end of the eighth grade.

OPERATIONAL PLAN

I. OBJECTIVES AND STRATEGIES

GOAL: The SDE, the school districts, and the schools will use research-proven strategies to provide home, school, and community environments conducive to our students' achieving technological literacy by the end of the eighth grade and to raise the overall level of academic achievement in South Carolina.

OBJECTIVES	STRATEGIES
1.1 Students will use technology to acquire and demonstrate communication, collaboration, and engagement skills that are aligned with state standards across the curriculum and will thereby increase their level of academic achievement.	A. Provide opportunities and resources to districts and schools to facilitate the development and implementation of effective communication and collaboration skills using technology in the core content areas B. Conduct student projects that will yield sustained, engaged learning and collaboration in the core content areas C. Have students present their collaborative projects to identified audiences D. Recognize and promote best practices that successfully integrate technology, including assistive technology, into the curriculum E. Provide appropriate accommodations for students with special needs when conducting tests, including standardized tests, using technology
1.2 Students will engage in authentic learning activities that are aligned with state standards and that integrate technology, including assistive technology, into the core content.	A. Develop technology-enhanced learning activities aligned with state standards in core content areas B. Create and maintain student technology portfolios documenting grade-level-appropriate technology competencies C. Appoint or hire districtwide school technology coaches or form districtwide technology integration teams to offer guidance to schools, educate teachers, and help ensure that lesson plans and activities incorporate a variety of technologies, including those appropriate for students with special needs
1.3 Students will select the appropriate tools to complete authentic, real-	A. Create and use lesson activities in which students employ a variety of technology tools, including

I. OBJECTIVES AND STRATEGIES

GOAL: The SDE, the school districts, and the schools will use research-proven strategies to provide home, school, and community environments conducive to our students' achieving technological literacy by the end of the eighth grade and to raise the overall level of academic achievement in South Carolina.

OBJECTIVES	STRATEGIES
life multidisciplinary tasks and will demonstrate technology competence by the end of the eighth grade.	assistive technology, to complete authentic multidisciplinary tasks B. Measure student technology proficiency by using surveys and performance-based assessments C. Provide all students, including those with special needs, access to a range of high and low technology solutions, including software, peripherals, and other tools to increase student communication, participation, and collaboration
1.4 The SDE, the school districts, and the schools will provide students with an enhanced learning environment through technological tools, including assistive technology, that are designed to promote high academic achievement.	A. Establish school and community learning environments that enable students to use technology for real-world problem solving and research B. Adopt grade-level-appropriate technology standards and integrate them into the curriculum to enable students to fully participate in today's information-rich global society C. Adopt grade-level-appropriate technology standards and integrate them into the curriculum to prepare students to function in an information-rich global society

II. ACTION LIST

- The SDE and the school districts should coordinate access to an on-line database of technology-infused lesson plans and classroom examples across the core content areas in alignment with the state academic standards, through the SCTLC Web portal, the MarcoPolo "Internet Content for the Classroom" Web site (http://www.marcopolo-education.org/), and other digital resources.
- The SDE and the school districts should provide access to effective, research-based assistive technologies—including software, peripherals, and other tools to increase student

II. ACTION LIST

communication, collaboration, and engagement—that will support inclusion of students with disabilities in the core content courses at all grade levels.

- Districts should develop strategies to ensure that school improvement plans address the use of technology, including assistive technology, to support a shared learning environment that includes educators, parents, and community members.
- The SDE should establish grade-level-appropriate technology standards and competencies based on the ISTE NETS-S.
- The SDE, the districts, and the schools should ensure improved student achievement test scores in the core content areas, increased student access to technology (shown by the SDE Technology Counts on-line survey), and increased student access to technology outside the school environment (shown by the 2002 TAGLIT on-line survey).
- The SDE and the school districts should establish minimum requirements for student portfolios that document student progress by including technology collaborative scoring rubrics and checklists, videos and pictures of student activities, samples of individual and collaborative problem-solving and research projects, samples of student products created using a variety of technology tools, and samples of other student work.
- Student portfolios and checklists in all grades as well as a performance-based technology applications evaluation at the completion of the fifth and eighth grades should be used to assess student technology proficiency as well as to assess the effectiveness of the assistive technology tools used by students with special needs.
- Students themselves should be given opportunities to assess the effectiveness of technology tools, including the range of assistive technology, being used for classroom activities.
- Districts should complete initial and ongoing assessments to measure increased availability of technology opportunities and resources.
- Educators and parents should complete initial and follow-up assessments to ensure that the use of technology, including the range of assistive technology tools, is effective in enhancing student learning.
- The SDE, district, and regional curriculum/technology teams should identify best practices of seamless technology integration that will be disseminated via on-line resources such as the SCTLC Web portal and the *South Carolina Technology News* e-magazine, conferences and workshops, and the South Carolina Association for Educational Technology (SCAET) technology project awards.
- Districts and schools should develop methods of recognizing student technology achievement, including the use of assistive technology, using resources such as CPU (Computer Power Users) and TNT (Teachers 'N Technology).

III. IMPLEMENTATION ACTION STEPS

SDE

- Begin designing recertification courses to include how to create and sustain both traditional and electronic portfolios on teaching and student work, project-based learning, on-line projects, interactive learning, and collaborative projects.
- Offer professional development courses using innovative delivery strategies
- Recognize exemplary technology integration programs and teachers at the South Carolina EdTech conference
- Recognize educators' exemplary use of assistive technology in teaching and learning at statewide events such as the EdTech conference and the South Carolina Assistive Technology Expo.
- Encourage statewide educator, student, and community involvement in the public school system via electronic communications and other media.

DISTRICTS

- Assign school technology coaches or form districtwide technology integration specialist teams to offer guidance to schools
- Assign assistive technology coaches to educate teachers and help ensure that lesson plans and activities incorporate a variety of technologies in ways that make them accessible to individuals special needs
- Offer professional development courses using innovative delivery strategies
- Begin working with teachers in the classroom to create lesson plans that incorporate a variety of technologies into authentic multidisciplinary tasks
- Recognize exemplary technology teachers and students
- Hold technology fairs that showcase exemplary student technology projects to the community
- Encourage home and community involvement in the public school system by electronic communications and other media

SCHOOLS

- Implement an on-line system for displaying student work such as e-mail projects, on-line projects, and so forth
- Recognize exemplary student technology projects
- Hold "technology nights" that showcase exemplary student technology projects and technology teachers to the community
- Provide access to technology resources, including assistive technology, during nontraditional school hours
- Include goals and strategies for technology and assistive technology development in school improvement plans
- Encourage home and community involvement in the public school system through the use of electronic communications and other media

IV. FUNDING CONSIDERATIONS

SDE

- Technology professional development
- Technology course development
- Regional Technology Center operation
- Statewide recognition programs
- Technology resources to support standards-based learning across the curriculum

DISTRICTS

- Technology professional development
- Technology course development
- Technology staff
- Recognition programs
- Teacher and student portfolio materials
- Technology resources to support standards-based learning across the curriculum

SCHOOLS

- Technology professional development
- Technology course development
- Technology staff
- Recognition programs
- Teacher and student portfolio materials
- Technology resources to support standards-based learning across the curriculum

V. EVALUATION

Objectives	Possible Baseline Data	Possible Data Sources to Be Used for Ongoing Evaluation and End-of-Program Report	Outcomes (Include "action list" items achieved.)				
			JAN. 2005	JAN. 2006	JAN. 2007	JAN. 2008	JAN. 2009
1.1 Students will use technology to acquire and demonstrate communication, collaboration, and engagement skills that are aligned with state standards across the curriculum and will thereby increase their level of academic achievement.	• Statewide achievement test scores • District report cards • Technology surveys • Student portfolios • School technology and improvement plans • District, school, and community surveys	• Statewide achievement test scores • District report cards • Technology surveys • Student portfolios • Observations and interviews • Anecdotal records • Documented access to on-line resources • Listing of recognition programs					
1.2 Students will engage in authentic learning activities that are aligned with state standards and that integrate technology, including assistive technology, into the core content.							
1.3 Students will select the appropriate tools to complete authentic, real-life multidisciplinary tasks and will demonstrate technology competence by the end of the eighth grade.							
1.4 The SDE, the school districts, and the schools will provide students with an extended learning environment through technological tools, including assistive technology, that are designed to promote high academic achievement.							

PROFESSIONAL CAPACITY

GOAL
The SDE, the school districts, and the schools will provide curriculum development and professional development to increase the competency of all South Carolina educators so that research-proven strategies and the effective integration of instructional technology systems can be used to increase student achievement.

Meaningful, sustained professional development is the key to ensuring that South Carolina's educators are well-trained in using research-proven technology integration strategies across the curriculum to improve student achievement. South Carolina continues its commitment to professional development by supplying resources, training, and support to enable the state's educators to use technology effectively.

According to the 2002 Taking a Good Look at Instructional Technology (TAGLIT) on-line survey, 68 percent of South Carolina's teachers felt involved in their local technology planning efforts. Sixty-three percent felt confident when using basic technology tools for problem solving and research, while 68 percent felt they had mastered communication tools. Fifty-five percent of teachers used multimedia tools on a frequent basis, and 50 percent of the South Carolina teachers surveyed said they used technology in the classroom regularly. Seventy-eight percent said they use the Internet at home.

The 2002 TAGLIT survey also provided information about professional development in technology. Forty percent of teachers reported receiving 4 hours or less of technology training; 32.2 percent received 5 to 14 hours of professional development; 11.6 percent reported receiving 15 to 24 hours; and 16.2 percent stated they received 25 or more hours of training. School administrators reported that they spent 3.2 percent of their technology money on professional development. This figure will dramatically increase because the No Child Left Behind Act has mandated that the SDE and the school districts spend at least 25 percent of their federal grant funds on professional development.

The KPMG survey reported that although some training was offered during school hours and on days when school was not in session, most professional development training was provided after school hours and on staff development days. The most common personnel resources used for professional development were media specialists, regional technology specialists, district office technology coordinators, and vendors (KPMG Consulting 2000).

South Carolina K–12 School Technology Progress Report for FY 2001 (SDE 2001) demonstrated that South Carolina's collaborative School Technology Initiative has helped the state to be recognized as a national leader in technology. South Carolina has set technology use expectation guidelines in the teacher technology proficiency proviso, which is designed to ensure that proper technology integration is taking place in classrooms. Each school district is responsible for

SNAPSHOT OF CURRENT TECHNOLOGY USE

developing a teacher professional development plan to address the requirements of the technology proficiency proviso. Current teacher proficiency data show that 8,806 of the state's 47,120 teachers are deemed technologically proficient. However, the Office of Technology expects to see that number dramatically increase in 2005 as the first wave of technological proficiency forms is due. By law, districts will be required to report that all teachers have been verified as technologically proficient during each recertification cycle.

