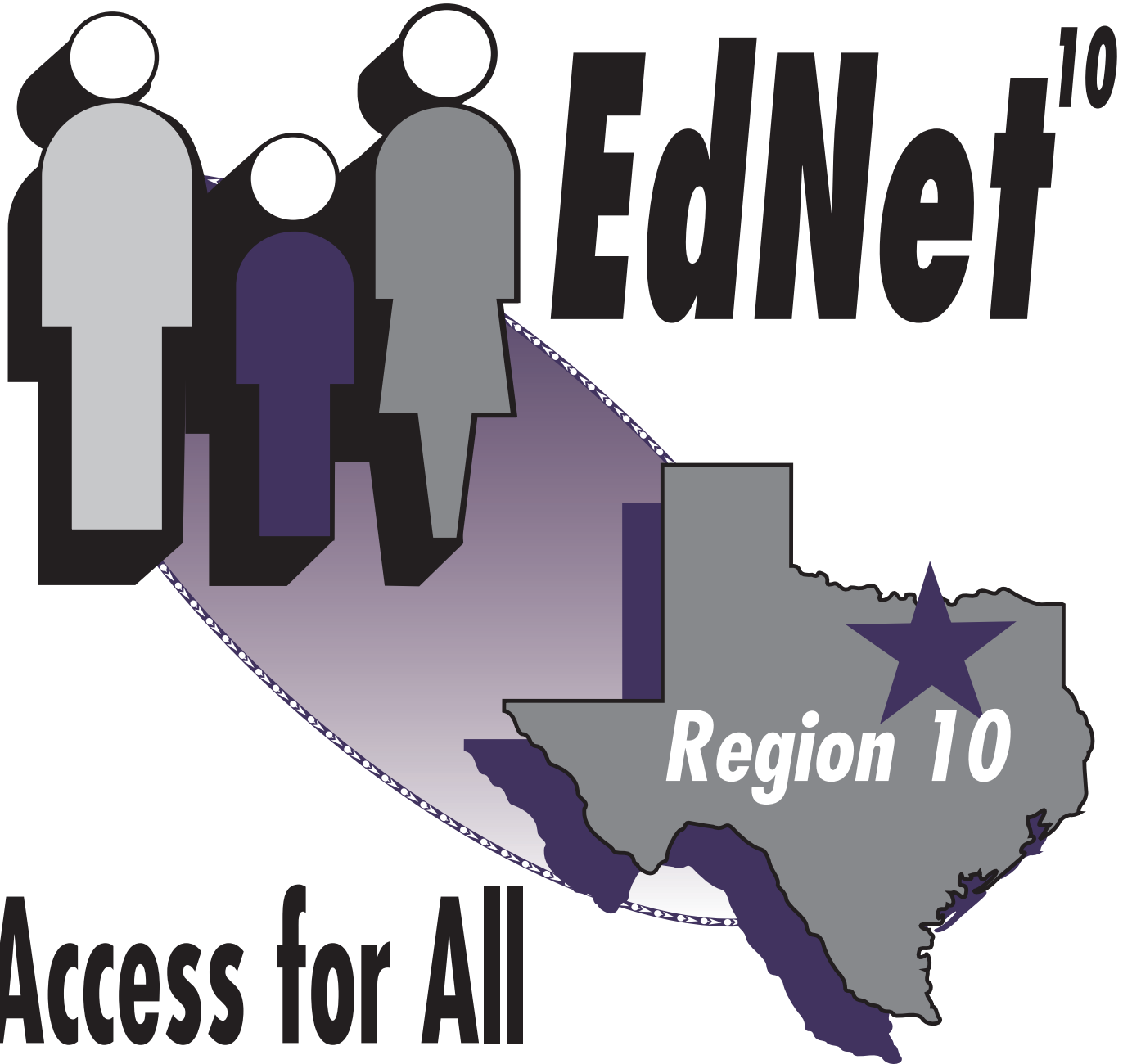


IMAGES

...OF TECHNOLOGY IN TEXAS SCHOOLS

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Access for All

Report number Thirty-Five 1998

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 10's EdNet10 Provides Access for All

Introduction

Using funding provided largely by their TIE grant of 1997-98, Region 10 is not only leading its teachers to water, they are also getting them to drink. Online access, shared resources, and effective staff development are producing desired results for all teachers and students in Region 10. In an intensive series of summer workshops, 600 teachers throughout Region 10 received effective training in using the Internet and in integrating technology into the curriculum. Additional fall workshops will bring the number of trained teachers to 1,000.

