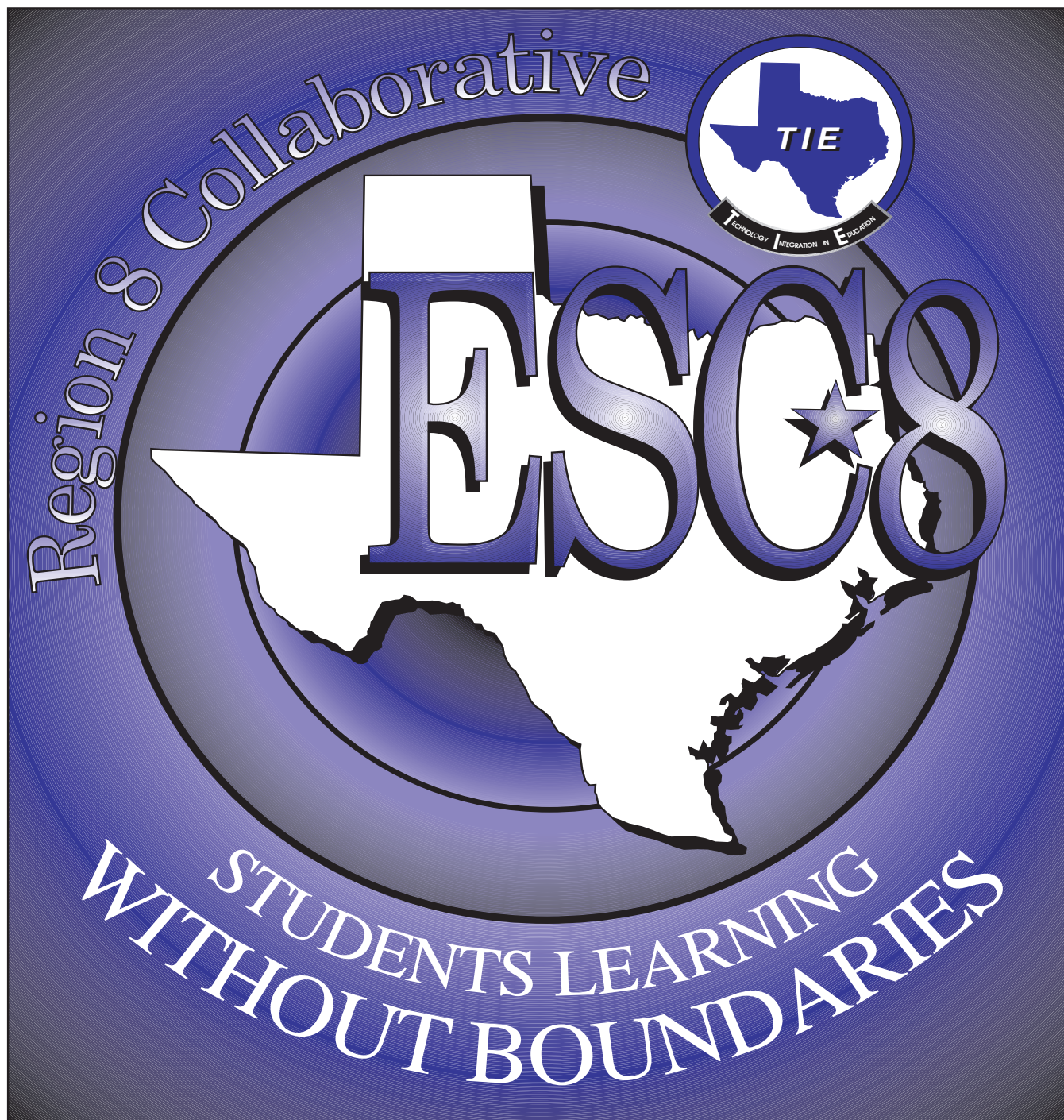


# IMAGES

...OF TECHNOLOGY IN TEXAS SCHOOLS

WAGER

...published by the  
Texas Center for Educational Technology  
University of North Texas



**IMAGES of Technology in Texas Schools** is published by the *Texas Center for Educational Technology*, a part of the Academy of Research and Professional Development in the **College of Education** at the **University of North Texas**.

This series of TCET reports features Texas educators who each possess several common characteristics: a willingness to take risks, a drive to see the potential of all students realized, and a belief in the power of educational technology.

Inside the pages of each report, you will see how Texas teachers and administrators are developing new ideas about teaching and learning, using technology. You will get a glimpse of how their ideas took form, how they got funding, and how they built their technology infrastructure. You will hear about their search for results, and their hopes of expanding each child's intellectual capital by bringing multimedia global information into each classroom.

You will hear the stories of new Texas pioneers, educators who bravely travel new, uncharted electronic highways, in order to take their students into a new century.



