



A Report to the  
**79<sup>th</sup>**  
Legislature

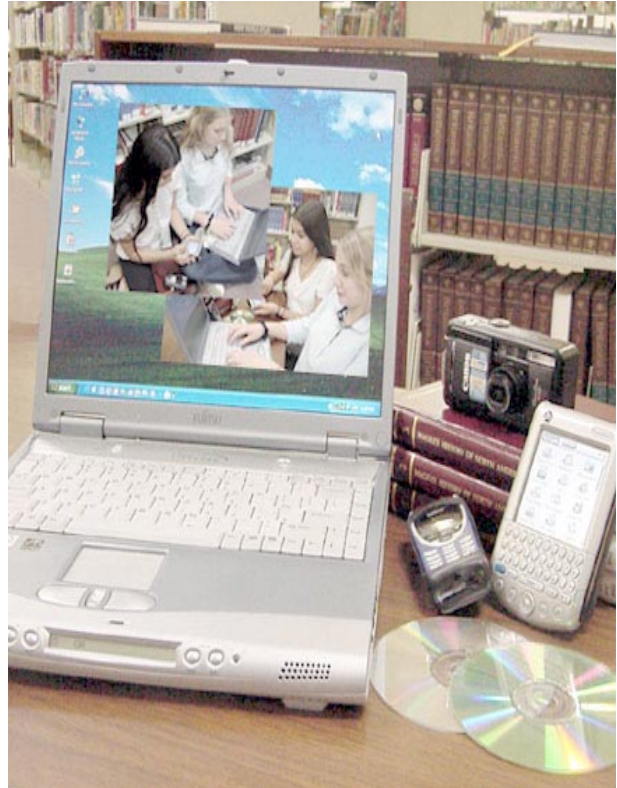


*from the Texas Education Agency*

**2004**

**Progress Report on the Long-Range  
Plan for Technology 1996 - 2010**

**PROGRESS  
REPORT  
ON THE  
LONG-RANGE  
PLAN FOR  
TECHNOLOGY  
1996–2010**



***A Report to the  
79<sup>th</sup> Texas Legislature  
from the  
Texas Education Agency  
December 1, 2004***

***Submitted to the Governor,  
Lieutenant Governor,  
Speaker of the House of  
Representatives  
and the members of the  
Seventy-Ninth Texas Legislature***





# TEXAS EDUCATION AGENCY

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Shirley J. Neeley, Ed.D.  
Commissioner

December 2004

The Honorable Rick Perry, Governor of Texas  
The Honorable David Dewhurst, Lieutenant Governor of Texas  
The Honorable Tom Craddick, Speaker of the House of Representatives  
Members of the 79<sup>th</sup> Texas Legislature

I am pleased to share with you the fourth progress report for the *Long-Range Plan for Technology, 1996–2010*.

The Texas Education Code, Section 32.001 required the State Board of Education to develop a long-range plan for technology. The resulting *Long-Range Plan for Technology, 1988–2000* was adopted by the Board in November 1988. The measure also required that biennial reports be completed and provided to the Governor and Legislature on the progress toward implementation of this plan.

In the sixteen years since that first plan was adopted, changes in existing technologies and the emergence of new technologies created new and expanded opportunities for schools. Changes in legislation created more control at the district level, giving districts greater opportunities to make decisions regarding technology than ever before. An update to the first plan clearly was necessary. In 1996, the State Board of Education adopted the *Long-Range Plan for Technology, 1996–2010* and presented it to the Legislature. In 2002, the plan was updated to align with the federal No Child Left Behind Act. The update to the *Long-Range Plan for Technology, 1996–2010* was approved by the Board and presented to the Legislature. Three progress reports for the revised long-range plan have been developed; each documenting accomplishments and activities from September 1996 through August 1998, September 1998 through August 2000, and September 2000 through August 2002, respectively.