The Region 10 project, called Access for All, provides a variety of online resources and accompanying staff development. EdNet¹⁰ is the intranet vehicle for providing these resources to every district within the region.

Region 10 is not only leading its teachers to water, they are also getting them to drink.

The time for training had Arrived@ for Region 10. With a training schedule designed for 400 participants, the Region 10 ESC received applications from over 1,400 teachers. They managed to accommodate 600 teachers, and the ESC is now offering further training workshops because of the demand.

The post-course evaluations showed the high quality of the training given, as attested by the following typical comments.

My knowledge of using the Internet has increased tremendously,@ writes Judy Martin, DeSoto ISD. I'm aware of what is available on the Region 10 site. I will use the Internet in my classes and hope to teach other teachers in my building how to use Region 10 web sites. We can use more workshops of this kind.@

Glennys John, Highland Park ISD, wrote, AI learned to make a web page, to use the Internet for research, to import pictures to a project, and create a multipage project. I want to plan units for math and for algebra.@



Jody Cawood, Region 10 Instructional Technology Specialist, has played a leading role in designing and delivering training workshops.

Description

The EdNet¹⁰ Access for All project addresses the unique and diverse teaching and learning needs of over 500,000 students and 40,000 educators in districts served by the Region 10 ESC. The project features just-in-time@ professional development activities and utilizes available commercial software to develop the electronic portfolio, the electronic curriculum data base,

electronic lessons, intelligent agents, etc. Furthermore, this project is designed to provide learning resources for students in grades K-12 through NovaNET and career opportunities through IBM's CareerWare for secondary students and the rural communities.

The EdNet¹⁰ Access for All project impacts eighty-one school districts with minimal capital outlay as the infrastructure and equipment has already been purchased. The EdNet¹⁰ intranet initiative began in 1996 and resulted in establishing T-1 connections to all eighty-one school districts of Region 10. Districts contribute \$3,500 annually for access, which results in a substantial discount to each district for Internet access.

Funds from the TIE grant have supported the Access for All project in a number of ways. The time and effort of creating the resources included in the NETcessities portion of EdNet¹⁰ have been made available. A massive teacher training program has been conducted. Zebu software and servers have been provided to aid teacher collaboration. Distance

learning and videoconferencing indoctrination is being provided. Business partnerships have been fostered, which have resulted in making additional funding available.

Needs, Objectives, and Focus

In studying how best to accommodate the educational needs of their students, the Region 10 ESC and the districts conducted a comprehensive needs assessment study. Three basic needs were identified. Evidences of these needs are included in Region 10's TIE grant application for 1997-98.

Need #1: There is a need for staff development that trains and supports the use of technology as a learning tool and the integration of instructional strategies with technology.

Need #2: There is a need for on-line, interactive learning resources that expand access to and focuses on the integration of such resources in the teaching and learning experiences for a diverse student population.

Need #3: There is a need to provide computer skills to students to prepare them for the workplace of the future.

As a result of these identified needs, the following Access for All objectives were determined.

Objective #1: By August 1998, over 400 educators in the eighty-one school districts will engage in professional development (competency-based) activities that train and support media literacy, technology integration into the classroom and curriculum, and Internet as a source of research, communication, and learning.

Objective #2: By August 1998, 100% of the students will have access as districts/campuses extend their LANs and computer access to online, interactive learning resources developed to provide technology-rich learning environments, enhance the learning opportunities and extend the learning time for the students enrolled at the eighty-one participating districts.

Objective #3: By August 1998, 100% of the secondary students in the eighty-one school districts will have access as districts/campuses extend their LANs and computer access to virtual sites designed to provide knowledge, skills, and employment opportunities via the Internet.

In order to meet their

Production and dissemination of teacher resources promoting engaged learning and interactive growth.

Staff development for accessing, creating, and integrating these resources.

To date, 304 lesson plans have been made available in 19 content areas.

Accomplishments

The Region 10 ESC has accomplished each of its three objectives enumerated above. Access to the Internet and Region 10 resources is available to all students via EdNet10.