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## Region VIII Collaborative

### Students Learning Without Boundaries

written and photographed by:  
**Sharon A. Feaster, Ed.D.**  
 (except where noted)

Schools in Region VIII are eliminating traditional boundaries among schools through the Northeast Texas Regional Education Telecommunications Network (NTxRETN). Districts are participating in three major group grants coordinated by Region VIII Education Service Center (ESC). NTxRETN links forty-seven districts, two universities, two Centers for Professional Development and Technology (CPDTs), three community colleges, and the ESC, regional education service center.

Twenty-two of the region's schools are participants in a \$2.2 million Telecommunications Infrastructure Fund (TIF) grant coordinated by Region VIII Education Service Center. This was the second largest TIF grant in the state, shared among the region's twenty-two districts with an ADA of less than 1,000.

When TIE (Technology Integration in Education) funding became available in 1997, the ESC developed a group application for Internet connectivity and basic infrastructure. The TIE grant of \$1.6 million is shared among twenty districts with an ADA of more than 1,000. "The TIE grant was for \$1.575 million, so



Atlanta Middle School librarian and technology leader Gloria Herring assists students as they use the library's on-line reference tools for class projects.

with both of these grants, we had the underlying infrastructure in place. It's engineered so that we can add distance learning on top of our infrastructure," stated Don Mellody, technology coordinator for Region VIII Education Service Center (ESC).

In June 1998, the Region VIII (Collaborative for Teaching and Learning) received a new \$1.7 million TIE grant to expand the NTxRETN to add video conferencing capabilities.

### Regional Organization and Accessibility

Each of the TIF grant schools received thirty multimedia workstations, Internet connectivity, thirty connections on the LAN, support electronics for the LANs (switches and hubs), and in most cases a file server, according to John Kelsey, Region VIII ESC instructional technology consultant. This was essentially every campus in this group of schools, since most of the districts have only one or two campuses. Some of the smaller districts with fewer than thirty classrooms put multiple drops in some classrooms. "The highlight is that many of those little schools got their first piece of LAN equipment as a result of the TIF," said Mr. Kelsey.

The first TIE grant provided infrastructure for ninety-three campuses in twenty districts. Each district received a T1 line into the district and all of the essential equipment in the central wiring closet. The wiring to connect the district's buildings is the part of the district's long-term commitment, according to Mr. Mellody.

The second TIE grant extends the NTxRETN to provide two-way interactive distance learning. An ultimate goal of the NTxRETN is to provide a H.320 system in a distance learning classroom in every high school and to connect the high schools with three junior colleges and two university partners. The classrooms would have a video-conferencing system with fax machines, scanners, computers, printers, and other technology the teacher needs for instruction.

Another goal of the NTxRETN is to provide one H.323 system on each campus. "When a classroom wants to do something *ad hoc* with another classroom, they just turn the equipment on and enter the address of the computer and start talking," Mr. Melody explained. The technology would be a portable unit the teachers can move around.

"The H.320 Standards on video conferencing uses a dedicated pipe with a fixed amount of bandwidth," according to Mr. Melody. "The other one, called H.323, is new and uses Internet bandwidth. With the H.320, the equipment takes half of the bandwidth before anyone gets to do anything. And everything has to be scheduled," explained Mr. Melody. "With H.323, the equipment has to fight for bandwidth just like other traffic."

"Our superintendents are already going wild over what they can do with H.323," Mr. Melody said. The

superintendents talked about needs resulting from participation in a special education cooperative. Sometimes there is a need for a meeting, but the diagnostician is in another district. With video conferencing capability, if a campus needed an emergency meeting, participants could just turn on the equipment in as many places as necessary and connect the committee members.

After all goals of NTxRETN are implemented, Mr. Melody estimates there will be about 52,000 students on-line. Only about 10-15 campuses out of about 120 won't be connected. All teachers and administrators in the region have individual e-mail accounts in a system that can be checked from anywhere.

### Accessibility and Organization in Atlanta ISD

Gloria Herring came to Atlanta Middle School as an art and music teacher and later became a librarian, but she soon became the technology expert, not a position that she sought after. "I really didn't mean to. You do what you have to do," she explained. "I always seem to do this, just inherit things," she said.

When she became a middle school librarian, none of the libraries in the district was automated. "I asked if I could automate the library, and the board said sure, and they bought one computer," Mrs. Herring recounted. By the end

## NTxRETN Schools

### REGION VIII TIF SCHOOLS

Avery ISD  
Avinger ISD  
Bloomburg ISD  
Chapel Hill ISD  
Como-Pickton ISD  
Cooper ISD  
Detroit ISD  
Fannindel ISD  
Harts Bluff ISD  
Leary ISD  
Malta ISD  
Maud ISD  
Miller Grove ISD  
North Hopkins ISD  
Prairiland ISD  
Red Lick ISD  
Roxton ISD  
Saltillo ISD  
Simms ISD  
Sulphur Bluff ISD  
Talco-Bogata ISD  
Winfield ISD

of the year, the middle school library was on a stand-alone computer.