Additionally, the School Technology Initiative has provided funding directly to districts for technology professional development activities such as graduate courses, recertification courses, workshops, and technical courses. In FY 2001, the School Technology Initiative provided $2 million in professional development funds to districts. The districts' training activities and expenditures are documented using the Office of Technology's on-line professional development tracking system, which enables the school districts to share best practices and innovations in technology professional development. According to data collected in 2002, over 500 technology courses were offered statewide, with 111 of them carrying college credit.

In 2001, the SDE obtained funding from the School Technology Initiative to provide technical training to the school districts. All of South Carolina's school districts continue to be able to provide training such as A+ Certification training, Novell and Cisco courses, SASIxp courses, Internet development courses, and Microsoft technical training courses.

Institutions of higher education in South Carolina have been invaluable in helping to provide technology professional development opportunities for the state's public school educators. The SDE has partnered with the University of South Carolina to link lesson plans to the state standards. Many universities have partnered with local school districts to implement innovative technology grants. For example, Clemson University has partnered with Anderson School Districts One, Two, Three, and Four to help teachers use digital cameras and multimedia pods in the classroom to increase student achievement. USC Columbia, Columbia College, and Converse College teamed with the Office of Technology to offer courses in integrating technology into visual arts, dance, theater, and music courses. Offered by ITV in collaboration with USC and SCETV, Teaching in Distance Learning Environments is a course designed to ensure that educators take full advantage of distance-learning strategies and delivery methods. The SDE has also partnered with South Carolina Educational Television (SCETV) to support the statewide Teacher Training Institute to train teachers in the use of technology in mathematics and science courses.

In addition to participating in partnerships, the Office of Technology hosts EdTech, which is the largest educational technology conference in the state and a valuable professional development opportunity for educators. The Office of Technology also works in close collaboration with the Office of Curriculum and Standards to provide professional development opportunities to South Carolina teachers. For example, in 2002, a professional development CD-ROM was offered to middle school political science teachers for recertification credit. To help teachers prepare their students for taking the PACT (Palmetto Achievement Challenge Tests), the Office of Curriculum and Standards introduced the Mentor software program statewide through the Regional Technology Centers.

SNAPSHOT OF CURRENT TECHNOLOGY USE

The use of technology in South Carolina's schools is encouraging. The 2002 TAGLIT survey and the KPMG survey indicate that the state's teachers are beginning to integrate technology into instructional activities across the curriculum. In this new era of accountability, more funds will be devoted to professional development with emphasis on showing the impact on student achievement that training activities for educators have had. Professional development will be a continuous, long-term commitment for the SDE, the school districts, and the schools so that greater teacher proficiency and increased student performance can be realized.

OPERATIONAL PLAN

I. OBJECTIVES AND STRATEGIES

GOAL: The SDE, the school districts, and the schools will provide curriculum development and professional development to increase the competency of all South Carolina educators so that research-proven strategies and the effective integration of instructional technology systems can be used to increase student achievement.

OBJECTIVES	STRATEGIES
2.1 The SDE will enable educators to achieve and demonstrate proficiency in integrating state-recommended instructional technology standards (ISTE NETS-A, ISTE NETS-S, and ISTE NETS-T) into their specific area of professional practice to increase student achievement.	A. Encourage an initial teacher certification process that requires demonstration of proficiency in integrating instructional technology standards B. Adopt a process that requires teachers to demonstrate ongoing proficiency in integrating instructional technology standards C. Adopt a state educator professional development program to aid districts in satisfying the requirements of the teacher technology proficiency proviso D. Include in district technology plans a professional development program that provides a guide for teachers to progress from their current levels of ability in using technology, including appropriate assistive technology, to full proficiency E. Require district and school administrators to demonstrate technology proficiencies based upon the state-recommended standards for administrators (ISTE NETS-A)

I. OBJECTIVES AND STRATEGIES

GOAL: The SDE, the school districts, and the schools will provide curriculum development and professional development to increase the competency of all South Carolina educators so that research-proven strategies and the effective integration of instructional technology systems can be used to increase student achievement.

OBJECTIVES	STRATEGIES
2.2 The SDE and the school districts will provide the schools with full-time multidimensional technology leadership whose focus is to ensure that technology is making a significant instructional and administrative impact for students, teachers, and administrators.	A. Appoint or hire full-time technology coaches to assist with basic technology skills and the integration of the technology into classroom instruction in every school B. Require that technology coaches provide direct training and consultation to teachers in their classrooms, with special emphasis on helping administrators, teachers, and students meet the state-recommended technology standards (ISTE NETS-A, ISTE NETS-T, ISTE NETS-S) as well as helping students to meet the state's content standards in all areas
2.3 The SDE and the school districts will collaborate in planning for professional development, ensuring that teachers and district staff are trained to use technology, including assistive technology, to enhance learning.	A. Develop and submit a technology plan that (1) is directed by the district's technology leadership, (2) is designed for the district and for each school in the district as applicable, and (3) calls for site-based input from technology committees or teams in each building B. Include in district technology plans professional development for district staff and teachers to be part of assistive technology assessment teams C. Include in district technology plans the training needed to ensure the accessibility of electronic and information technology to students with special needs D. Include in district technology plans the training needed for school and district staff to evaluate software in order to make decisions that ensure the promotion of higher-order thinking skills for all students, including those with special needs

I. OBJECTIVES AND STRATEGIES

GOAL: The SDE, the school districts, and the schools will provide curriculum development and professional development to increase the competency of all South Carolina educators so that research-proven strategies and the effective integration of instructional technology systems can be used to increase student achievement.

OBJECTIVES	STRATEGIES
2.4 The SDE and the school districts will provide schools with information and training in technology integration so that teachers can use research-based best-practice instructional methods throughout the curriculum.	A. Offer professional development activities and training in a variety of ways (i.e., on-site, off-site, on-line, self-paced, and combinations of these methods) to address the technology needs of staff, paying special attention to high-need schools and schools serving economically disadvantaged populations, including students with special needs B. Provide a list of professional development opportunities on the SCTLC (South Carolina: Teaching, Learning, Connecting) Web portal at http://www.sctlc.com and publicize other recognized professional opportunities for educators C. Provide professional development opportunities focused on aligning state technology standards with state content standards D. Develop alliances with subject, grade, or position-specific professional organizations to promote technology integration throughout the K–12 curriculum E. Increase the availability of technology professional development tools to teachers: access to laptop computers and presentation devices, Internet access at the classroom level, interactive on-line access to state curriculum standards and lesson plans, access to Web-based and/or CD-ROM-based training opportunities, and access to state-of-the art training centers in their particular geographic areas F. Develop an extensive statewide network of professional development providers who have the skills and experience necessary to prepare teachers for effective technology use

I. OBJECTIVES AND STRATEGIES

GOAL: The SDE, the school districts, and the schools will provide curriculum development and professional development to increase the competency of all South Carolina educators so that research-proven strategies and the effective integration of instructional technology systems can be used to increase student achievement.

OBJECTIVES	STRATEGIES
2.5 The SDE and the school districts will assess the overall effectiveness of professional development in the area of instructional technology standards and the impact of technology on student achievement.	A. Establish minimum levels of teacher technology proficiency for replication and adaptation across the state B. Incorporate instructional technology assessment into current teacher and administrator evaluation processes C. Administer a statewide needs assessment to teachers and administrators to determine current levels and types of professional development that must be offered D. Administer evaluations to determine the effectiveness and impact of the professional development offered to teachers and administrators E. Encourage teachers to create and maintain technology portfolios showing examples of their students' work and documenting use of technology in their classrooms F. Develop an on-line professional development tracking system of teachers and administrators

II. ACTION LIST

- Districts should hire or appoint full-time leadership for the use of technology, including that for assistive technology, to increase student learning.
- Leadership committees should include participants such as educators (including special educators), therapists, school administrators, parents, and librarians.
- The existing regional alliance structure that brings together service providers from the various groups should be strengthened. Each alliance should work to develop at least one technology initiative during each year that involves all members.
- Regional Technology Centers should be fully staffed.
- The SDE should utilize the expertise of staff members and faculty in school districts and institutions of higher learning throughout the nation.

II. ACTION LIST

- A school technology coach should be hired or appointed in every school in every district.
- An assistive technology specialist and an assistive technology assessment team should be hired or appointed in every school district.
- Each school district should submit to the SDE an annual technology plan that documents site-based input and includes a plan for professional development that outlines the technology education offerings and requirements, including assistive technology.
- The SDE's Office of Technology should work with the Office of Curriculum and Standards to develop recommendations for teacher professional development plans, integrating technology and content standards into professional development opportunities.
- District and school administrators should submit to their supervisors an annual professional development plan that includes technology goals aligned with ISTE NETS-A and that is reviewed as part of the administrator's annual evaluation.
- The SDE should create and promote, through its Regional Technology Centers and through the SCTLC Web portal, a professional development component that outlines the technology education offerings and requirements, including assistive technology, that exist throughout South Carolina and the nation as a whole. Usage reports should indicate that the SCTLC "Training" tab is being widely used by educators.
- The SDE and the school districts should provide training to district- and building-level administrators so that they can effectively assess a teacher's ability to integrate technology, including assistive technology, into the curriculum.
- Regional technology specialists should develop or adopt a series of at least eight courses that address the highest professional development needs as determined by a statewide needs assessment. These courses should be offered in a variety of ways and include novice to advanced options.
- Each regional technology specialist should develop or adopt at least one assistive technology course that addresses professional development needs as determined by a regional assistive technology needs assessment. Such a course can be offered in a variety of formats.
- The SDE and the school districts should provide training for assistive technology teams in assistive-technology assessment, options, and curriculum integration.
- The SDE and the school districts should provide training for teachers in using assistive technology tools.
- The SDE and the school districts should provide training in the evaluation of software in order to make decisions that ensure the promotion of higher-order thinking skills for all students, including those with special needs.
- The SDE and the school districts should provide training in accessibility issues involving applicable state and federal legislation.
- Colleges and universities should demonstrate compliance with NCATE (National Council for Accreditation of Teacher Education) standards related to technology.

II. ACTION LIST

- Teachers should keep portfolios that include sample lesson plans indicating increased technology integration across the core content areas in alignment with the state academic standards.
- All school districts should collect, maintain, and report documentation of teacher technology portfolio data.
- The state should adopt assessment instruments and develop a model or template for teacher portfolio content.
- The SDE and the school districts should develop or adopt on-line assessment instruments and make them available to all school districts in the state to determine teachers' level of technology proficiency.
- SDE- and district-developed tracking tools (electronic or Web-based surveys) of district professional activities should be completed each year in conjunction with ADEPT (Assisting, Developing, and Evaluating Professional Teaching) or other district evaluation procedures that include an instructional technology component.
- District reports and evaluations of professional development initiatives and reports on the use of technology grant funds should show an increase in access to professional development.
- The SDE should continue to play a leadership role in working with the legislature and other entities in securing funding and training for technology, including assistive technology, initiatives.