A comprehensive training program was established to help Region 10 teachers learn how to use Ednet10 and to integrate the available technology and resources into their lesson plans. Three courses were offered: Apple Integration Training, Internet Workshop, and Master Teacher Internet Training. These courses were offered in several locations throughout the Region 10 area.

Teacher response has been overwhelming. Plans were to accommodate 400 teachers in the classes during the summer of 1998. Approximately 1,400 teachers applied, 600 were accepted, and 520 completed their courses. Enrollment incentives have been teacher stipends plus substitute reimbursement. But according to Jody Cawood, Region 10 Instructional Technology Consultant and Access for All project director, the major reason for the large teacher response is that the time for the Internet research and distance learning has arrived, and teachers already experienced with technology are recognizing its untapped potential.

Attendance figures for the summer workshops were as follows:

Course	No. of Offerings	Average Attendance
Apple Integration Training (two days)	3	15
Internet Workshop (five days)	26	19
Master Teacher Internet Training (five days)	5	20

Another 120 teachers are currently registered for a fall mini (three days) version of the beginning Internet Workshop. An additional day of training for Master Teachers will be offered on September 30, 1998.

Apple Computer instructors taught the integration training while Jody Cawood and Jane Nauman, Project Director, taught the Internet and master teacher workshops. Twenty-one trainers who had previously attended a five-day Train-the-Trainer session, also taught some of the Internet workshops.

The courses were enthusiastically received by the participating teachers. Using a seven point Likert scale (7 = Excellent, 1 = Unsatisfactory), the average participant responses to three objective questions on a post-course evaluation survey were as follows:

Apple Integration Training

The ideas and activities of this program were —	6.8
Presentation skills were —	6.8
Overall, I consider the value of this program to be —	6.8

Internet Workshop

The ideas and activities of this program were —	6.5
Presentation skills were —	6.3
Overall, I consider the value of this program to be —	6.4

Master Teacher Internet Training

The ideas and activities of this program were —	6.6
Presentation skills were —	6.6
Overall, I consider the value of this program to be —	6.6

needs and accomplish their objectives, Region 10 designed and implemented the EdNet¹⁰ Access for All project with the following two-fold focus:

In the post-course evaluations, the participating teachers listed plans for putting the concepts/skills/processes into effect in their lessons. Their responses were consistently enthusiastic regarding the quality of instruction and about their intention to integrate the learned technology into their classrooms. For example, Leah Martaindale, Gunter ISD, expressed her appreciation for the Internet training she received with the following words:

The Internet training workshops offered through Region 10 ESC as a result of the TIE grant were invaluable

I found the training that I received from Region 10 to be some of the best computer training I have received.

***—Leah Martaindale,
Gunter ISD***

to me as a teacher.

These training sessions enabled me to improve my instruction through my use of the Internet as a tool in my curriculum area.

By gaining a better understanding of what curriculum resources are available on the Internet to use in the language arts classroom, I have been able to use stories, activities, and resources with my students that were not available to me from textbooks.

After learning how to utilize Claris HomePage to create web pages, I have been able to create lessons with links to web sites that I want my students to utilize.

I found the training that I received from Region 10 to be some of the best computer training I have received.

Products

In addition to the staff development accomplishments, some specific products have emerged (as planned) from the Access for All project. While the products are valuable in and of themselves, Region 10's major contribution is that of making them equally and

electronically available to all eighty-one districts. In addition to their availability, their digital formats enable them to be easily updated and kept current. Also, additional products can be created and added to the EdNet10 data bases.

The products currently planned for the Access for All project and currently being implemented include the following:

- An electronic portfolio shell using Microsoft Internet Explorer (HTML) to produce a commercial interface for the eighty-one school districts that can be utilized across the intranet for publication on Internet.
- An electronic curriculum data base that can be accessed from the intranet for local input and sharing across the intranet using Microsoft Outlook.
- Electronic lessons designed by teachers to address skill development in the core curriculum areas delivered and managed across the intranet.
- Videoconferencing model

across the intranet to be used for professional development activities, student learning, and parent training.

- Digitized interviews with business and industry leaders available on the intranet.
- Educational forums and chat groups that are developed by participants in the project.

These products are available in the NETcessities component of EdNet¹⁰ which can be accessed at <http://www.ednet10.net>. Major resources on NETcessities are the content area links to lesson plans and regional cultural links to libraries, museums, and other cultural resources in the Dallas/Fort Worth area.