"So I went back to the board and said it would be really neat if everyone else could access the card catalog. They asked me what it would cost, and I said I thought I could put three stations in the library and network them for about \$10,000. They said OK and gave me the money," she said. "The next year I said it would be neat if this encyclopedia which I have on-line could be in all of the classrooms. They just kept handing me money and I kept buying machines, and that's how it started," she said.

The middle school library now has eight work stations and each classroom has one. The middle school campus has a new server which is capable of handling a larger network. Each middle school classroom has one station which is tied into the network and provides access to all resources which are available on-line through the library, including *World Book* multimedia and *Guidance Information System* (GIS). All of the district's libraries are automated and networked. The campus is in the process of adding three stations in every classroom. The goal is to have five stations in every classroom within the next couple of years.

### Satellite Access in Linden-Kildare CISD

Linden-Kildare Consolidated ISD has three campuses with approximately 1,500 students and 70 teachers. The district has used a combination

satellite and modem Internet connection for the elementary and junior high schools for a couple of years, explained technology coordinator Ann Smith. The Wingate system sets up a proxy server which allows multiple simultaneous users to share the satellite connection to access the Internet. "We upload through the phone lines and all the pages come down through the satellite dish. This has been a tremendous opportunity as far as training teachers and going ahead and working with kids."

The elementary and junior high schools have access to the Internet through twenty-four station labs. Until funds from the TIE grant became available, there was Internet access from only one machine at the high school. The grant funds provided a T1 line so the district could wire the high school and connect all of its campuses.

The district's TIF funds provided thirty computers. "We decided to go with a mini-grant application and gave K-12 teachers the opportunity to apply for these computers. They had to write up how they planned to use them and agree to fifteen hours of training before receiving their computers," Mrs. Smith explained.

"We put a little money with the TIF funds so that everyone who applied was able to get a computer." There were ten applications from elementary, eight from junior high, and twelve from high school.

"We have a technology leader on each campus," Mrs. Smith explained. "We also have technology aides in the lab, and we've turned them into technicians by providing training in troubleshooting. This has helped to make my life livable, because a lot of things the aides can solve themselves and also do a lot of the installation."

### Accessibility and Organization in Maud ISD

Maud ISD Superintendent Robert Stinnett explained that the district borrowed \$200,000 through the Texas Education Agency's CAP program to implement a network and to place a computer on every teacher's desk. The TIF grant provided thirty classroom computers and helped with Internet connections and equipment. Every classroom now has a teacher computer station plus a student computer. The district already had underground fiber between eight buildings.

**"Arp ISD turned us on at the Symposium in Mt. Pleasant. It was like a technology revival!"**

The high school and the middle school have labs with Internet connections. The elementary school has a Josten's lab which is used for keyboarding and math and reading practice. Technology Coordinator Susan Fields planned educator development during the summer. She also conducts one-to-one assistance with teachers, according to Mr. Stinnett. "The only way to make the technology program work was to hire Susan as full-time technology coordinator," he said.

Mrs. Fields' goal is to help students learn *HyperStudio* so they can use text, graphics, and sound in their presentations. Grades one and two have enough CD-ROMs for an entire class, so the students go to the lab with disks in hand and work with them once a week.

### **Accessibility and Ease of Use in Queen City ISD**

Queen City ISD has at least one computer in each classroom with direct Internet connectivity on its elementary, junior high and high school

campuses. The agriculture building and several other outlying buildings are not yet connected. The elementary and the high schools are connected with fiber optics. Future plans are to connect the middle school.

Original technology was provided through local funds. The district borrowed money, then supplemented with grant money, gifted/talented, special education and vocational funds to add computers or software, according to Mary Lou Goodson, high school technology teacher and technology trainer. The libraries at the middle school and high school are automated, with SIRS researcher and computers on-line to the Internet.

The district uses part of the school day for educator development at the middle and high school levels. "At the high school, we have a buddy system," according to Mrs. Goodson. "I'm the lead teacher and I write out the lessons, step-by-step. About seventy-five per cent of our teachers have my MLG [Mary

Lou Goodson] Manual. If they have a question, they go to the manual first. That's how they prefer to have training written, so I've written everything that way."

An instructor at the junior high provides technology training for teachers on Tuesdays during their conference periods. The high school is on an accelerated block schedule, with periods that last an hour and a half. Half of the teachers' conference time is assigned to teaming. Once a week they participate in training during the other half. "Teachers have said they like doing it this way, instead of sitting down for six hours straight in August and never using the computer again. By having an activity to do every week and turn in, it's there and it's alive and enmeshed in the curriculum."

### **Going to the MALL in Mt. Pleasant ISD**

"What makes Mt. Pleasant unique is we have a superintendent, deputy superintendent, principals and our board that are behind us. Everybody has input, from the superintendents to teachers. Everyone participates in training, even cafeteria workers," said Margaret Escalera, software specialist and trainer.