III. IMPLEMENTATION ACTION STEPS

SDE

- Design a portfolio of courses in technology integration, including assistive technology, that meet the highest professional development needs and are offered in a variety of ways
- Document receipt of teacher technology proficiency assurance forms
- Administer needs assessments to identify areas of weakness and follow up with assessments that measure the impact of professional development in technology
- Provide feedback concerning teacher and administrator portfolios to measure the impact of professional development in technology
- Evaluate and adjust technology professional development plans as indicated by needs assessments
- Initiate partnerships with community entities to create greater access to technology, including assistive technology, and a community learning environment

DISTRICTS

- Submit a technology plan, including a professional development plan, to the Office of Technology for approval

III. IMPLEMENTATION ACTION STEPS

- Administer a district technology professional development assessment to administrators and teachers to evaluate current training need areas and to create the district technology professional development plan on the basis of current needs
- Participate in ongoing, sustained professional development offerings, maintaining a log and a journal for each course, workshop, event, conference, and so forth, to place in portfolios
- Submit teacher technology proficiency assurance forms to the Office of Technology by the announced deadline
- Initiate partnerships with community entities to create greater access to technology, including assistive technology, and a community learning environment
- Perform random and periodic checks of teacher and administrator portfolios to measure the impact of professional development in technology
- Administer needs assessments to identify areas of weakness and follow up with assessments that measure the impact of professional development in technology
- Evaluate and adjust technology professional development plans as indicated by needs assessments

SCHOOLS

- Submit a technology plan, including a professional development plan, to the local district office
- Hire or appoint a school technology coach who is knowledgeable about assistive technologies for each school and will submit training and needs reports to the regional technology specialist
- Begin keeping technology portfolios
- Evaluate teacher and administrator portfolios to measure the impact of professional development in technology
- Administer needs assessments to identify areas of weakness and follow up with assessments that measure the impact of professional development in technology
- Monitor and adjust professional development in technology as indicated by needs assessments

IV. FUNDING CONSIDERATIONS

SDE

- Regional Technology Center professional development
- Collaboration and partnership meetings with schools, schools districts, institutions of higher education, business and community entities, and other states to determine professional development direction
- Professional development for distance-learning
- Scientifically based research

DISTRICTS

- Committee development of professional development plans
- Committee development of district and school technology plans
- Professional development needs-assessment tools
- Evaluation tools to measure the impact and effectiveness of technology professional development
- Evaluation experts to help show the impact of programs and initiatives
- High-quality sustained professional development programs offered via innovative delivery methods
- Scientifically based research

SCHOOLS

- Committee development of district and school technology plans
- School technology leader salary
- Professional development needs-assessment tool
- Evaluation tools to measure the impact and effectiveness of technology professional development
- Evaluation experts to help show the impact of programs and initiatives
- Scientifically based research

V. EVALUATION

Objectives	Possible Baseline Data	Possible Data Sources to Be Used for Ongoing Evaluation and End-of-Program Report	Outcomes (Include "action list" items achieved.)				
			JAN. 2005	JAN. 2006	JAN. 2007	JAN. 2008	JAN. 2009
2.1 The SDE will enable educators to achieve and demonstrate proficiency in integrating state-recommended instructional technology standards (ISTE NETS-A, ISTE NETS-S, and ISTE NETS-T) into their specific area of professional practice to increase student achievement.	• Statewide achievement test scores • District report cards • Teacher technology proficiency proviso forms • Professional development surveys • Teacher and administrator portfolios • School technology and improvement plans • SCTLC "Training" tab • Technology assessments	• Statewide achievement test scores • District report cards • Professional development tracking and surveys • Teacher technology proficiency proviso forms • Teacher and administrator portfolios • Observations and interviews • Anecdotal records • Documented access to on-line resources • SCTLC "Training" tab • Technology assessments					
2.2 The SDE and the school districts will provide the schools with full-time multidimensional technology leadership whose focus is to ensure that technology is making a significant instructional and administrative impact for students, teachers, and administrators.							
2.3 The SDE and the school districts will collaborate in planning for professional development, ensuring that teachers and district staff are trained to use technology, including assistive technology, to enhance learning.							
2.4 The SDE and the school districts will provide schools with information and training in technology integration so that teachers can use research-based best-practice instructional methods throughout the curriculum.							

V. EVALUATION

Objectives	Possible Baseline Data	Possible Data Sources to Be Used for Ongoing Evaluation and End-of-Program Report	Outcomes (Include "action list" items achieved.)				
			JAN. 2005	JAN. 2006	JAN. 2007	JAN. 2008	JAN. 2009
2.5 The SDE and the school districts will assess the overall effectiveness of professional development in the area of instructional technology standards and the impact of technology on student achievement							

INSTRUCTIONAL CAPACITY

GOAL
The SDE, the school districts, and the schools will use current and emerging technology to create learner-centered instructional environments that enhance academic achievement.

Over the past decade, South Carolina has made steady strides in acquiring instructional technologies and using these learning tools wisely to increase student achievement. In many schools, technologies such as two-way video, satellite systems, and on-line course delivery tools are used frequently as apparatuses for learning. Grants continue to provide funds for increased access to technologies such as digital cameras, digital camcorders, scanners, personal digital assistants, and laptops as well as subject-specific tools such as science probes.

In 1997 South Carolina was recognized by the Educational Testing Service as one of five states that provides telecommunications connections for 100 percent of its schools (ETS 1997). The School Technology Initiative has played a major role in placing South Carolina at the leading edge of technology in the classroom. According to the 2002 Taking a Good Look at Instructional Technology (TAGLIT) survey, South Carolina ranks high as an emerging state in the use of instructional technologies. Over 80 percent of the state's schools have policies for equity of access and acceptable use. TAGLIT survey respondents also indicated that—through cooperative learning, engaging activities, and mentoring—they used technology to enhance the teaching of critical-thinking and real-world skills. Sixty-three percent of teachers use curriculum-focused technology tools to support the core subject areas.

South Carolina Educational Television (SCETV) has installed a satellite dish and three receivers in every school in the state. The 32-channel satellite system is now broadcasting digital content to all schools, enabling them to access a greater variety of instructional programming. Twenty-eight distance education learning centers (DELCs) operating across the state offer short distance-learning courses for students and teachers. Programs are developed to meet the specific needs of the schools served by each center. South Carolina's institutions of higher education serve as models of effective distance education. Courses are offered to high schools at attractive cost savings. During 2001, SCETV's Creative Services Department provided digital content, tied to the South Carolina curriculum standards, through its Knowitall Web portal at http://www.knowitall.org.

In 2001, the South Carolina State Library made its virtual library, DISCUS, available to all Internet users in the state. DISCUS resources include magazine articles, professional periodicals, newspapers, encyclopedias and other reference publications, government documents, lesson plans, maps, photographs, and historic documents.

SNAPSHOT OF CURRENT TECHNOLOGY USE

The School Technology Initiative's two-way interactive video projects began in the summer of 1996. These projects provided South Carolina schools with the connectivity and capacity to integrate the current and rapidly developing telecommunications systems for teaching and learning. By the year 2001, forty schools, several technical colleges and universities, four district offices, and one career center were using two-way video to deliver instruction to rural and less affluent areas of the state. Over five thousand students were instructed in 247 courses that were offered via distance learning. The two-way video systems continue to be used effectively for extending the reach and impact of teaching and learning.

Almost all districts in the state take advantage of E-rate discounts. These discounts are used to help pay for T1 lines and Internet access for every school in the state. The schools use E-rate for internal connections, which include local phone service, file servers, switches, hubs, routers, building wiring, and network operating systems.

South Carolina: Teaching, Learning, Connecting (SCTLC) is a one-stop Web portal for the state's teachers at http://www.sctlc.com. Many resources including standards-aligned lesson plans that incorporate instructional technologies can be accessed twenty-four hours a day. The Office of Technology works in close partnership with the Office of Curriculum and Standards for the rollout of initiatives such as the SCTLC and the Mentor software program, which helps teachers evaluate student work in accordance with achievement test guidelines.

South Carolina's instructional technology efforts have a solid foundation. The next step is to provide appropriate professional development and to continue to decrease the digital equity gap in order to reach all students regardless of location or wealth. Educators need to use technology for student data management to streamline administrative duties in order to be able to spend time more time on teaching the state's academic standards. Teachers should be trained to use data to make informed decisions for continuous improvement and change.

OPERATIONAL PLAN

I. OBJECTIVES AND STRATEGIES

GOAL: The SDE, the school districts, and the schools will use current and emerging technology to create learner-centered instructional environments that enhance academic achievement.

OBJECTIVES	STRATEGIES
3.1 The SDE will develop a technology framework for local planning that addresses the steps necessary to create a technology-rich environment that will foster increased achievement by all students, including those with special needs.	A. Ensure that curricular design, instructional strategies, and learning environments integrate appropriate technologies (including the range of assistive technology options) to significantly impact teaching and learning B. Facilitate the use of technologies to support and enhance instructional methods (including

I. OBJECTIVES AND STRATEGIES

GOAL: The SDE, the school districts, and the schools will use current and emerging technology to create learner-centered instructional environments that enhance academic achievement.

OBJECTIVES	STRATEGIES
	the use of hardware, software, and assistive technology) that develop higher-level thinking, decision-making, and problem-solving skills
3.2 The SDE, the school districts, and the schools will provide teachers with the technology resources, including assistive technology, necessary to increase academic achievement by engaging students in active learning.	Provide teachers with access to knowledgeable personnel, productivity tools, on-line services, media-based instructional materials, and primary sources of data in settings that enrich and extend teaching goals
3.3 The SDE, the school districts, and the schools will provide students with access to current and emerging technology resources that will extend their learning beyond the traditional classroom setting and schedule.	Provide students with access to technology, on-line services, and media-based instructional materials, allowing them to select appropriate tools that will enrich and extend their learning
3.4 The school districts will provide and support a variety of multimedia equipment and software for teaching and learning.	A. Communicate via the district technology plan a vision for multimedia infrastructure designed to support instruction B. Establish a system for identifying, specifying, prioritizing, and managing equipment for multimedia development in direct support of curricular and professional development objectives

II. ACTION LIST

- School districts should conduct technology planning meetings to address curricular design, instructional needs of all teachers, instructional strategies, and appropriate learning environments.
- School districts should conduct technology planning meetings to address the inclusion of appropriate assistive technology into curricular design, instructional strategies, and learning environments (general and special education).
- The SDE and the school districts should pursue funding opportunities such as grants to provide funds to acquire and maintain hardware and software for use in classroom instruction.