Content Area Links

As a result of the EdNet¹⁰ training programs, a large number of lesson plans have been developed using the technology learned in the summer classes. To date, 304 lesson plans have been made available in nineteen content

As of this writing, lesson plans have been made available in the following content areas:

Agricultural Science and Technology Education
(fourteen links)

Business Education (seven links)

Economics with Emphasis on the Free Enterprise
System (ten links)

English, Language Arts, and Reading (seventeen
links)

Fine Arts (sixteen links)

General Reference (twenty-one links)

Health Education (eight links)

Health Science technology Education (six links)

Home Economics Education (fourteen links)

Languages Other Than English (fifteen links)

Marketing Education (six links)

Mathematics (thirty-five links)

Physical Education (nine links)

Science (thirty-eight links)

Social Studies (forty-three links)

Spanish Language Arts and English as a Second
Language (five links)

Technology Applications (twenty-one links)

Technology Education/Industrial Technology
Education (six links)

Trade and Industrial Education (thirteen links)

To gain an indication of the richness and variety of topics in each content area, refer to the sidebar for the resources currently available in the areas of Fine Arts, English, Language Arts, Reading and Mathematics. All the lessons involve technology in their delivery, and many of the lessons involve online interactive activity by the students.

With a training schedule designed for 400 participants, the Region 10 ESC received applications from over 1,400 teachers.

Apple Integration Training

I teach history and government; as soon as the hardware arrives, I can use these skills.

I want to plan a unit for math and one for algebra.

I will include this exercise/building as a project choice; I will make a similar project available for my students starting with my poetry club.

Will use right away.

Go home and start practicing before I forget; start a web page of my own and continue integration with students.

Internet Workshop

I definitely plan to design a lesson to be used with the Internet.

I plan to use what I learned in planning my lessons.

Creating a music web for the Gunter home page.

I plan to teach my students to do research on the Internet to complete projects.

These concepts can all be used in my classroom in conjunction with various units.

Master Teacher
Internet Training Day

I want to use the Internet in my classroom connecting with other classrooms and as a research vehicle.

I'm excited to share what I learned today with my team and campus faculty when I return to school.

I plan to develop an activity in which students gather information and analyze.

Prepare this for students to use at my school.

To share Webquest with other teachers; to create my own Webquests for my students.

areas. These subjects include fine arts, health, business, home economics as well as the traditionally technical areas of mathematics, science, and technology. Many additional lesson plans developed by participating teachers will become available as soon as time permits. A lesson plan data base has been established, and every one of these lesson plans is available to any Region 10 teacher via EdNet¹⁰. Each content area contains links to each lesson plan within that area.

Support of Goals

Any educational technology plan should recognize and conform to established goals and areas of focus at the national and state levels. On the national level, four goals, commonly known as the Four Pillars, are presented in the Education 2000 National Technology Plan. In Texas, four areas of focus are defined in SBOE's Long-Range Plan for Technology, 1996-2010. The Commissioner's Access Initiative calls for all Texas schools to have access not only to the Internet, but to all the resources and facilities offered through T-STAR, TETN, and TENET.

Federal Goals (the Four Pillars)

The ESC 10 TIE grant supports the Four Pillars in the following ways:

- All teachers in the districts will have the training and support they need to help students learn using computers and the information highway.
- All teachers and students will have modern multimedia computers in their classrooms.
- Every classroom will have access to the information superhighway via EdNet¹⁰.
- Effective software and on-line learning resources will be an integral part of every school's curriculum.



Long-Range Plan for Technology (Areas of Focus)

• Teaching and Learning

The TIE project for ESC 10 schools emphasizes the development of curriculum materials customized for the Texas Essential Knowledge and Skills (TEKS), as well as the Intranet called EdNet10. The use of Zebu was presented to the TIE participants. As seen on the EdNet10 Web Site, teachers in the TIE project are actively developing Internet Lessons.

• Educator Preparation and Development

The ESC 10 TIE project is predominately a project that develops human capacity in

Funds from the TIE grant have supported the Access for All project in a number of ways.

the area of educator preparation. The 1,000 teachers in the project already have beginning technology and instructional skills developed. The process used for selecting and inviting these teachers to be involved in the process was so successful that the ESC 10 trainers were overwhelmed with applicants that could not be included in the project. From talking with the trainers and participants in two of the training sessions, educators in ESC 10 are eager for technology integration training that supports the new TEKS curriculum.