The district created MALLs — Maximum Achievement Learning Lab — on every campus. The MALL is an enhanced content mastery lab that serves every child in the

**"This lab has changed my mind about how an integrated learning system can work."**

school, especially in the elementary grades. A technology center is part of every MALL. There are phone lines, modems, scanners, digital cameras, video cameras, and color printers. There are five multimedia machines for enrichment for the Gifted/Talented students.

"We wanted the MALL to be a place for all kids," said Pamela Fite, deputy superintendent in charge of technology. "The G/T kids were served in the MALL through the pull-out program, but if they just needed enrichment they could go to the MALL and use the computers. This was in 1991-92, before schools were putting computers in the classrooms."

Regina Conroy, principal of E. C. Brice Elementary in Mt. Pleasant, a K-2 campus, took three classrooms and turned them into the MALL. The area in the center has twenty-two computers, another area is for inclusion assistance, and another area is for gifted/talented projects. Nancy Hudson, bilingual second-grade teacher, used *KidPix* when her class studied dinosaurs. Students drew pictures and told stories about dinosaurs. "Technology helps me individualize the learning program," she said. "It also helps with learning styles. Some students are auditory, some visual, some tactile. Technology helps meet all these needs and makes reading and writing come alive."

## TIE MINI-GRANTS

Approximately \$9,000 from the first Region VIII TIE grant was awarded to teachers in the form of mini-grants. The program is coordinated by Alison Froneberger, ESC instructional technology consultant. Six collaborative teacher projects were awarded \$1,000 or less; six individual teacher projects were awarded \$500 or less. All projects are Internet-based and have been submitted and managed by teachers. Extra points were given to grant proposals which emphasized community relations.

### Recipients of the \$1,000 mini-grants were:

"Multicultural Investigations on the Internet," A.M. Aiken Elementary School, Paris ISD

"Web Weavers: Kindergarten Students Learning On-Line," Early Childhood Learning Center, Sulphur Springs ISD

"Community Occupations On-line," Pittsburg High School, Pittsburg ISD

"Project Life-Off: Traveling to Space with the Internet," Travis Elementary School, Sulphur Springs ISD

"An On-line Nature Trail," Chisum Elementary, Chisum ISD

"Grade-Level Internet Publishing Projects," Bowie Elementary, Sulphur Springs ISD

### Recipients of the \$500 mini-grants were:

"Career Investigations on the Internet," Chisum ISD Middle School teacher Debbie Layton

"Building a Campus Web Page," Sulphur Springs ISD Bowie Elementary School teacher Leah Bell

"An Online Literary Magazine: A Means of Teaching and Promoting Writing," Pittsburg High School English teacher Dianna Woods

"Technical Research of the United States Geographical, Historical, Economical, and Social Structures," Chisum ISD Elementary School teacher Linda Swanson

"Online Odysseys: Integrating the Internet in Early Childhood," Sulphur Springs ISD Elementary School kindergarten teacher Sonja Bolton

"An Online Interdisciplinary Weather Project: Weather or Not?" Redwater ISD Middle School teacher David Sparks

From the second TIE grant will come mini-grants totaling about \$15,000 for delivering staff development through distance learning.

**“It’s a whole new way of  
looking at science labs.  
Technology has changed my  
whole way of teaching.”**

Mt. Pleasant started with ten drops in 1993-94, then the district began networking. Each campus has a LAN and at least two file servers; the junior high has three and the high school has four or five servers. Every classroom in the district has a multimedia workstation. Offices have two drops and libraries from ten to twelve. The labs have drops for about thirty-six computers. Plans call for distance learning units and multimedia computer labs on each campus, with a goal of adding classroom workstations until a ratio of 1:4 is achieved.

Mt. Pleasant’s nine campuses are also connected using single-mode fiber optic cabling in a star pattern that branches out from the administration building. The school business office has converted its AS/400 network to a high-speed NT network.

**Turned On To Technology  
at Linden-Kildare**

“Arp [ISD] turned us on at the Symposium in Mt. Pleasant,” said Ann Smith of Linden-Kildare CISD. “We went to hear Joy Rousseau. It was like a technology revival! She got us fired up.”

Linden-Kildare CISD doesn’t offer computer literacy as a separate class, but integrates computer skills into the curriculum. Junior high seventh-grade science teacher Ray Smith had his students work on a project about restoring and restocking animals to their original ranges where they were once plentiful. Students looked up information on the animals and the level of success of restocking projects, then used word processing to reorganize and present their information.

Students of seventh-grade English teacher Alene Davis studied the *Titanic*. They took a virtual field trip of the ship and also found a site with trivia about the *Titanic*, with information such as how much a ticket on the *Titanic* would cost today. During Black History Month in February, the students used the 5 w’s (who, what, when, where, why) to

research Harriet Tubman and wrote individual papers on their findings.

Joanna Duncan, Linden-Kildare High School ninth- and tenth-grade biology teacher, uses *PowerPoint* and the Internet in her classes. Her students work in small groups on an endangered species project. They find pictures and information on the Internet, then make class presentations. Next year Mrs. Duncan will have textbooks with accompanying CD-ROMs for dissecting and lab skills. “It’s a whole new way of looking at labs,” she said. “Technology has changed my whole way of teaching.”