II. ACTION LIST

- The SDE and the school districts should pursue funding opportunities such as grants to acquire and maintain assistive technology for use in classroom instruction and home access when appropriate.
- Student portfolios should display products resulting from the integration of technology into the core curriculum areas and documentation of student presentations that illustrate the ability to synthesize and analyze information.

III. IMPLEMENTATION ACTION STEPS

SDE

- Include in the state technology plan a technology planning framework to address the steps necessary to create a technology-rich environment that will foster increased student achievement
- Conduct technology curriculum planning meetings
- Develop curriculum guides for core areas, providing a framework for the integration of technology across the curriculum
- Document receipt of teacher technology proficiency assurance forms
- Pursue the delivery of courses for students and professional development courses for teachers via innovative methods
- Administer needs assessments to identify areas of weakness and follow up with assessments that measure the impact of technology, including assistive technology, on instruction and student achievement
- Provide feedback concerning teacher and administrator portfolios to measure the impact of technology, including assistive technology, on instruction and student achievement
- Develop a method for ensuring that South Carolina students are technologically proficient by the eighth grade
- Pursue funding opportunities such as grants to acquire and maintain hardware, instructional software, and assistive technology
- Continue to analyze results from surveys such as TAGLIT and the SDE Technology Counts on-line survey to make data-driven decisions
- Adopt the International Society for Technology in Education's National Educational Technology Standards for Students (ISTE NETS-S)

DISTRICTS

- Conduct technology curriculum planning meetings
- Include an instructional technology plan and an assistive technology plan in the technology plan to be submitted to the Office of Technology for approval
- Create methods of gauging technology readiness
- Evaluate hardware and software for desirable student outcomes and standardize selection when appropriate
- Designate technology leaders

III. IMPLEMENTATION ACTION STEPS

- Participate in ongoing, sustained professional development offerings, maintaining a log and a journal for each course, workshop, event, conference, and so forth, to place in portfolios
- Submit teacher technology proficiency assurance forms to the Office of Technology by the announced deadline
- Initiate partnerships with community entities to create greater access to technology and a community learning environment
- Pursue funding opportunities such as grants to acquire and maintain hardware, instructional software, and assistive technology
- Pursue the delivery of courses for students and professional development courses for teachers via innovative methods

SCHOOLS

- Conduct technology curriculum planning meetings
- Submit a technology plan, including a professional development plan, to the local district office
- Hire or appoint a school technology coach who is knowledgeable about assistive technologies for each school and will submit training and needs reports to the regional technology specialist
- Ensure that teachers and administrators begin keeping technology portfolios
- Evaluate teacher and administrator portfolios to measure the impact of technology integration, including assistive technology, on student achievement
- Interview students to assess information literacy and the integration of technology into the classroom
- Pursue funding opportunities such as grants to acquire and maintain hardware, instructional software, and assistive technology

IV. FUNDING CONSIDERATIONS

SDE

- Equity of instructional technology access
- Distance learning
- Scientifically based research
- Committee development of curriculum guides for integrating technology
- District and school technology audit visits
- Evaluation tools to measure the impact and effectiveness of the integration of technology on student achievement
- Eighth-grade proficiency measurement
- Professional development

DISTRICTS

- Committee development of district and school technology plans
- Evaluation tools to measure the impact and effectiveness of the integration of technology with regard to student achievement

IV. FUNDING CONSIDERATIONS

- Portfolio creation
- Evaluation experts to help show the impact of programs and initiatives
- Scientifically based research
- Distance learning
- Eighth-grade proficiency measurement
- School technology leader implementation
- Professional development

SCHOOLS

- Committee development of district and school technology plans
- School technology leader implementation
- Professional development needs-assessment tools
- Evaluation tools to measure the impact and effectiveness of the integration of technology with regard to student achievement
- Evaluation experts to help show the impact of programs and initiatives
- Scientifically based research
- Professional development

V. EVALUATION

Objectives	Possible Baseline Data	Possible Data Sources to Be Used for Ongoing Evaluation and End-of-Program Report	Outcomes (Include "action list" items achieved.)				
			JAN. 2005	JAN. 2006	JAN. 2007	JAN. 2008	JAN. 2009
3.1 The SDE will develop a technology framework for local planning that addresses the steps necessary to create a technology-rich environment that will foster increased achievement by all students, including those with special needs.	• Statewide achievement test scores • Technology readiness and access surveys • District report cards • Teacher technology proficiency proviso forms • Teacher and administrator portfolios • School technology and improvement plans • Technology assessments • Documentation of offerings provided via innovative delivery methods	• Statewide achievement test scores • District report cards • Technology readiness and access surveys • Teacher technology proficiency proviso forms • Teacher and administrator portfolios • Observations and interviews • Anecdotal records • Documented access to on-line resources • Technology assessments • Documentation of offerings provided via innovative delivery methods					
3.2 The SDE, the school districts, and the schools will provide teachers with the technology resources, including assistive technology, necessary to increase academic achievement by engaging students in active learning.							
3.3 The SDE, the school districts, and the schools will provide students with access to current and emerging technology resources that will extend their learning beyond the traditional classroom setting and schedule.							
3.4 The school districts will provide and support a variety of multimedia equipment and software for teaching and learning.							

COMMUNITY CONNECTIONS

GOAL
The SDE, the school districts, and the schools will increase student achievement through the use of technology, including assistive technology, by maximizing community involvement and community partnerships.

Computer labs, media centers, and classrooms are the primary technology resources available to the community beyond the school day. South Carolina's school districts and schools have employed various strategies to provide student, parents, and community members with after-hours access to technology.

According to the 2002 Taking a Good Look at Instructional Technology survey, 60 percent of the state's school leaders felt they were involved in mutually beneficial community partnerships. Sixty-five percent stated that they involved the community in the local technology planning process and felt that they did a good job of disseminating information on a districtwide basis.

The KPMG survey indicated that the major methods of communication between home, school, and community are e-mail, telephone, homework hotlines, voice mail, and Web sites. Sixty-two percent of community members reported that their local library media centers were used after normal school hours. Over 50 percent of the community members stated that classroom and computer labs were also available beyond the traditional school day (KPMG Consulting 2000).

Many state, community, and school partnerships are thriving in South Carolina school districts. An example is the SDE's partnership with Manning Correctional Institution to upgrade computers and provide them free of charge to districts. Several South Carolina districts are also investigating the Tech Corp program, in which technology-savvy volunteers are enlisted to train teachers, mentor students, and offer technical support to local schools.

Grants have also been a major catalyst for community and business partnerships. The Technology Opportunities Program, administrated by the SDE, trains parents and provides laptops for high-need districts in the state. Additionally, the new Enhancing Education through Technology (E2T2) grant strongly encourages and rewards districts who form school-to-school, school-to-community, and/or school-to-business partnerships.

OPERATIONAL PLAN

I. OBJECTIVES AND STRATEGIES

GOAL: The SDE, the school districts, and the schools will increase student achievement through the use of technology, including assistive technology, by maximizing community involvement and community partnerships.

OBJECTIVES	STRATEGIES
4.1 The school districts will establish community technology partnerships and collaborations by providing tools, resources, and training that support student transition, achievement, and outcomes. (The term *community* includes parents, businesses, state and local agencies, nonprofit groups, and institutions of higher education.)	A. Form district-community partnerships to provide students with real-world experiences in the use of technology, including assistive technology, that enhance academic achievement B. Form district-community partnerships to help research and evaluate school and district technology projects C. Provide recognition/reward programs and/or incentives for partnerships showing impact D. Write community-collaborative technology grants to develop and fund the use of technology to improve teaching and learning E. Form district-community partnerships to facilitate the use of technology, including assistive technology, in the public schools and to improve outcomes for students transitioning from school to work or higher education
4.2 The SDE and the school districts will fully utilize all available resources by fostering collaboration and cooperation among state-supported organizations, institutions, and initiatives.	A. Identify all of the organizations, institutions, and initiatives that are currently focused on instructional technology applications B. Compile a database of institutions willing to partner with high-need school districts by creating a message board on the South Carolina: Teaching, Learning, Connecting (SCTLC) Web portal (http://www.sctlc.com) where potential partners can communicate with one another and generate ideas C. Partner with other school districts as well as community entities to collaborate in order to provide assistive technology demonstration, loan, and assessment for students with special needs

I. OBJECTIVES AND STRATEGIES

GOAL: The SDE, the school districts, and the schools will increase student achievement through the use of technology, including assistive technology, by maximizing community involvement and community partnerships.

OBJECTIVES	STRATEGIES
4.3 The school districts will provide after-hours training and community access to labs, media centers, and classrooms.	A. Create and publish flexible schedules of after-hours technology access and training for students, parents, teachers, and community members B. Create opportunities for access to facilities for after-hours assistive technology training for students, parents, teachers, and community members
4.4 The school districts will ensure that all their buildings are linked by the Internet to the State Library's DISCUS databases and to the Web sites of universities, museums, and other institutions to facilitate virtual communication between home, school, and community.	Host an electronic list through the SCTLC Web portal for school districts and community entities interested in collaborative initiatives

II. ACTION LIST

- Districts and schools should initiate and increase community collaborations that give students, teachers, and members of the local community increased access to and training in technology, including assistive technology.
- Schools should develop a rubric to measure the success of their community partnerships.
- Districts and schools should publish school lab schedules showing after-hours technology access and training.
- Districts should maintain logs of professional development, community offerings, and internship opportunities in technology.
- Districts should maintain logs of partnerships and their role in helping research and evaluate technology projects.
- The SDE and the school districts should publicize successful collaborations with outside entities in the demonstration, loan, and assessment of assistive technology.
- The SDE should provide a list of community partnerships and the results of their efforts on the SCTLC Web portal.