This fourth progress report documents accomplishments and activities from September 2002 through August 2004. Highlighted in this report are the collaborations and progress made by Texas public schools, regional education service centers and the Texas Education Agency toward implementation of this updated plan. This report describes progress on previous initiatives as well as on new projects being undertaken each year.

I hope you will find the efforts described in this report as illuminating as I do.

Sincerely,

Shirley J. Neeley, Ed.D.

*“Good, Better, Best—never let it rest—until your good is better—and your better is BEST!”*

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## EXECUTIVE SUMMARY

The *Long-Range Plan for Technology, 1996-2010* outlines a comprehensive vision for education in Texas for the 21<sup>st</sup> Century.

### ***Imagine a home...***

...where every parent – regardless of native language or socioeconomic background – can communicate readily with teachers about children’s progress and access resources to support work toward a degree or job training without leaving home or work.

### ***Imagine a school...***

...where every student – regardless of zip code, economic level, age, race, ethnicity, ability or disability – can be immersed in the sights, sounds, and languages of other countries; visit museums; research knowledge webs from the holding of dispersed libraries; and explore the inner workings of cells from inside the cell or the cold distance of outer space from inside a “virtual” spacesuit.

### ***Imagine a district...***

...where every educator – regardless of subject, experience, or district location, size or wealth – can get hands-on training instantaneously, when or where he or she needs it; interact with a virtual community of professional colleagues; and have access to financial data and student performance information as well as the analytical tools to use that information effectively.

### ***Imagine a state...***

...where every community member can visit the doctor for an examination and needed laboratory tests while at home or work; collaborate with work colleagues at distant sites about complex data sets or video graphics; search primary source materials on an event half-way around the world; and take a high school or college course with fellow students from Port Arthur to El Paso by communicating rather than commuting.

To achieve this vision, the Long-Range Plan for Technology was organized in four key areas to be implemented in concert:

#### **Teaching and Learning**

Integrating technology in teaching and learning across the curriculum

#### **Administration and Support**

Emphasizing a vision of leadership for technology and the planning and resources needed to support that vision

#### **Educator Preparation and Development**

Identifying standards, enhancing certification, and guiding ongoing professional development in the use of technology for educators

#### **Infrastructure for Technology**

Equalizing resources, infrastructure and connectivity essential for use of technology



## WHERE WE ARE

Texas has made significant progress in making the vision of the *Long-Range Plan for Technology, 1996-2010* a reality. In many Texas classrooms, technology is making it possible for learning to occur in new and exciting ways and is becoming a common denominator—an equalizer—for giving students with diverse backgrounds and experiences opportunities to extend and promote learning. In many classrooms across the state, there are a variety of technology programs for teachers, students, and parents. Class time is more effective as students use technology for research and curriculum projects. Parents and community members have opportunities to see first hand the students' projects often available on campus and district websites. For students in these districts, use of the computer is as much a part of their normal daily lives as using the alphabet.

### TECHNOLOGY INTEGRATION

No matter where you go across Texas, there are high expectations about what students should know and be able to do using digital technology. This is due to the state's required Technology Applications curriculum. Technology literacy standards are specified through the Technology Applications Texas Essential Knowledge and Skills (TEKS). These standards are to be integrated throughout the curriculum in grades K-8 and expanded through specialized, focused courses in grades 9-12. The importance of students meeting the technology literacy benchmarks for acquiring and integrating the Technology Applications TEKS across the curriculum is paramount in meeting the curriculum needs of Texas students and meeting the requirements of No Child Left Behind (NCLB).

### TECHNOLOGY IMMERSION PILOT

To further expand the impact of technology in Texas classrooms, the Technology Immersion Pilot project has been implemented in 23 school districts. The primary goal of this pilot is to increase the academic progress of students who are participating in the pilot project by immersing the campus with appropriate innovative technologies including, but not limited to, wireless mobile computing devices, software, online formative assessment tools, productivity tools, technical support, and online resources. Texas has received a federal grant to evaluate a component of this project using scientific research methods to provide evidence about the effectiveness of educational technology in K-12 education. The purpose of the Evaluation of the Texas Technology Immersion Pilot is to conduct a scientifically-based evaluation at the state level to test the effectiveness of *technology immersion* in increasing middle school students' achievement in core academic subjects.