Linden-Kildare will be offering a new junior high course, “Exploring Communications Graphics” during 1998-99 taught one period by both the art teacher and a TIFTech trainer. The high school will have a similar blended course of speech and media technology class, taught by Stephanie Moore, the high school speech teacher. The district will have two other new classes in high school, “Imaging and Multimedia” taught by Kay Washington through the business department, and “Computer Technology,” a blended course of MicroSoft Certification and the A+ Certification, taught by computer teacher Mike Cole.

Linden-Kildare Elementary School has had a K-2 lab since January 1998. There will be a new general purpose lab for grades three through five for school year 1998-99. The goal for the new lab will be for

teachers to take their own classes to the lab for Internet and other types of projects.

Teacher Vicki Kessler and aide Linda Pate teach in the K-2 lab. First and second grades go to the lab four times a week: three times for the integrated learning system and once for Fun Friday. They use the Computer Curriculum Corporation's (CCC) learning system during the week, then have "Fun Fridays" where students participate in Internet or technology projects. Students must have completed their math and reading work with the CCC system in order to participate in Friday activities. "With the second-grade, we started an Internet project to visit the White House for Kids," Mrs. Kessler explained. "I usually put a strong reader with a weaker reader, and they read the information on the sites to each other, taking turns reading and clicking."

The first-grade classes planned a field trip to the Tyler Zoo. "Before we went on the actual trip, we got on the Internet and visited a site that had a zoo keeper. We chatted with her about zoos and career," Mrs. Kessler explained. After the trip, students drew pictures on the computer, then printed out their stories and pictures and made booklets.

The prekindergarten students are the "Happy Clickers" who go to the lab once a week. They do things such as match shapes and learn vocabulary through a program called *Discover English*. The kindergartners go to the lab

once a week and use programs such as *KidWorks 2*, *What's Cooking in the Kitchen* where they have to follow directions, *Storybook Weaver* where they design a picture and put music to it, *Rain Forest*, and some musical games.

### Educator Development

Region VIII ESC has provided a Technology Leadership Academy (TLA) for its districts for several years, to infuse and integrate technology into the classroom. The focus changed to integrating the Internet into the classroom when the TIF and TIE grants were received. Both grants specified selection of master teachers from each campus who would receive extensive training and then go back to their districts to be mentors and trainers. The ESC decided that the academy would be the appropriate vehicle for the training.

"What we put in the grants for training is a little bit more than the TIFTech agenda," said Pat Crawford, Region VIII ESC Northeast Texas Regional Education Telecommunications Network (NTxRETN) manager. "The training is primarily for integrating technology into the classroom."

One teacher from each campus was designated as the master teacher for the campus. For the ten-day Master Teacher Training Program, which has provided development for approximately 145 teachers in the region, the districts were organized into six geographic clusters. In each group there is a range from the smallest to the biggest districts. "We wanted to try to see some collaboration among these districts, sharing teachers and resources for staff development," said Mr. Mellody.



Susan Field, district technology coordinator for Maud ISD, assists students Lauren Sanders and Ashley Shelby with their class projects as they work in one of the district's labs.

Topics for the Master Teacher curriculum include organization, Hardware I, Hardware II, Internet basics, web page creation, creating effective staff development training, integrating Internet into the curriculum, lesson plan format and evaluation, and a share day. "We also talked about how to teach in a one-computer classroom, software evaluation, web site evaluation, and how to train other teachers. We follow that up with how to integrate the Internet specifically," explained Alison Froneberger, Region VIII ESC instructional technology consultant and Technology Leadership Academy trainer. Each participant develops three interdisciplinary activities which can be shared. "We've stressed all along that technology is a tool. The next time they meet with me, they're bringing some of their activities and we're going to talk about how they can integrate more technology. We also talk about Multiple Intelligences and higher-level thinking skills."

The ESC developed a curriculum grid for organizing units which use the Internet. "We used English/language arts, science, social studies, math and school-to-work as our column headings and PK-3, 4-8, and high school as row headings. Our goal is that teachers can come to the grid and click on a section of the grid to see sample lesson plans that integrate the Internet resources," explained Mr. Mellody. The activities can be used in several different disciplines so teachers can find activities which are extensions

of their lessons. (See [www.esc8.net/tla/mtalesson.html](http://www.esc8.net/tla/mtalesson.html).)

"One of the things that I thought was real neat was that those who came to the training had to be classroom teachers, not technology coordinators," said Kenny Goodson, Region VIII ESC instructional technology consultant and TLA trainer. "They represented a very broad spectrum of subject areas. We've had math, science, English, early childhood teachers, and even band directors."