II. ACTION LIST

- The SDE and the school districts should post successful technology grant applications on the Internet for others to use as models
- The SDE and the school districts should develop lists of possible partner organizations, institutions, and initiatives that may include the following:
  - South Carolina Commission on Higher Education
  - Distance education learning centers (DELCs)
  - Instructional Television (ITV)
  - School Technology Initiative
  - Math and Science Hubs
  - South Carolina: Teaching, Learning, Connecting (SCTLC) Web portal
  - South Carolina Assistive Technology Advisory Committee
  - South Carolina Assistive Technology Project
  - South Carolina Commission for the Blind
  - South Carolina Department of Disabilities and Special Needs
  - South Carolina Department of Education
  - South Carolina Educational Television
  - South Carolina State Library
  - South Carolina Vocational Rehabilitation Department
- The SDE should plan and coordinate regular meetings of representatives of collaborative groups to determine how they can best cooperate to meet the professional development needs of South Carolina educators.
- Districts should lead the formation of consortia among local education agencies, business and industry, public entities, private organizations, museums, libraries, colleges, and private schools for the full utilization of technology and assistive technology expertise.
- The SDE and the school districts should publish a list of successful consortia, partnerships, and initiatives on the SDE Web site and the SCTLC Web portal.
- District surveys should provide increased access and use of school facilities for after-hours technology training.
- Districts should provide flexible technology training schedules to the SDE.
- Districts should provide information about assistive technology training opportunities on the SDE Web site and through the SCTLC Web portal.
- The SDE should utilize the SCTLC Web portal to maintain a list of volunteers for possible technology partnerships to benefit the state's schools.
- Each school district should utilize its Web site to publish a list of volunteers for possible technology partnerships to benefit that district's schools.

III. IMPLEMENTATION ACTION STEPS

SDE

- Utilize the SCTLC Web portal to maintain a list of volunteers for possible technology partnerships to benefit the state's schools
- Offer community opportunities for professional development in technology, including assistive technology, through the Regional Technology Centers
- Initiate partnerships with community entities to create greater access to technology and a community learning environment
- Encourage collaborations and partnerships in the grant award process
- Check district professional development logs for community training and internship opportunities
- Compile a database of institutions willing to partner with high-need school districts
- Create a message board on the SDE Web site for the communication of ideas and possible partnership opportunities

DISTRICTS

- Submit a technology plan, including a professional development plan, to the Office of Technology for approval
- Encourage flexible lab, media center, and classroom hours among schools, including opportunities for community members to see and try assistive technology
- Initiate partnerships with community entities to create greater access to technology and a community learning environment
- Initiate partnerships with community entities to research technology projects
- Include members of the community in writing technology grants to develop and fund better teaching and learning through technology, including assistive technology
- Utilize the Web site to publish a list of volunteers for possible technology partnerships
- Measure access and use of school technology facilities

SCHOOLS

- Submit a technology plan, including a community partnership plan, to the local district office
- Distribute parent and community information through report cards
- Develop, implement, and publicize flexible lab, media center, and classroom hours, including opportunities for community members to see and try assistive technology.
- Initiate partnerships with community entities to create greater access to technology and a community learning environment
- Initiate partnerships with community entities to research technology projects
- Include members of the community in writing technology grants to develop and fund better teaching and learning through technology, including assistive technology

IV. FUNDING CONSIDERATIONS

SDE

- Regional Technology Center professional development for teachers
- Collaboration and partnership meetings with schools, schools districts, institutions of higher education, and business and community entities
- State surveys and data analysis
- SCTLC Web portal maintenance
- Grant-writing experts and workshops
- Collection of district and school data

DISTRICTS

- Evaluation experts to help show impact of community programs and initiatives
- High-quality sustained community training technology programs offered via innovative delivery methods
- Community and apprentice internships
- Facility operation beyond the regular school day
- District survey administration, collection and analysis, and reporting
- Grant-writing experts and workshops

SCHOOLS

- Evaluation experts to help show the impact of community programs and initiatives
- High-quality sustained community training technology programs offered via innovative delivery methods
- Community internships
- Facility operation beyond the regular school day
- School survey administration, collection and analysis, and reporting

V. EVALUATION

Objectives	Possible Baseline Data	Possible Data Sources to Be Used for Ongoing Evaluation and End-of-Program Report	Outcomes (Include "action list" items achieved.)				
			JAN. 2005	JAN. 2006	JAN. 2007	JAN. 2008	JAN. 2009
4.1 The school districts will establish community technology partnerships and collaborations by providing tools, resources, and training that support student transition, achievement, and outcomes. (The term *community* includes parents, businesses, state and local agencies, nonprofit groups, and institutions of higher education.)	• Statewide achievement test scores • Community technology access surveys • Lab, media center, and classroom schedules • SDE Technology Counts survey • School technology plans • Documentation of offerings provided via innovative delivery methods	• Statewide achievement test scores • Community technology access surveys • Lab, media center, and classroom schedules • SDE Technology Counts survey • School technology plans • Observations and interviews • District and school Web site information • Documentation of offerings provided via innovative delivery methods • Districts and school list of grants and community partnerships					
4.2 The SDE and the school districts will fully utilize all available resources by fostering collaboration and cooperation among state-supported organizations, institutions, and initiatives.							
4.3 The school districts will provide after-hours training and community access to labs, media centers, and classrooms.							
4.4 The school districts will ensure that all their buildings are linked by LAN, WAN, and/or the Internet to the State Library's DISCUS databases and to the Web sites of universities, museums, and other institutions to facilitate virtual communication between home, school, and community.							

SUPPORT CAPACITY

GOAL
The SDE, the school districts, and the schools will expand and support technology resources to assist educators and learners in meeting the state academic standards.

South Carolina recognizes the vital role of technology support systems to provide the foundation for teaching, learning, communication, and administration in the public schools. The state's investment in technology resources can be seen in the amount of hardware and connectivity available to the schools. State goals have been met in critical areas such as the number of servers per school and the number of schools connected to a wide-area network (WAN). The state has scored an overall high-tech rating for the number of computers in its schools. Connectivity has been a priority—a fact demonstrated by the Educational Testing Service's having recognized South Carolina as a national leader in ensuring 100 percent connectivity in its schools (ETS 1997). In addition to backbones, factors of paramount importance are hardware and software, adequate support, technical assistance, maintenance, daily operations, and upgrades. Funding programs such as the School Renovation, IDEA, and Technology Grants have helped high-need schools make building, network, and technical repairs.

In 1995, South Carolina allocated funds specifically for connectivity along with technology hardware and software. The decision was made to expand the existing state backbone network to accommodate the K–12 school community. K–12 public school buildings, district offices, and other state agencies benefited from this comprehensive approach. These entities were then provided Internet access from a common Internet service provider—namely, InfoAvenue. The state backbone network consists of an ATM (asynchronous transfer mode) backbone structure with strategically located high-speed switches. ATM provides high-speed packet switching and also enables diverse types of connectivity for functions such as two-way video and other specialized applications.

The KPMG study found that South Carolina schools receive technical support from the central office, technology coordinators, or media specialists within the schools (KPMG Consulting 2000). Ninety-eight percent of the state's school districts have developed strategic plans that document technology standards and goals. Ninety-four percent of districts have applied for E-rate discounts on various telecommunications and Internet technologies. According to the 2002 Taking a Good Look at Instructional Technology (TAGLIT) survey, 73 percent of South Carolina's teachers have adequate access to computers, 68 percent have access to printers, and 60 percent have access to projectors and scanners. The ratio of students to computers is 5:1. School leaders reported that 56.6 percent of technology funds went to administer networks, 31.4 percent of funds were devoted to maintaining and repairing networks, and 12 percent of the funds were used to select and purchase equipment.

SNAPSHOT OF CURRENT TECHNOLOGY USE

South Carolina is continually developing its statewide data warehouse and retrieval system. The No Child Left Behind legislation demands that data be collected and analyzed to inform future decision making. (See the recommendations in the Ad Hoc Technology Advisory Committee's report on-line at http://www.myscschools.com/news/more.cfm?articleID=265.)

Steady progress continues to be made in implementing the NCS (National Computer Systems) student-information collection system, SASIxp, in all of South Carolina's schools and district offices. The rollout process includes introductory workshops, end-user training, site surveys, data conversion, and school and district office setup (SDE 2001). Technical assistance is provided by the NCS and the SDE's Office of Technology. Additional support is given through SDE LISTSERV lists. This system enables a school district to keep a dynamic districtwide database of all available student data.

Effective collection and evaluation of information will lead to decisions backed by quantitative as well as qualitative data. Through ongoing centralized planning and implementation, technical and administrative services and support can be efficiently provided to streamline operations and improve services.

OPERATIONAL PLAN

I. OBJECTIVES AND STRATEGIES

GOAL: The SDE, the school districts, and the schools will expand and support technology resources to assist educators and learners in meeting the state academic standards.

OBJECTIVES	STRATEGIES
5.1 The school districts will ensure that all students, including those with special needs, and teachers have access to electronic information resources.	A. Maintain a technology inventory that includes the status of current network/Internet access, workstations and other devices available for access, software applications available for addressing state academic standards, peripherals, and other factors related to universal access to network resources B. Conduct needs assessments (1) to identify required network components, workstations, and other devices needed for network access, including assistive technology devices, and (2) to identify and evaluate software applications required to meet academic needs as well as peripherals and other resources required to create universal access to network resources

I. OBJECTIVES AND STRATEGIES

GOAL: The SDE, the school districts, and the schools will expand and support technology resources to assist educators and learners in meeting the state academic standards.

OBJECTIVES	STRATEGIES
	C. Create a district strategic plan for acquiring and implementing the technology, including assistive technology, that is required to provide universal access to network resources D. Develop the district strategic plan with input from all segments of the school community—students, teachers, therapists, administrators, parents, community members, community agencies, and local businesses—and include in the plan a mechanism for review and revision as needed E. Seek school and district funding from available local, state, and federal sources, including E-rate, grants, and bonds
5.2 The school districts will ensure that their schools have an integrated, secure network infrastructure with dynamic bandwidth capacity to support fully converged networks that allow for communication, data collection and distribution, and distance learning.	A. Communicate in the district technology plan a vision for multimedia infrastructure designed to support instruction B. Establish a system for identifying, specifying, prioritizing, and managing equipment for multimedia development in direct support of curricular and professional development objectives C. Ensure the installation, maintenance, and support of multimedia-capable teacher stations in classrooms including data projectors to support large-group instruction D. Research and implement an integrated network infrastructure capable of utilizing all distribution modules E. Use bundled distribution packages as a primary means of distribution to manage fully converged networks F. Install and maintain networks, virus protection, and Internet filtering according to industry standards by implementing systemic, state-of-the-art network security tools at all levels of access to LANs, WANs, and other networks

I. OBJECTIVES AND STRATEGIES

GOAL: The SDE, the school districts, and the schools will expand and support technology resources to assist educators and learners in meeting the state academic standards.