• Administrator and Support Services

The administrator and support services area is developed during the ESC 10 TIE proposal for 1998-99.

• Infrastructure for Technology

Using the second TIE grant for 1998-99, ESC 10 will focus on technology infrastructure. This initial TIE project focuses on Educator Preparation and Development in a way that supports student achievement in new teaching and learning settings.



Jane Nauman, Access for All project director, is making quality resources and staff development available to all 81 districts in Region 10.

The Commissioner's Access Initiative

• Connectivity Capacity

The ESC 10 TIE project emphasizes initially the connectivity capacity of the human infrastructure. Phase II of the ESC 10 TIE (1998-99) will build on a group videoconferencing capability that will provide point-to-point and multipoint administrative meetings and distance learning classes for professional staff and students.

• Networking Capabilities

The ESC 10 TIE (1998-99) design uses a star topology of T-1 circuits and operates under f768 kilobytes standards mode. The initial phase of EdNet¹⁰ videoconference network utilizes ATM technology for compatibility with the Commissioner's Access Initiative. It allows a point-to-point dial-up between sites that are scheduling a videoconference.

The IP/TV (Multicasting) technology will deliver live and recorded training to the desktop of hundreds of participants. Utilization of IP/TV may include use in the classroom using projection devices.

Future Implications

Planned follow-on activities for Access for All include user group meetings for master teachers and for others who have received software from the project. Bulletin boards of questions and answers will present current announcements, diagnostics, and general communication. On-line help will be available. Further

lesson plan development will be encouraged. Paid magazine subscriptions to Classroom Connect is provided to participating teachers.

There will be a continuing focus on creating and sharing lesson plans and on Internet research. Collaboration among teachers for creation and delivery of lessons will be emphasized. Distance learning and video conferencing will be promoted.

Staff development will continue. Just-in-time training will be delivered locally by master teachers, and will also be offered by the Region 10 ESC as needed.

As a result of their TIE grant, Region 10 has



Jody Cawood instructs participating teachers in a three-day Internet workshop at the Region 10 ESC.

accomplished much in a short period of time, and many further accomplishments can be expected. They have succeeded in their goal of making these educational benefits available to all students.



... the time for the Internet research and distance learning has arrived, and teachers already experienced with technology are recognizing its untapped potential.

Sampling of Lesson Plans and Resources Currently Available in NETcessities

Fine Arts Topics (sixteen links)

Acting Workshop Online
 American Music Conference
 An Interactive Learning Center for using
 Architecture in the Classroom
 Art and Craft for Special People
 Art History Resources on the Web
 Art Studio Chalkboard
 ArtsEdge
 ArtsEdNet
 A. Pintura, Art Detective
 Dancin' on the Web
 Eyes on Art
 Fine Arts Museum of San Francisco
 France's National Museums
 Music! The Universal Language
 The Greatest Painters on the Web
 WebMuseum

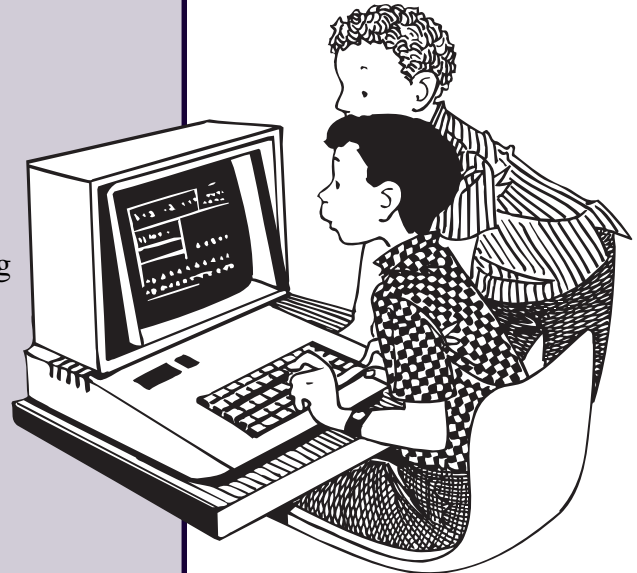
English, Language Arts, and Reading (nineteen links)