### Student Engagement in Learning

Pat Mathews, Maud ISD fourth- and fifth-grade science teacher, pairs students for a study of the solar system and rotates them through a variety of centers using the teacher computer and the student computer. Some of the centers include the Internet, *GeoSafari* planets, a large floor puzzle, and the *Magic School Bus* tour of planets. Students are required to find fifteen facts about the planets that they don't already know, write their report on the word processor, then place the reports on a poster on which they have drawn the solar system. Mrs. Mathews said that her students are learning more about the solar system with the Internet activities than they did before she integrated technology into her lessons.

David Burden — Maud ISD business teacher who teaches word processing, microcomputer applications, accounting, keyboarding, and

ACT preparation — uses several projects where groups make business presentations with *PowerPoint*. Product Development Teams investigate current issues, including the "Year 2000" problem, then use word processing, spreadsheets, scanners, and the Internet to complete their projects. His business computing class completes assignments through e-mail, and next year the Business Support Systems class will do the same.

Sherry Oliver, Spanish I teacher at Atlanta High School, started her students on the Internet through *KeyPals*. "We started three years ago when we had pals who were taking Spanish I in England, Missouri, Minnesota, and Comstock, which is close to the Mexican border. The students wrote back and forth in Spanish — no English allowed," Mrs. Oliver said. Students of Anna Anthony — who teaches Spanish II, III, and IV in Atlanta — correspond with other students on topics such as sports, music and weekends. Several groups met via an Internet chat room when it was 8:00 a.m. in Atlanta and 3 p.m. in Spain. "It was hard, but most rewarding. It brought Europe to a small town in East Texas."

Students of Atlanta teacher Peggy Waid's Advanced Placement English III class use the Internet to research appropriate topics and current events, such as women and capital punishment, juvenile justice, immigration, border patrol, the White House or Saddam Hussein. Her students said they liked the Internet

**NTxRETN Schools****Region VIII  
TIE Schools**

Atlanta ISD  
 Chisum ISD  
 Clarksville ISD  
 Daingerfield-Lone Star  
 ISD  
 DeKalb ISD  
 Hooks ISD  
 Hughes Springs ISD  
 Linden-Kildare CISD  
 Mt. Pleasant ISD  
 Mt. Vernon ISD  
 New Boston ISD  
 North Lamar ISD  
 Paris ISD  
 Pewitt ISD  
 Pittsburg ISD  
 Pleasant Grove ISD  
 Queen City ISD  
 Redwater ISD  
 Sulphur Springs ISD  
 Texarkana ISD

**Partners**

Texas A&M - Commerce  
 Texas A&M - Texarkana  
 North Texas Community  
 College  
 Paris Junior College  
 Texarkana College

searches because they were more concise, and they didn't have to skim through whole books to find the specific information they needed. Mrs. Waid's UIL students also prepared for debates using the Internet. Some of their material was so new that it wasn't in print sources, so the students had an advantage because their information was really current, according to Mrs. Waid.

At Mt. Pleasant, a drug awareness project was created by Julie Martin, junior high health teacher. Most of her students already knew how to make *HyperStudio* stacks, but they learned how to incorporate sound and video. The students taped a simulation of students selling drugs and being arrested by a campus policemen to show the consequences of drug use. Mrs. Martin was a floating teacher, so she and her students could be seen taking the COWs (computers on wheels), video cameras, and tripods through the hallways into her classrooms.

At Corprew Elementary School in Mt. Pleasant ISD, a third- and fourth-grade campus, students participate in real-world applications, according to Mrs. Escalera. For example, since Mt. Pleasant is an agricultural community, Alice Wise has her students research the Internet for information about farmers and the best time to plant certain crops. Students of Troy LaRue, Texas history teacher, keep a timeline for Texas history and a classroom timeline. At the end of the year, they compare what

happened in Texas history on a month and day with what happened in the classroom on that same date.

**Sharing What Is Learned**

All of the master teachers attended the Region VIII Technology Fair in Mount Pleasant and the Texas Computer Education Association convention, which was quite a bonus, according to Ms. Froneberger. "We hold a technology fair here every year as an extension of the training. It's a way teachers can share what they're doing in the classroom." There were twenty-eight mini-sessions conducted by thirty teachers and forty-four students, who demonstrated promising technology integration and TEKS practices. Vendors from across the United States demonstrated the latest in technology hardware and software. More than five hundred teachers attended.

As part of the first TIE grant, a symposium was held on January 21, 1998. Keynote speaker was Dr. Larry Anderson, associate professor in the Department of Technology and Education at Mississippi State University and director of the National Center for Technology Planning. Mini-sessions topics included leadership, integration of video production into the curriculum, business and school partnerships, and engineering for infrastructure.

As a result of the training program in Mt. Pleasant ISD, a large number of teachers are presenting at a variety of

conferences and workshops. Eight or ten groups presented at the Texas Computer Education Association conference. A variety of teachers presented at the National School Board Association conference in Colorado, a science teachers' convention, and the Texas School Board Association. Some will present in the fall of 1998 at the National School Board Association technology conference. Many of the district teachers also assist in training through Region VIII ESC.