OBJECTIVES	STRATEGIES
	G. Assess LAN/WAN technology currently implemented to determine SNMP (simple network management protocol) compliance H. Implement a district network management tool that performs automated software installation
5.3 The school districts will have qualified technical staff, including one networking engineer per WAN or per ten LANs, one networking technician per LAN, and one end-user support technician per every five hundred users.	A. Develop statewide minimum staffing requirements and job descriptions, with a state-guided salary schedule, for the positions of networking engineer, networking technician, educational technology director, and support technician B. Provide state-level network support for district engineers C. Appoint a district network manager who will lead a committee in identifying and evaluating network management tools that will meet the needs of the district
5.4 The school districts will implement a disaster recovery plan for all points of failure in LANs and WANs, including redundant data storage, robust automated backup, and immediate hardware recovery.	A. Ensure that disaster recovery plans are included in the district technology plan B. Ensure that schools will have electrical distribution systems that provide isolated circuits in all classrooms and redundant power sources for mission-critical equipment C. Implement a district management application that monitors bandwidth on the LAN and WAN and provides network failure alarms that can be accessed remotely
5.5 The school districts will implement an obsolescence and upgrade plan to replace and recycle equipment and software.	Ensure that the obsolescence and upgrade plans are included in the district technology plan
5.6 The SDE and the school districts will increase their ability to design Web pages and Web-based instruction that are accessible to students and staff	Provide training in basic Web page accessibility principles to staff, teachers—and, when appropriate, students—who design Web pages as part of the curriculum

I. OBJECTIVES AND STRATEGIES

GOAL: The SDE, the school districts, and the schools will expand and support technology resources to assist educators and learners in meeting the state academic standards.

OBJECTIVES	STRATEGIES
with special needs in accordance with Section 508 of the Rehabilitation Act of 1973 as amended by the Workforce Improvement Act of 1998.	

II. ACTION LIST

- School districts should have access to a database with a complete technology inventory, including assistive technology, showing the type of equipment/device, its location, its use, peripherals to which it has access, applications to which it has access, and other relevant information.
- Districts should maintain a needs-assessment document showing technology-based resources and applications required to address the mission of the district, including networking, hardware/devices, and software applications as well as assistive technology.
- Districts should include in their local budgets line items for technology, including assistive technology, with sufficient funding to implement the designated strategies.
- Districts should publish a procedure for the perpetual review of equipment used in multimedia development processes. Reviews should quantify equipment and processes by their impact on teaching and learning.
- Districts should maintain a strategic plan for acquiring and implementing technology, including assistive technology, for universal access to network resources. This document should show the strategies for addressing the identified needs, the persons responsible for addressing and completing each strategy, and the resources/funds necessary to fully implement the strategies.
- District technology plans should include a strategic vision for building a multimedia infrastructure to support instruction.
- District technology plans should include a disaster recovery plan.
- District technology plans should include an obsolescence and upgrade plan, including strategies to refurbish, resell, recycle, or donate obsolete devices.
- District policies outlined in district technology plans should include security accountability, virus protection, and Internet filtering guidelines.
- District technology plans should provide for outlets and amperage and for meeting industry standards and building codes.

II. ACTION LIST

- Districts should use professional discussion groups to share the results of their research about the implementation of integrated network infrastructures and bundled distribution practices.
- Districts should have records to show that they have assessed their current LAN/WAN technology.
- District network managers should provide the district office with quarterly reports of statistics on bandwidth utilization.
- Districts should use the SDE Technology Counts on-line survey to report on their use of network management tools.
- Districts should ensure that new school construction provides for isolated power in each classroom, computer lab, telecommunications closet, and work area.
- Districts should provide UPS (uninterruptible power supply) systems for all critical equipment.
- Districts should use the minimum staffing and salary requirements for the positions specified in objective 4.3.
- Districts should have a network manager in place.
- The SDE should establish network security support within the Office of Technology.
- District staff, teachers, and students should be aware of basic Web accessibility guidelines when designing Web pages.
- Districts should designate a Web accessibility resource person to coordinate training and information sharing among district personnel.

III. IMPLEMENTATION ACTION STEPS

SDE

- Monitor district technology inventories and upgrade on-line inventory process to include on-site critical replacement parts, redundant data storage devices, and any vendor support contacts each district may hold
- Approve district technology plans
- Provide information about state and federal funding opportunities
- Provide guidance for district multimedia and network infrastructure
- Provide guidance for installing and maintaining secure networks
- Employ staff for adequate network maintenance and support
- Provide guidance on network management tools
- Review and approve district disaster recovery plans that are included in the local technology plans
- Provide the school districts with the necessary guidance and training in creating Web pages to ensure that electronic information is accessible to students and teachers with special needs

DISTRICTS

- Maintain technology inventories, including assistive technology
- Conduct needs assessments to identify required technology, including assistive technology
- Create a strategic technology plan that includes strategies for acquiring, managing, and implementing required technology, including assistive technology
- Implement a district disaster recovery plan and an obsolescence and upgrade plan
- Seek funding from local, state, and federal sources
- Encourage and publicize flexible access schedules
- Create a vision for a multimedia infrastructure
- Encourage schools to provide multimedia-capable workstations
- Research and implement an integrated network infrastructure
- Use bundled distribution packages to manage fully converged networks
- Install and maintain secure networks
- Employ staff for adequate network maintenance and support
- Implement a district management application that monitors bandwidth on the LAN and WAN
- Ensure that schools have adequate electrical distribution systems
- Publish procedures and schedules for review of equipment and software used in multimedia development including rubrics for judging impact on teaching and learning
- Provide schools with the necessary guidance and training in creating Web pages to ensure that electronic information is accessible to students and teachers with special needs

SCHOOLS

- Create a strategic technology plan that includes strategies for acquiring and implementing required technology, including assistive technology
- Seek funding from local, state, and federal sources
- Create flexible schedules for access to technology
- Provide multimedia-capable workstations
- Install and maintain secure networks
- Employ staff for adequate network maintenance and support
- Provide adequate electrical distribution systems

IV. FUNDING CONSIDERATIONS

SDE

- Technical assistance for districts in developing updated technology plans
- Total cost of ownership (TCO) calculation to determine the allocation per student per year necessary to keep the pace with the need for access to network resources [Consortium for School Networking's TCO tool available on-line at http://www.classroomtco.org]
- Upgraded technology inventory reporting system

DISTRICTS

- Total cost of ownership (TCO) calculation to determine the allocation per student per year necessary to keep the pace with the need for access to network resources [Consortium for School Networking's TCO tool available on-line at http://www.classroomtco.org]
- Technology committee meetings to develop products such as the multimedia infrastructure plan and the disaster recovery plan
- Materials to publish an updated technology plan
- Multimedia teacher workstations including data projectors
- Hardware and software to secure all LANs and WANs to comply with district, state, and industry standards
- Technology director, networking engineer, and networking technician
- Equipment inventory assessment program
- Isolated circuit plan
- Support planning
- Technology needs assessments and surveys

SCHOOLS

- Total cost of ownership (TCO) calculation to determine the allocation per student per year necessary to keep the pace with the need for access to network resources [Consortium for School Networking's TCO tool available on-line at http://www.classroomtco.org]
- Technology committee meetings to develop products such as the multimedia infrastructure plan and the disaster recovery plan
- Materials to publish an updated technology plan
- Multimedia teacher workstations including data projectors
- Hardware and software to secure all LANs and WANs to comply with district, state, and industry standards
- Support planning
- Technology needs assessments and surveys

V. EVALUATION

Objectives	Possible Baseline Data	Possible Data Sources to Be Used for Ongoing Evaluation and End-of-Program Report	Outcomes (Include "action list" items achieved.)				
			JAN. 2005	JAN. 2006	JAN. 2007	JAN. 2008	JAN. 2009
5.1 The school districts will ensure that all students, including those with special needs, and teachers have access to electronic information resources.	• Statewide achievement test scores • District report cards • Professional development tracking and surveys • District, school, and community surveys • School technology and improvement plans • Documented access to technology resources • Technology needs assessments • SDE Technology Counts on-line survey • Budget data • State personnel reports	• Statewide achievement test scores • District report cards • Professional development tracking and surveys • Observations and interviews • Documented access to technology resources • District, school, and community surveys • School technology and improvement plans • Documented access to technology resources • Technology needs assessments • SDE Technology Counts on-line survey • Budget data • State personnel reports					
5.2 The school districts will ensure that their schools have an integrated, secure network infrastructure with dynamic bandwidth capacity to support fully converged networks that allow for communication, data collection and distribution, and distance learning .							
5.3 The school districts will have qualified technical staff, including one networking engineer per WAN or per ten LANs, one networking technician per LAN, and one end-user support technician per every five hundred users.							
5.4 The school districts will implement a disaster recovery plan for all points of failure in LANs and WANs, including redundant data storage, robust automated backup, and immediate hardware recovery.							
5.5 The school districts will implement an obsolescence and upgrade plan to replace and recycle equipment and software.							

V. EVALUATION

Objectives	Possible Baseline Data	Possible Data Sources to Be Used for Ongoing Evaluation and End-of-Program Report	Outcomes (Include "action list" items achieved.)				
			JAN. 2005	JAN. 2006	JAN. 2007	JAN. 2008	JAN. 2009
5.6 The SDE and the school districts will increase their ability to design Web pages and Web-based instruction that are accessible to students and staff with special needs in accordance with Section 508 of the Rehabilitation Act of 1973 as amended by the Workforce Improvement Act of 1998.							

CUMULATIVE TARGETS AND BENCHMARKS

Note: These targets and benchmarks will be monitored and adjusted annually in the report to the people of South Carolina.

2004–05

Learners and Their Environment

- Thirty percent of the state's students will have created technology portfolios documenting their acquisition of grade-level-appropriate competencies as well as their use of a variety of technology tools to complete authentic tasks.
- Thirty percent of the state's students will possess effective communication skills and technology literacy as evidenced by teacher and student technology portfolios and by presentations at technology conferences and fairs.

Professional Capacity

- Sixty percent of South Carolina's teachers will possess technology proficiency as evidenced by teacher technology proficiency assurance forms. Sixty percent of the state's teachers will also demonstrate proficiency by maintaining teacher and student technology portfolios, keeping a journal of course experiences, interacting with the school technology coach, and integrating technology into the curriculum to teach the state curriculum standards.
- Twenty percent of the state's schools will have a technology coach who trains teachers and visits classrooms to help teachers integrate technology into the curriculum.
- Ten percent of the schools will have an assistive technology coach who trains teachers and visits classrooms to help teachers integrate assistive technology into the curriculum.
- Ten percent of the schools will have an assistive technology assessment team that coordinates assistive technology assessments for students with special needs.

Instructional Capacity

- Thirty percent of the state's teachers will integrate technology and information literacy skills into their teaching of the South Carolina academic standards as evidenced by the technology proficiency assurance forms and teacher portfolios.
- Thirty percent of students will meet the information literacy and technology skills for their grade level as found on the SDE's performance matrix for information literacy and technology education.