### ED TECH PILOTS

Another pilot project has explored the use of handheld technology to administer the Texas Primary Reading Inventory (TPRI) to improve teacher usage of assessment data to inform and adjust instruction, to target teacher professional development based on needs identified through the analysis of TPRI data, and to realize time and cost savings in administration of the TPRI. The mClass TPRI developed through this pilot is now in use in over 35,000 classrooms in 40 states. The Biology and Social Studies Pilots explored the use of a web interface as an access point for curriculum materials aligned to the TEKS and learning objectives on the Texas Assessment of Knowledge and Skills (TAKS). An update to the ClassTrac software developed through this pilot incorporates many of the lessons learned along with additional functionality and content.

## **VIRTUAL SCHOOL PILOT**

As distance learning expands across the state, schools are exploring online learning and virtual schools. The Virtual School Pilot was implemented to determine appropriate funding models for courses in which students are not physically present. To ensure the quality of instruction in virtual settings, the Investigating Quality of Online Courses (IQ) Pilot was implemented. These two pilots revealed a great deal about the policy and implementation challenges of online courses and led to legislation authorizing the Electronic Course Pilot scheduled for implementation in the spring of 2005. The IQ Pilot provided Quality of Service guidelines for online courses and a corresponding evaluation matrix. Expansion of the guidelines to the elementary level and additional research and validation of the evaluation matrix are also planned.

## **LIBRARY RESOURCES**

School library programs support learning in all curriculum areas and provide teachers and students the opportunity to develop information literacy and digital technology literacy skills. The role of the librarian has expanded to include the utilization of media in all formats, electronic as well as print. The Texas Library Connection (TLC) provided students, educators, and parents access to online full-text databases at no charge to schools. The TLC databases included electronic magazines, reference materials, newspapers, maps, encyclopedias, and a catalog of over 5000 school library holdings including over 50 million items. These databases were accessible twenty-four hours a day, seven days a week no matter the size of the school, geographic location, or economic status. The databases were accessible from the classroom, the school library, and from the students and educators' homes. Unfortunately, budget shortfalls eliminated state funding for this initiative. Schools that have the funds available purchase these resources individually. TEA and the Texas State Library and Archives Commission have updated school library standards to meet the needs of students

and teachers to live and learn in the 21<sup>st</sup> century. Both agencies will coordinate efforts to disseminate the standards throughout the state.

## **WELL PREPARED TEACHERS**

Technology standards and integration strategies extend to the teaching corps as well. The Texas State Board for Educator Certification has adopted technology requirements for all teachers based on the Technology Applications TEKS. In addition, there are new certification areas in Technology Applications for teachers who want to be experts in the use of digital technology while building expertise in applying digital technology in the core curriculum areas. Professional development opportunities are also available using a combination of online courses, distance learning, hands-on training, and a wide variety of workshops and conferences. NCLB requires that at least 25 percent of all Title II, Part D funds be used to provide ongoing, sustained, and intensive, high-quality professional development. Professional development frameworks are available for Technology Applications along with academies designed for all teachers K-8 and for Technology Applications courses 9-12. The Technology Applications Teacher Network provides a wide variety of resources to support this curriculum area.

## **INSTRUCTIONAL MATERIALS**

While there are high expectations for the use of technology in teaching and learning, there is a realization that students and teachers need instructional materials to acquire the needed knowledge and skills and to make connections with the core curriculum. One exciting effort was made when the State Board of Education called for instructional materials for Technology Applications. Instead of traditional print textbooks, Technology Applications instructional materials are subscription-based with a focus on electronic components, including online and/or CD-ROM lessons and activities. These materials allow for all students and teachers in every classroom to

have access to instructional resources that are aligned with the state standards and customized for Texas classrooms. These materials were adopted in November 2003 and were scheduled to be available in classrooms for the 2004-2005 school year. Due to budget shortfalls, implementation has been delayed until 2005. These instructional materials are key to meeting the NCLB requirement that technology will be fully integrated into the curricula and instruction of all schools in the state by December 31, 2006.