The district's Technology Fair is one opportunity for teachers to share their projects. The May 11, 1998, Technology Fair topics included uses of *HyperStudio*, *KidPix*, and other software; graphic programs; word processing and spreadsheets; and various subject area projects. When teachers become proficient in web page design, they will be able to put their projects on the web.

### Regional Planning for Technology

The first region-wide technology planning session was held in November of 1996. "We formed a steering committee with twenty-two superintendents, two from each county," recalled Mr. Mellody. "We had a variety of large and small districts. We also had college and university presidents and a representative from TCET (Texas Center for Educational Technology)." Higher education partners are Texas A&M-Commerce, Texas A&M-

Texarkana, North East Texas Community College, Paris Junior College, and Texarkana Community College.

The steering committee formed four subcommittees: services, technology, governance, and finance. The governance committee set up the by-laws for NTxRETN and established guidelines to make the collaborative a sustainable organization. The board includes the executive director of Region VIII ESC, the presidents of five colleges and universities, and ten superintendents — two from each classification (1A, 2A, 3A, and 4A) and two from K-8 schools.

The services committee recommended types of student-focused, teacher-focused and administrative-focused services that could be offered across the network. The technology committee used the lists of desired services to explore the types of technology available, then recommended the components of the network. The finance committee investigated ways to obtain services and associated infrastructure.

Region One Education Service Center Executive Director Roberto Zamora in Edinburg invited Region VIII ESC Executive Director Scott Ferguson to visit, and Mr. Ferguson took the twenty-two superintendents down for a meeting about Region One's network, ESCONETT. "The superintendents really liked what they saw. We thought Internet would be the big thing, but in the long run they were

## Linden-Kildare CISD

### Expectations for Educators' Use of Technologies

- \* To successfully navigate the web
- \* To know search strategies using a search engine
- \* To plan Internet projects/activities
- \* To know how to use ProQuest database (Texas Library Connection) on the Internet for research
- \* To know how to cut and past information from the Internet into word processing documents for selective printing
- \* To know how to use e-mail
- \* To understand how to supervise students using the Internet and understand the district's acceptable use policy
- \* To have knowledge of many educational sites that offer projects, activities, and lesson plans
- \* To learn how to integrate the Internet with the Encarta Multimedia Encyclopedia
- \* To understand how to set up bookmarks for later reference of sites

more interested in distance learning," Mr. Mellody recalled. "What Region One was implementing was functionally identical to what our superintendents wanted." Mr. Mellody said that what teachers want and what superintendents want are somewhat different. "The superintendents see more courses that could be offered and other kinds of staff development they can deliver through that medium, whereas teachers see the Internet as a classroom use for telecommunications."

Region VIII ESC holds monthly technology coordinators meetings, which could be held over a distance learning system. ESC technology and curriculum staff would like to start working with the approximately 150 master teachers who have been trained. For the monthly meetings, these teachers will be able to go to a room in their schools, turn on their equipment, and communicate. "We want to keep the clusters and collaboration going on. The teachers are making good friends with teachers in other districts," Mr. Mellody said. The new technology will provide opportunities for K-12 districts and for liaison with universities for staff development and graduate and undergraduate courses. It also provides another way for universities to communicate with preservice teachers who are in public schools for field experiences and student teaching.

### District Planning for Training and Technology

The Mt. Pleasant district technology committee was organized in 1994-95 and included the technology staff and two people from every campus. That committee was charged with overseeing the district's allotment of technology, determining how it was going to be used, and figuring out how to get the technology into the classroom.

Two trainers were added to the technology staff, Margaret and Michael Escalera. The first year, Mrs. Escalera went around to different campuses and trained interested teachers. They provided educator development during conference time, after school, Saturdays, and in the summer. The committee determined that the district needed an organized plan for educator development. As an incentive, the committee decided that if teachers attended training, they would receive a computer and printer in the classroom.

After Apple Computer showed Mrs. Fite a lease program, the district obtained about 150

computers and printers. "Teachers were required to take forty hours of training, twenty for beginning and twenty for advanced. After the first ten hours, teachers were issued a multimedia PowerMac computer and a color printer. There was a lot of interest, and we ran out of computers before the year was over." The next year, the district extended the lease and obtained about 58 more computers and printers. This was the two-year Phase 1 of the district technology committee's plan. Of approximately 320 teachers, about 222 participated in Phase 1 on a voluntary basis.

The committee decided that training should be required instead of voluntary. "This really came from the teachers, who said they couldn't believe how technology had revolutionized their classrooms," according to Mrs. Fite. New teachers will have two years in which to demonstrate proficiency. The technology committee has determined that the next phase will be helping teachers integrate the Technology Applications TEKS into the curriculum.

**"How can we NOT expect teachers to demonstrate technology competencies? It's what we expect of eighth-graders. It's no longer a choice."**

The district technology committee has rewritten Phase 1 to provide more flexibility for teachers. Instead of a requirement for a specific number of hours, teachers are required to demonstrate proficiency in beginning and advanced strategies. Teachers submit a disk to the building principal, who meets with the district trainer assigned to that campus to review and approve the material, which is kept in the teacher's folder.