Community Connections

- Forty percent of districts will report a 10 percent yearly increase in community collaborations that result in better teacher and student access to technology, better teacher and student use of technology, more teacher and student real-world experiences in technology-related fields, more research and evaluation of technology projects, and more community collaboration technology grants submitted and dollars funded.
- Forty percent of the state's school districts will have a community partnership that provides research and evaluation for a district's major (schoolwide or larger) technology projects.
- Sixty percent of the school districts will maintain a K–12 educational portal that lists willing community participants and partners who can provide services to supplement the curriculum.

- Fifty percent of the school districts will provide and document professional development training in how to access and use available community resources. Results will be reported on the SDE on-line professional development tracking system.
- Twenty percent of the state's elementary, middle, and high schools will provide access to technology-related facilities after hours for parents, teachers, and community members.

Support Capacity

- Sixty percent of the school districts will include in their technology plans an assessment of their current technology needs, their current technology inventory, and their current technology support strategies.

2005–06

Learners and Their Environment

- Forty percent of the state's students will have created technology portfolios documenting their acquisition of grade-level-appropriate competencies as well as their use of a variety of technology tools to complete authentic tasks.
- Forty percent of the state's students will possess effective communication skills and technology literacy as evidenced by teacher and student technology portfolios and by presentations at technology conferences and fairs.

Professional Capacity

- Seventy percent of the state's teachers will possess technology proficiency as evidenced by teacher technology proficiency assurance forms. Seventy percent of the state's teachers will also demonstrate proficiency by maintaining teacher and student technology portfolios, keeping a journal of course experiences, interacting with the school technology coach, and integrating technology into the curriculum to teach the state curriculum standards.
- Thirty percent of the schools will have a technology coach who trains teachers and visits classrooms to help teachers integrate technology into the curriculum.
- Twenty percent of the schools will have an assistive technology coach who trains teachers and visits classrooms to help teachers integrate assistive technology into the curriculum.
- Twenty percent of the schools will have an assistive technology assessment team that coordinates assistive technology assessments for students with special needs.

Instructional Capacity

- Forty percent of teachers will integrate technology and information literacy skills into their teaching of the South Carolina academic standards as evidenced by the technology proficiency assurance forms and teacher portfolios.
- Forty percent of students will meet the information literacy and technology skills for their grade level as found on the SDE's performance matrix for information literacy and technology education.

Community Connections

- Fifty percent of the state's school districts will report a 10 percent yearly increase in community collaborations that result in better teacher and student access to technology, better teacher and student use of technology, more teacher and student real-world

experiences in technology-related fields, more research and evaluation of technology projects, and more community collaboration technology grants submitted and dollars funded.

- Fifty percent of the school districts will have a community partnership that provides research and evaluation for a district's major (schoolwide or larger) technology projects.
- Seventy percent of the districts will maintain a K–12 educational portal that lists willing community participants and partners who can provide services to supplement the curriculum.
- Sixty percent of the districts will provide and document professional development training in how to access and use available community resources. Results will be reported through the SDE on-line professional development tracking system.
- Thirty percent of the state's elementary, middle, and high schools will provide access to technology-related facilities after hours for parents, teachers, and community members.

Support Capacity

- Seventy percent of the school districts will include in their technology plans an assessment of their current technology needs, their current technology inventory, and their current technology support strategies.

2006–07

Learners and Their Environment

- Fifty percent of the state's students will have created technology portfolios documenting their acquisition of grade-level-appropriate competencies as well as their use of a variety of technology tools to complete authentic tasks.
- Fifty percent of the state's students will possess effective communication skills and technology literacy as evidenced by teacher and student technology portfolios and by presentations at technology conferences and fairs.

Professional Capacity

- Eighty percent of the state's teachers will possess technology proficiency as evidenced by teacher technology proficiency assurance forms. Eighty percent of the state's teachers will also demonstrate proficiency by maintaining teacher and student technology portfolios, keeping a journal of course experiences, interacting with the school technology coach, and integrating technology into the curriculum to teach the state curriculum standards.
- Forty percent of the schools will have a technology coach who trains teachers and visits classrooms to help teachers integrate technology into the curriculum.
- Thirty percent of the schools will have an assistive technology coach who trains teachers and visits classrooms to help teachers integrate assistive technology into the curriculum.
- Thirty percent of the schools will have an assistive technology assessment team that coordinates assistive technology assessments for students with special needs.

Instructional Capacity

- Fifty percent of teachers will integrate technology and information literacy skills into their teaching of the South Carolina academic standards as evidenced by the technology proficiency assurance forms and teacher portfolios.

- Fifty percent of students will meet the information literacy and technology skills for their grade level as found on the SDE's performance matrix for information literacy and technology education.

Community Connections

- Sixty percent of the state's school districts will report a 10 percent yearly increase in community collaborations that result in better teacher and student access to technology, better teacher and student use of technology, more teacher and student real-world experiences in technology-related fields, more research and evaluation of technology projects, and more community collaboration technology grants submitted and dollars funded.
- Sixty percent of the school districts will have a community partnership that provides research and evaluation for a district's major (schoolwide or larger) technology projects.
- Eighty percent of the districts will maintain a K–12 educational portal that lists willing community participants and partners who can provide services to supplement the curriculum.
- Seventy percent of the districts will provide and document professional development training in how to access and use available community resources. Results will be reported through the SDE on-line professional development tracking system.
- Forty percent of the state's elementary, middle, and high schools will provide access to technology-related facilities after hours for parents, teachers, and community members.

Support Capacity

- Eighty percent of the school districts will include in their technology plans an assessment of their current technology needs, their current technology inventory, and their current technology support strategies.

2007–08

Learners and Their Environment

- Seventy-five percent of the state's students will have created technology portfolios documenting their acquisition of grade-level-appropriate competencies as well as their use of a variety of technology tools to complete authentic tasks.
- Seventy-five percent of the state's students will possess effective communication skills and technology literacy as evidenced by teacher and student technology portfolios and by presentations at technology conferences and fairs.

Professional Capacity

- Ninety-five percent of the state's teachers will possess technology proficiency as evidenced by teacher technology proficiency assurance forms. Ninety-five percent of the state's teachers will also demonstrate proficiency by maintaining teacher and student technology portfolios, keeping a journal of course experiences, interacting with the school technology coach, and integrating technology into the curriculum to teach the state curriculum standards.
- Fifty percent of the schools will have a technology coach who trains teachers and visits classrooms to help teachers integrate technology into the curriculum.
- Forty percent of the schools will have an assistive technology coach who trains teachers and visits classrooms to help teachers integrate assistive technology into the curriculum.

- Forty percent of the schools will have an assistive technology assessment team that coordinates assistive technology assessments for students with special needs.

Instructional Capacity

- Sixty percent of teachers will integrate technology and information literacy skills into their teaching of the South Carolina academic standards as evidenced by the technology proficiency assurance forms and teacher portfolios.
- Sixty percent of students will meet the information literacy and technology skills for their grade level as found on the SDE's performance matrix for information literacy and technology education.

Community Connections

- Seventy-five percent of the state's school districts will report a 10 percent yearly increase in community collaborations that result in better teacher and student access to technology, better teacher and student use of technology, more teacher and student real-world experiences in technology-related fields, more research and evaluation of technology projects, and more community collaboration technology grants submitted and dollars funded.
- Seventy-five percent of the school districts will have a community partnership that provides research and evaluation for a district's major (schoolwide or larger) technology projects.
- Ninety percent of the districts will maintain a K–12 educational portal that lists willing community participants and partners who can provide services to supplement the curriculum.
- Eighty percent of the districts will provide and document professional development training in how to access and use available community resources. Results will be reported through the SDE on-line professional development tracking system.
- Fifty percent of the state's elementary, middle, and high schools will provide access to technology-related facilities after hours for parents, teachers, and community members.

Support Capacity

- Ninety percent of the school districts will include in their technology plans an assessment of their current technology needs, their current technology inventory, and their current technology support strategies.

GUIDELINES FOR DISTRICT TECHNOLOGY PLANS

Local technology plans must be submitted to the SDE on an annual basis. School districts may check the current status of their technology plans by going on-line to the SDE's Web site at http://www.myscschools.com/offices/technology/techplan/techplan.htm.

The document *South Carolina State Technology Plan 2003–08: Realizing the Dream* should serve as your major point of reference in aligning your district plan to the state plan. Another excellent resource to guide you in the technology planning process is *Planning into Practice* (Sun et al. 2000).

School district technology plans must address three broad areas that reside in state and federal law:

A. Proviso 1.40, passed by the South Carolina General Assembly in 2001(it is Proviso 1.29 in the 2003–04 General Appropriations Bill and is titled "SDE: Teacher Technology Proficiency") requires that school districts verify teachers as competent in the use of technology in the classroom prior to expending state technology funds:

> To ensure the effective and efficient use of the funding provided by the General Assembly in Part IA, Section 1 XI.A.1 for school technology in the classroom and internet [*sic*] access, the State Department of Education shall approve teacher technology competency standards and local school districts must require teachers to demonstrate proficiency in these standards as part of each teacher's Professional Development plan. Evidence that districts are meeting the requirement is a prerequisite to expenditure of a district's technology funds.

The state's school districts have virtually unlimited latitude in the manner in which they verify their teachers as technologically proficient. Districts may use in-service training programs, formal classroom instruction for graduate credit, classroom observation, portfolio development, or any other means to comply with this legislation. The SDE has interpreted the proviso to mean that the school district must have individually verified all its teachers as being competent in the use of technology by the time that each teacher's certificate expires. Since the professional certificate is valid for five years, roughly 20 percent of the teachers in each district will need to be verified as technology proficient each year. The method of verification should be included in the district technology plan, and the list of teachers who have been verified each year should be provided to the SDE's Office of Technology. Verification results may also be reported by way of the professional certified staff (PCS) system.

B. The E-rate discount program requires that school district technology plans address the five areas enumerated below and that the district technology plan be approved by the SDE in order for E-rate discounts for telecommunications services and internal wiring to be claimed. The E-rate discount program recommends either a three- or five-year plan with annual updates. The Telecommunications Act of 1996, which created the E-rate program, does not specify a particular format or technical implementation. Districts are free to develop plans to address these requirements in any manner they wish, using any technology they deem appropriate. In addition, it is not necessary that school districts completely rewrite their technology plans every three or five years. An annual update that outlines what was accomplished during the year in terms of these five requirements and what will be

accomplished in the new year, along with a revised budget for the upcoming fiscal year, will suffice.