### ONLINE TECHNOLOGY PLANNING TOOLS

To assist districts with technology planning, the Educational Technology Advisory Committee developed the Texas School Technology and Readiness (STaR) Chart, patterned after the CEO Forum STaR Chart. It was developed around the key areas of the Long Rang Plan for Technology and is designed to help campuses and districts determine their progress toward meeting the goals of the Long Range Plan for Technology as well as the goals of their district. The STaR chart profile indicators place a campus at one of four levels of progress in each of the key areas: Early Tech, Developing Tech;

Advanced Tech, or Target Tech. During the 2003-2004 school year 7,186 campuses completed this chart. The resulting data indicate that 94 percent of campuses have reached the Developing Tech level or higher in all four areas. Progress varies in each of the key areas.

The Texas ePlan System allows technology plans to be created, edited, and submitted online. Campus STaR Chart data automatically feeds into ePlan. The technology plan peer review and approval process is also integrated into the system. An approved technology plan is required for participation in the federal E-Rate discount program and Title II, Part D of NCLB. Texas schools have received over \$400 million through E-Rate for the 2003-2004 program year and over \$1 billion since the beginning of the program. Title II, Part D of NCLB is also a significant source of funds for Texas schools. It combined several federal technology programs allowing Texas to receive over \$59 million in 2004 and over \$160 million in the first three years of NCLB funding. While these federal funds have been significant, Texas schools suffered the loss of grants from the Telecommunications Infrastructure Fund when that agency closed. The Technology Allotment is now paid from that fund instead of the state textbook fund.

<b>2003-2004 Texas Campus STaR Chart Data</b>				
	Teaching and Learning	Educator Preparation	Administration and Support	Infrastructure
Category	Number of campuses			
Early Tech	385	284	280	238
Developing Tech	4,173	4,016	2,773	2,746
Advanced Tech	2,535	2,773	2,841	3,933
Target Tech	93	112	391	269
Total 7186				

## EDUCATION SERVICE CENTERS

School districts across the state can turn to the Education Service Center (ESC) in their area for technology services that enhance efficiency, effectiveness and the performance of students, teachers and administrators. Each of the state's 20 Education Service Centers provide planning, consultation, professional development and technical assistance in response to regional needs and in support of the *Long-Range Plan for Technology, 1996-2010*.

Technology services provided to schools by the ESCs include:

- development of cooperatives and partnerships;
- regional network development and operation;
- training and professional development services;
- supporting statewide technology initiatives;
- planning and grant development; and
- distance learning opportunities.

Each ESC funds these services through grants, local, or shared services funding. Technology funding for ESCs from the state was eliminated in 2003. Each Education Service Center reflects the incredible diversity of Texas schools, communities and learners and the enormous differences in geographic and demographic conditions across the state. Although the 20 ESCs have an identical mission, the strategies implemented to fulfill that mission vary within each region. Local needs, interests and capabilities determine the regional technology programs provided by the ESC.

## TECHNOLOGY INFRASTRUCTURE

Infrastructure forms the foundation for the integration and use of technology in education. Texas has spent many years and many millions of dollars building an effective infrastructure to enable schools to meet the vision of the *Long-Range Plan for Technology, 1996-2010*. Districts

have been working diligently over the past several years connecting schools to the Internet and each other with adequate bandwidth to each classroom and the library. Providing Internet-connected multimedia computers in fully equipped classrooms with the necessary technologies to enhance student instruction is a reality for some schools and a challenge for others. Interactive white boards, handheld devices, digital cameras and camcorders, printers, and scanners are some of the tools found in many Texas classrooms. Teachers have dedicated laptop or desktop computers that allow them to prepare lessons, access and analyze data, communicate with parents, and provide students with rich learning experiences.