Phase 2 of the training requires four advanced projects over a two-year period, which averages out to one project a semester. Teachers show mastery in Internet navigation, integrating technology into the classroom, and methodology for one computer in the classroom for instruction and simulation.

Teachers can work on their own or they can take after-school, Saturday, or summer workshops. The district trainers meet with the teachers during conference periods or before or after school. Trainers use a variety of materials, including TCET's START resources. "Mostly we use the web site, because it's kept up-to-date," said Mrs. Fite. (START can be located at TCET's web site: [www.tcet.unt.edu/START](http://www.tcet.unt.edu/START).)

"I've had some people get really upset with me and say, 'How can you expect teachers to do this?' and I ask how can we NOT expect teachers to do this? It's what we expect of eighth-graders. It's no longer a choice," Mrs. Fite asserted.



Linden-Kildare teacher Vicki Kessler (center) and aide Linda Pate work with students (l.) Garrett, Ashleigh, Kathryn, and Molly Kate during "Fun Fridays" in the lab, when students participate in Internet or multimedia projects.

### Resources for Planning

Planning resources included the *Long-Range Plan for Technology 1996-2010* from the Texas Education Agency, the National Center for Technology Planning ([www.nctp.com](http://www.nctp.com)), and several publications from TCET: *Project START; Guide to Technology Planning for Texas Public School Districts; Designing the Technology Infrastructure for Schools; Educational Acceptable Use Policies; Wide Area Networking Guide for Texas School Districts; Distance Education: Research, Current Practice, and House Bill 2128; Distance Education II: Research, Law, Practice, and Opportunity; Communications Systems in 21st Century Classrooms;* and

*Spinning Web: Creating Web Sites for Educators.* (These publications are available at [www.tcet.unt.edu/tcetpubs.htm](http://www.tcet.unt.edu/tcetpubs.htm).)

The Engaged Learner Model from the North Central Regional Educational Laboratory describes eight indicators for effective learning with technology: vision, tasks, assessment, instructional model, learning context, grouping, teacher roles, and student roles. There are eight indicators for high technology performance: access, operability, organization, engageability, ease of use, and functionality. For an explanation of the model, see [www.ncrel.org/sdrs/edtalk/newtimes.htm](http://www.ncrel.org/sdrs/edtalk/newtimes.htm).

## TECHNOLOGY PROFILE OF REGION VIII

### LOCATION AND DEMOGRAPHICS:

Region VIII is located in the northeastern corner of Texas. There are forty-nine districts in eleven counties, serving approximately 54,000 students.

### TECHNOLOGY SUMMARY:

Schools in Region VIII are eliminating traditional boundaries among schools through the Northeast Texas Regional Education Telecommunications Network (NTxRETN). Districts are participating in three major group grants coordinated by Region VIII Education Service Center (ESC). NTxRETN links forty-seven districts, two universities, two Centers for Professional Development and Technology (CPDTs), three community colleges, and the ESC.

Twenty-two of the region's schools are participants in a \$2.2 million Telecommunications Infrastructure Fund (TIF) grant coordinated by Region VIII Education Service Center. This was the second largest TIF grant in the state, shared among the region's twenty-two districts with an ADA of less than 1,000.

When TIE (Technology Integration in Education) funding became available, the ESC developed a group application for Internet connectivity and basic infrastructure. The TIE grant of \$1.6 million was shared among twenty districts with an ADA of more than 1,000. In June 1998, the Region VIII Collaborative Teaching and Learning received a \$1.7 million TIE grant to expand the NTxRETN to add video conferencing capabilities.

Region VIII Education Service Center is providing ten days of training through Technology Leadership Academies held in geographic clusters throughout the region.

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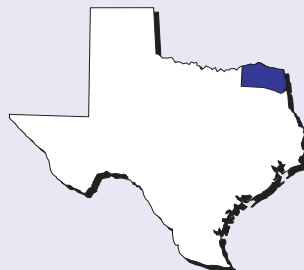
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Region VIII Education Service Center's web site has links to district web sites. Visit the site at [www.esc8.net](http://www.esc8.net).





# Texas Center for Educational Technology

The Texas Center for Educational Technology (TCET) stands as one piece of an impressive infrastructure created by the Texas Education Agency to bring the benefits of technology to Texas public schools. At the heart of TCET's research and development agenda lies its mission: to promote research, development and evaluation collaborative between industry, education, and communities in order that technologies and application models can be created and adapted for integration into public schools.

TCET's organizational structure is uniquely collaborative. Public school educators, teacher training institutions, and technology vendors work together, sharing perspectives and creating a dynamic environment aimed at restructuring Texas public schools to meet the challenges of the 21st century.

All school districts in Texas receive a *free* membership in TCET. Corporations, non-profit entities, out-of-state educational organizations, and individuals are invited to join.

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