The Telecommunications Act of 1996 stipulates the following:

1. The district technology plan must establish clear goals and a realistic strategy for using telecommunications and information technology to improve education and library services.
2. The district technology plan must have a professional development strategy to ensure that staff members knows how to use the new technologies to improve education.
3. The district technology plan must include an assessment of the telecommunications services, hardware, software, and other services that will be needed to improve education.
4. The district technology plan must provide for a sufficient budget to acquire and maintain the hardware, software, professional development, and other services that will be needed to implement the strategy for improved education. Specifically, how does the district intend to fund those items of equipment, software, services, and training ***not*** covered by the E-rate discount? It is recommended that a plan for hardware refreshment be built into all district technology plans.
5. The district technology plan must include an evaluation process that enables the district and its schools to monitor progress toward the specified goals and make midcourse corrections in response to new developments and opportunities as they arise.

C. The No Child Left Behind Act (NCLBA), the reauthorization of the Elementary and Secondary Education Act that was enacted in January 2001, sets forth new requirements for state and school district technology plans. In addition to mandating that each district have a current and approved technology plan that meets all state and federal requirements, the NCLBA (Title II, Part D: Enhancing Education through Technology, Section 2414, Local Applications) requires that in order for a school district to apply for competitive and formula grants under the Act, that district's technology plan must contain the following specific narratives:

1. A description of how your district will use federal funds including Enhancing Education through Technology (E2T2) competitive and/or formula funds to improve the academic achievement, including the technology literacy, of all students attending the schools served and to improve the capacity of all teachers teaching in these schools to integrate technology effectively into curricula and instruction.
2. A description of your school district's specific goals for using advanced technology to improve student academic achievement aligned with challenging state academic content and student academic achievement standards. This explanation should include a description of the curriculum and teaching strategies that integrate technology effectively into curricula and instruction, based on an intensive review of relevant research.
3. A description of the steps your district will take to ensure that all students and teachers in schools served by the local education agency have increased access to educational technology.

4. A description of how your district will use the E2T2 competitive and/or formula funds (including the combining of these funds with monies from other federal, state, and/or local sources) to help ensure that students in high-poverty and high-needs schools have access to technology and to ensure that teachers are prepared to integrate technology effectively into curricula and instruction.

5. A description of how your district will provide ongoing, sustained professional development for teachers, principals, administrators, and school library media personnel serving the local education agency, to further the effective use of technology in the classroom or library media center, including, if applicable, a list of the entities that will be partners with the local education agency involved in providing the ongoing, sustained professional development.

6. A description of the type and costs of technologies to be acquired for your technology program through the use of E2T2 competitive and/or formula funds, including supporting sources such as services, software, and digital curricula. Your explanation should include specific provisions for interoperability among the components of such technologies.

7. A description of how your district will integrate technology (including software and other electronically delivered learning materials) into curricula and instruction to support standards-based learning and provide a timeline for such integration.

8. A description of how your district will encourage the development and utilization of innovative strategies for the delivery of specialized or rigorous academic courses and curricula through the use of technology, including distance learning technologies, particularly for those areas that would not otherwise have access to such courses and curricula due to geographical isolation or insufficient resources.

9. A description of how your district will ensure the effective use of technology to promote parental involvement and increase communication with parents, including a description of how parents will be informed of the technology being applied in their child's education. Explain how these strategies will allow parents to reinforce at home the instruction their child receives at school.

10. A description of how programs in your district will be developed, where applicable, in collaboration with adult literacy service providers, to maximize the use of technology.

11. A description of the process and accountability measures that your district will use to evaluate the extent to which the activities in your technology plan, including those activities funded under the E2T2 program, are effective in integrating technology into curricula and instruction, increasing the ability of teachers to teach, and enabling students to meet challenging state academic content and student academic achievement standards.

12. A description of the supporting resources (such as services, software, other electronically delivered learning materials, and print resources) that will be acquired to ensure successful and effective uses of technology.

DISTRICT TECHNOLOGY PLAN OUTLINE

I. Cover Page

This page must contain the following:

- district name,
- name and signature of district superintendent,
- name and signature of technology coordinator,
- mailing address, phone and fax numbers, and e-mail address of district technology coordinator,
- district home page URL, and
- effective dates covered by the plan or the year covered by the annual update.

II. District Profile

This section must include the following:

- number of schools in the district,
- number of students enrolled in district schools,
- percentage of students eligible for free and reduced lunches,
- number of English as a Second Language (ESL) students,
- number of dropouts,
- graduation rate, and
- district E-rate discount.

III. Executive Summary

This section must be a concise description of the entire technology plan.

IV. District Needs Assessment

This section must describe the district's current technology needs, current technology inventory, and current technology support strategies. All goals should specifically address the district's needs.

V. District Vision and Mission Statements

These overarching statements should address the district's needs, including assistive technology needs, and should be aligned with the 2003–08 state technology plan as well as the No Child Left Behind legislation.

VI. Plans for the Five Individual Technology Dimensions

The narrative of the district's plans for the individual Technology Dimensions ***must*** be organized on the basis of the following five sections, which ***must be labeled and ordered as shown here***:

Technology Dimension 1: Learners and Their Environment

Technology Dimension 2: Professional Capacity

Technology Dimension 3: Instructional Capacity

Technology Dimension 4: Community Connections

Technology Dimension 5: Support Capacity

In each of the above five sections, the narrative for the technology dimension ***must*** be organized on the basis of the following seven sections, which ***must be titled and lettered as shown here*:**

A. Snapshot of Current Technology Use in District

B. Overall Goal for This Dimension

C. Objectives, Strategies, and Action List to Reach Goal

D. Implementation Action Steps for Districts and Schools

E. Funding Considerations for District and Schools

F. Evaluation of Objectives (including baseline data sources and ongoing data sources)

G. Current Best Practices in District (if applicable)

VII. Cumulative Benchmarks

This section must contain a list of benchmarks expected to be met during the year. Include a timeline and method for assessing benchmarks periodically.

VIII. Acknowledgements

This section must contain a list of stakeholders that shows a wide diversity of school and community members who contributed to the planning process.

IX. Bibliography

This section should provide full publication information and specific page references for all secondary sources utilized.

X. Required Appendixes

Appendix 1: No Child Left Behind Action Plan
Provide narratives for each of the twelve items in part C of the "Guidelines for District Technology Plans" section of the *South Carolina State Technology Plan 2003–08.*

Appendix 2: Teacher Technology Proficiency Proviso Professional Development Plan
Guidelines for district professional development plans can be found at http://www.myscschools.com/offices/technology/announce/proviso140.htm.

Appendix 3: Acceptable Use Policy

Appendix 4: How E-Rate Areas Have Been Addressed
See part B of the "Guidelines for District Technology Plans" section of the *South Carolina State Technology Plan 2003–08* for the five E- rate areas.

Appendix 5: Report on Last Year's Progress toward Goals, Objectives, Strategies, Benchmarks, Actions, and Outcomes

► Include other appendixes that are vital to the explanation and support of the district technology plan.

DISTRICT TECHNOLOGY PLAN CHECKLIST

Please complete the shaded box on page 3 of this checklist form and return *all three sheets* as the *cover* pages of the completed technology plan.

❑ **Cover Page**

This page must contain the following:

- district name,
- name and signature of district superintendent,
- name and signature of technology coordinator,
- mailing address, phone and fax numbers, and e-mail address of district technology coordinator,
- district home page URL, and
- effective dates covered by the plan or the year covered by the annual update.

❑ **District Profile**

This section must include the following:

- number of schools in the district,
- number of students enrolled in district schools,
- percentage of students eligible for free and reduced lunches,
- number of English as a Second Language (ESL) students,
- number of dropouts,
- graduation rate, and
- district E-rate discount.

❑ **Executive Summary**

This section must be a concise description of the entire technology plan.

❑ **District Needs Assessment**

This section must describe the district's current technology needs, current technology inventory, and current technology support strategies. All goals should specifically address your district's needs.

❑ **District Vision and Mission Statements**

These overarching statements should address the district's needs, including assistive technology needs, and should be aligned with the 2003–08 state technology plan as well as the No Child Left Behind legislation.

❑ **Plans for the Five Individual Technology Dimensions**

The narrative of the district's plans for the individual Technology Dimensions ***must*** be organized on the basis of the following five sections, which ***must be labeled and ordered as shown here***:

- ❑ **Technology Dimension 1: Learners and Their Environment**
- ❑ **Technology Dimension 2: Professional Capacity**
- ❑ **Technology Dimension 3: Instructional Capacity**
- ❑ **Technology Dimension 4: Community Connections**
- ❑ **Technology Dimension 5: Support Capacity**

In each of the above sections, the narrative for the technology dimension ***must*** be organized on the basis of the following seven sections, which ***must be titled and lettered as shown here*:**

A. Snapshot of Current Technology Use in District
B. Overall Goal for This Dimension
C. Objectives, Strategies, and Action List to Reach Goal
D. Implementation Action Steps for Districts and Schools
E. Funding Considerations for District and Schools
F. Evaluation of Objectives (including baseline data sources and ongoing data sources)
G. Current Best Practices in District (if applicable)

- ❑ **Cumulative Benchmarks**

  This section must contain a list of benchmarks expected to be met during the year. Include a timeline and method for assessing benchmarks periodically.

- ❑ **Acknowledgements**

  This section must contain a list stakeholders that shows a wide diversity of school and community members who contributed to the planning process.

- ❑ **Bibliography**

  This section should provide full publication information and specific page references for all secondary sources utilized.

- ❑ **Required Appendixes**

  - ❑ **Appendix 1: No Child Left Behind Action Plan**
    Provide narratives for each of the twelve items in part C of the "Guidelines for District Technology Plans" section of the *South Carolina State Technology Plan 2003–08.*

  - ❑ **Appendix 2: Teacher Technology Proficiency Proviso Professional Development Plan**
    Guidelines for district professional development plans can be found at http://www.myscschools.com/offices/technology/announce/proviso140.htm.

  - ❑ **Appendix 3: Acceptable Use Policy**

  - ❑ **Appendix 4: How E-Rate Areas Have Been Addressed**
    See part B of the "Guidelines for District Technology Plans" section of the *South Carolina State Technology Plan 2003–08* for the five E- rate areas.

  - ❑ **Appendix 5: Report on Last Year's Progress toward Goals, Objectives, Strategies, Benchmarks, Actions, and Outcomes**

- ❑ **Other Vital Appendixes**

I verify that all above components for the [name of district] _____
technology plan have been addressed. Please print.

Technology coordinator's name: _____
Please print.

Technology coordinator's signature: _____ _____
Date signed

Superintendent's name: _____
Please print.

Superintendent's signature: _____ _____
Date signed

BIBLIOGRAPHY

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Total printing cost.....000
Total number of documents printed.....000
Cost per copy .....$