According to *Technology Counts 2004* by Education Week, the student to computer ratio statewide is 3.5 to 1. Some schools have a laptop or desktop for every student while others are lucky to have one for every classroom. Many teachers have a laptop or desktop they call their own but others have to wait in line in the library or teachers' lounge to use a computer. Many schools are still using computers purchased in the 1990s. All campuses and many classrooms have connectivity to the Internet but not all have the bandwidth to take advantage of engaging content and other resources. Work remains to ensure that connectivity is established and maintained to reach all instructional and professional work areas, and that infrastructure capacity supports promising practices in instruction, school leadership, and operations. Issues of support and maintenance for existing and evolving technologies will test our true commitment to connected schools. Maintaining appropriate funding levels, securing and retaining qualified staff, maintaining the infrastructure, providing upgrades and greater bandwidth, all provide significant challenges for schools. The infrastructure of a school is the critical element of support for teaching and learning, educator preparation and development, and administration. It is essential in providing the technology tools needed for educators to provide the learning opportunities required for student success in the 21<sup>st</sup> century.

## WHERE WE NEED TO GO

While Texas has made significant progress in educational technology, the economic challenges faced by the state had a profound impact on that progress. Due to budget shortfalls, funding to support the *Long-Range Plan for Technology 1996-2010* was eliminated. This ended support for statewide initiatives including the Texas Library Connection, the Ed Tech Pilots, TETN, T-STAR and educational technology support for the Education Service Centers. Funding was not available for the Technology Applications Instructional Materials. Due to reorganization and reduction in force, the Educational Technology Division at TEA was integrated into the Curriculum Division. However, the vision of the Long-Range Plan for Technology 1996-2010 is alive and well.

The 2004-2006 Educational Technology Advisory Committee has been appointed to review the current Long-Range Plan for Technology, 1996-2010 and provide recommendations to TEA regarding the leadership role of the agency in providing schools the technology tools, products and information they need to make decisions, to educate, to plan and to learn. The efforts of the committee are to focus on the development, implementation and evaluation of a new Long-Range Plan for Technology, 2006-2020 to guide districts in the effective use of technology. The plan is to align with the National Educational Technology Plan 2004 and the No Child Left Behind Act of 2001. Input will be sought from stakeholders across the state. The current plan will be ten years old by the time the new plan is adopted.

The Partnership for 21<sup>st</sup> Century Skills, a unique public-private partnership organization, was founded in 2002 to create a successful model of learning for this millennium that incorporates 21<sup>st</sup> century skills into our system of education. The Partnership, along with input from educators across the nation, has identified six key elements of 21<sup>st</sup> century learning:

- emphasize core subjects;
- emphasize learning skills;
- use 21<sup>st</sup> century tools to develop learning skills;
- teach and learn in a 21<sup>st</sup> century context;
- teach and learn 21<sup>st</sup> century content; and
- use 21<sup>st</sup> century assessments that measure 21<sup>st</sup> century skills.

The Educational Technology Advisory Committee will use these elements along with a variety of other resources in developing recommended strategies to implement the new plan. This plan will be a blueprint for districts to chart the course essential for meeting the opportunities and challenges of 21<sup>st</sup> century learning.

All students must have the opportunity to achieve to Texas learning standards. In this digital age, technology is a critical tool toward that end. Today's student lives in a digital world. All students must know where and how to find content relevant to course expectations and know how to be sure content sources are reliable and credible. Access to Information and communication technologies is necessary for students to learn and be more productive, beginning in the early grades and continuing through high school graduation. Teachers who are skilled in the integration of these 21<sup>st</sup> century teaching and learning environments are required to ensure student success.

Ongoing, sustained professional development is essential to ensure all educators are prepared to use technology effectively in teaching and learning. Technology tools allow students to show what they have learned and provide teachers with rich data that can lead to the use of instructional strategies customized to meet student needs. Finally, every student and teacher in the State of Texas must have access to the tools of the 21<sup>st</sup> Century to actualize this vision.