Books.com B Author's Pen
 Guide to Grammar and Writing
 Heritage Online B Internet Reference Citation Guide
 Internet Poetry Archive
 JavaScript Vocabulary Stretchers
 Kids Love A Mystery
 Mark Twain on the Web
 Reader's Digest Word Power
 Researchpaper.com
 Shakespeare's Globe
 Syndicate.com
 The Art of Communicating Effectively
 The Children's Literature Web Guide
 The Kids
 The Virtual English Language Center

Unica Island: Journey into Communication
Virtual Presentation Assistant

Mathematics (thirty-five links)

21st Century Problem Solving
A Fractals Lesson
Alvirne's Calculus Class
An Interactive Learning Center for Using
Architecture in the Classroom
Appetizers in Math and Reason
Ask Dr. Math
Brain Teasers
Calculators On-Line Center
Electronic Textbook
FAQs in Mathematics
Fastball Fractions
Flash Cards for Kids
Gallery of Interactive Geometry
GoMath
Interactive Puzzles and Miscellany
Internet Center for Mathematics Problems
Kids Web B Math
Lemonade Stand
Math Forum: Student Center
Mathematics of Cartography
Mathematics of Cartography
Mathmania
MathMol
MathMol
MegaConverter
MegaMath
Monster Math
Online Math Tutor
PlaneMath
Science/Math Carnival
Science/Math Carnival
The Fractory
The Great American Cram
The Math Forum for Students
The Why Files



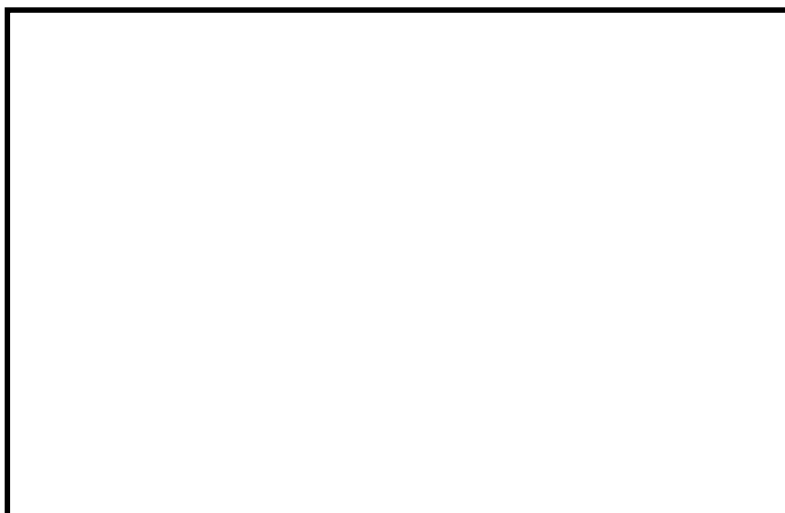
Any educational technology plan should recognize and conform to established goals and areas of focus at the national and state levels.



***NETcessities menu page
in EdNet¹⁰ Web Site.***



***Classroom scene
using the con-
cepts taught in
the workshops.***



***Classroom
scene using
the concepts
taught in the
workshops.***

TECHNICAL PROFILE OF *Region 10 EdNet¹⁰*

MISSION

The Access for All project uses the Ednet¹⁰ intranet to provide a variety of online resources and accompanying staff development to all teachers, and to provide online access to all students in Region 10.

LOCATION:

The Ednet¹⁰ intranet hub and the Access for All project are located at the Region 10 ESC in Richardson, Texas.

TECHNICAL DESCRIPTION:

The Ednet¹⁰ intranet system design is a star topology of T-1 circuits that operates under f768 kbs standards mode. The initial phase of Ednet¹⁰ videoconference network utilizes ATM technology for compatibility with the Commissioner's Access Initiative. It allows a point-to-point dial-up between sites that are scheduling a videoconference.

The IP/TV (Multicasting) technology will deliver live and recorded training to the desktop of hundreds of participants. Utilization of IP/TV may include use in the classroom using projection devices.

TECHNICAL INFORMATION:

Ednet¹⁰ Home Page, <http://www.ednet10.net>.

Jody Cawood, Region 10 Instructional Technology Specialist, (972) 348-1346,

CAWOODJ@esc10ednet10.net.

Henry Horton, Ednet¹⁰ Network Manager, (972) 348-1700. Go to the EdNet10 Web Site and click on name.





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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